

THE JOURNAL OF THE
BENGAL NATURAL HISTORY
SOCIETY



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

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BENGAL NATURAL HISTORY SOCIETY.

The Society under the name Darjeeling Natural History 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. The Journal is no longer confined to articles on the Natural History of the above mentioned area, but includes those from anywhere. It is hoped that everybody will join the Society and co-operate to make the Museum and Journal a success.

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THE CURATOR,
Natural History Museum,
Darjeeling.

Please respond.

Our stock of papers for the Journal is at a lower ebb than it has ever been before and I beg of our members to help us in this matter and realize that it is their Journal and that without their support it cannot exist. We have about 170 members and it is only a microscopic percentage of these who subscribe to the pages of our periodical. We thank them deeply but think it very unfair that they, and the Editor, should be the only ones to help. There are many who could send us articles on fishing and shooting and others who could send articles on other branches of Natural History. We need all the response we can get and hope for it.

Editor.

Coloured Plates and Back Numbers of the Journal.

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The Burmese Red-headed Trogon	Vol. XIV.	No. 1	June 1939
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The Northern Bay Owl	Vol. XIX No. 3 January 1945.
The Grey-winged Blackbird	Vol. XIX No. 4 April 1945.
The Indian Scarlet Minivet	Vol. XX No. 1 July 1945.
The Indian Thick-billed Flowerpecker	Vol. XX No. 2 October 1945.

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- Vol. I, Nos. 3 and 4
 - Vol. II, Nos. 1 and 4
 - Vol. III
 - Vol. IV, Nos. 2, 3 and 4
 - Vol. V, No. 4
 - Vol. VI, No. 1
-

Birds of Darjeeling & Neighbourhood.

For the benefit of those who have purchased copies of the above, the following list of Corrigenda & Addenda is given.

ERRATA

Preface			for "Darjeeing" read "Darjeeling"
Notes			for "Mangpu" read "Mongpu"
PAGE			
6	(487)	for "billed"	read "bellied"
7	(551)	for "Pohri"	read "Pokri"
	(555)	for "Callens"	read "Callene"
8	(625)	for "Purnella"	read "Prunella"
10	(689a)	for "saturiator"	read "saturation"
11	(883)	for "wnter"	read "winter"
12	(889)	"	"
15	(1173)	for "motocilla"	read "motacilla"
	(1204)	for "Mungpu"	read "Mongpu"
21		for "(1727)"	read "(1787)"
22	(1841)	for "Kakla"	read "Kokla"
23	(2025)	for "Elewes's"	read "Elwes's"
24	(2218)	for "Rungneet"	read "Rungeet"
28	(1052)	for "Tongla"	read "Tonglu"
32	(618)	for "Cochea"	read "Cochoa"
33	(1214)	for "Laduk"	read "Ladak".

ADDENDA

Add D to following numbers :—
92, 106, 286, 304, 321, 489, 712, 1049,
1383, 1867, 1870.

PAGE

5 (391) recorded up to 7500ft.

Supplement A

After (1633) add
(1857) *Columba rupestris turkestanica*
The Turkestan Hill-Partridge
Recorded at Gyagong, 15780ft, in Nov.
evidently a straggler from the S.
Tibetan plateau.

After (1872) add
(1896) *Syrrhaptes tibetanus*
The Tibetan Sand-Grouse
Recorded from the Lonak valley in May
and also between Gyagong, 15000ft,
and Tsolhamio, 17000ft. Possibly
breeds there, retiring N. to the Gyantse
plain in winter.

After (1936) add
(1966) *Arborophila mandellii*
The Red-breasted Hill-Partridge
Recorded from N. Sikkim.

Supplement B

Delete (1966).

August 1945.

V. S. E.



PIPRISOMA AGILE AGILE Tickell
The Indian Thick-billed Flower-pecker
About $\frac{1}{2}$ Nat. size

JOURNAL
OF THE
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—♦♦♦—
Vol. XX.—No. 2.

The Indian Thick-billed Flowerpecker.

Piprisoma agile agile (Tickell).

By

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

(With a coloured plate.)
—♦♦♦—

Field identification :—A very small, thick-billed, dull coloured bird ; ashy-olive above, yellowish white below faintly streaked with brown. Often seen in mango groves and gardens. It is, wholly, arboreal.

Description :—The coloured plate will suffice for a description of this tiny bird.

The sexes are alike.

There are three races, if one includes the Ceylon one which is, sometimes, separated as *P. agile zeylonicus*.

Distribution :—Stuart Baker gives the distribution as "Practically the whole of India from the foothills of the Himalayas to Ceylon. East it occurs as far as Calcutta, Dacca and Mymensingh but not in Assam." If the Ceylon bird is regarded as a separate subspecies then Ceylon must be cut out. This race is rather a rare bird in that Island. Stuart Baker writes about our race "Haughton took it at 7,000 feet near Darjeeling, while it is common a little lower down in the Cinchona-reserves near that place." (*Nidification Birds of the Indian Empire Vol III p. 246.*)

Neither Stevens, Shaw nor ourselves have ever come across it anywhere in the district. Shaw lived very many years at Mangpu, where the Cinchona plantation is, collected there thoroughly and would have, certainly, met with it if it occurred there. It does ascend the Himalayas as Whympfer found it breeding at 5,000 feet at Naini Tal. It does not occur in the Duars so far as we know. We give it in case it may be come across again.

Habits :—The Indian Thick-billed Flowerpecker frequents mango groves, gardens and other trees in open, cultivated country and, occasionally, it may be found on the outskirts of forest. Its habits are very similar to those of other Flowerpeckers. It is generally seen singly, flying from tree to tree or feeding on the berries of parasitic *Loranthus* and *Viscum* and so helping to propagate these destructive parasites. It does, however, less damage than Tickell's Flowerpecker (*Dicaeum e erythrorhynchos*) as it separates the flesh part of the berry from the seed leaving the latter on the branch where it has been feeding, whereas the other swallows the whole berry and flies to some other branch on which it voids the seed. The Indian Thick-billed Flowerpecker also feeds on the berries of various fig (*Ficus*) trees and *Lantana* also Jamun fruit (*Eugenia jambalana*), the nectar of Simul (*Bombax malabaricum*) and Coral Tree (*Erythrina indica*); spiders and, probably, small insects are also eaten.

While feeding it spreads out its short tail, twists it from side to side and utters a rather metallic, shrill *chick chick* as it moves about in the tree. Salim Ali contributed some very interesting notes on birds distributing, and propagating, *Loranthus*. He says with regard to this bird "The berry is plucked and invariably revolved between the mandibles which being thicker and stouter, appear better adapted to this method of eating. The flesh is soon detached and the seed wiped on to a neighbouring twig by a sweeping side to side motion of the head. Occasionally when disturbed at its meal the bird will fly off with a berry in its bill and

this is the only way in which *Piprisoma* may spread the parasite to neighbouring trees. (*B. N. H. S. Journal, Vol. XXXV pp. 148-149*). He found the Flowerpecker visited the *Loranthus* about 6 times a day and, at each visit, 3 or 4 berries were plucked "with the result that within a short time there was hardly a couple of inches in a radius of about three feet of the clump free from the adhering seeds..... when lopping off branches effected by the *Loranthus* parasite care must be taken that all the adjacent members are likewise removed."

We found the nesting season, in North Bihar, was from the middle of February to the end of April, once we got a nest on the 28th August; in the hills it is from April to the middle of June.

The nest is a most wonderful structure; a small, rather full bottomed, purse-like bag, of a soft, but tough, felt-like fabric, in colour red brown, or orange-brown, but we, once, obtained one which was of a grey colour with, here and there, a few dull orange-brown patches. It is so pliable that one can crush it or roll it up and even turn it inside out without damaging it. It is composed of fibres, down taken from young shoots, or buds, of *Loranthus*, Flame of the Forest, (*Butea frondosa*) and various other plants, also spiders' webs. We took the measurements of a couple of these nests. The above mentioned grey one had an external depth of 3.62" and diameter 2.52"; the inside measurements were inner depth from base of opening 1.7", diameter from base of opening 1.45". The entrance hole, which is on one side immediately below the twig, measured length 1.79"; width 0.4". This nest was situated on a young mango tree about 20 feet from the ground and contained 3 fresh eggs on the 24th April 1899. The other had an external depth of 3.7" and a diameter of 1.9"; the inner measurements were depth 1.6" and diameter 1.45"; entrance hole 1.53" in depth and 0.7" in width. It was also situated on a mango tree about 15 feet from the ground and, likewise, contained 3 fresh eggs on the 28th April 1899. Since those nests were taken we have found many other similar ones. The

very thin felt-like walls, according to Stuart Baker, are about $\frac{1}{8}$ inch thick and gradually get thicker towards the bottom, which is nearly $\frac{1}{4}$ inch thick. Hume mentions another kind of nest. "It sometimes makes a nest of the same shape and dimensions, it is true, but of widely different materials. In these cases the exterior skin of the nest if I may so term it is a very loose network of very fine tow-like fibres, backed internally by thick felting of the soft silky pappus or seed-down of some, asteraceous plant," A nest of this type was found by him in a small thorny bush about 5 feet from the ground. Although we have seen quite a hundred of this Flowerpecker's nests we have never come across one of this type. Thompson wrote "today saw a couple fixing the foundation of their nest with cobwebs and the pubescent downy covering of the young shoots of *Butea frondosa* which the birds bit off in small pieces and mixed with cobwebs; both birds at work, alternating the time of arrival and departure with material. (*Hume's Nests and Eggs of Indian Birds 2nd edition p. 278.*)

The nest is woven into the, more or less, horizontal twig and generally hung at its extremity. The grey-coloured nest was also attached, for about half an inch in the middle, to a smaller twig by some spiders webs.

We found mango trees, in groves, were the usual sites for these birds nests, once we saw one on a tamarind (*Tamarindus indica*); they are also known to build on bushes. The nests are placed between 10 and 20 feet from the ground. Stuart Baker says sometimes as low as 5 and as high as 30 feet up but we have never found them as low or as high.

The full clutch of eggs is 3 but sometimes only 2 are laid and Barnes took 4 from a nest in Saugor, Central Provinces. The eggs are unmistakable. In shape they are either elongated ovals or short blunt ovals and the ground colour varies from very pale pink to warm pink. The markings are blotches or specks of brownish red, claret colour or rich blackish red. Some eggs are densely speckled and blatched so as to almost

hide the ground colour, in others the markings are more or less confined to the broad end where they may form a cap or ring; we have one egg in which the markings are a very washed-out brown-pink. The eggs in the clutch may differ much from each other in their markings. In the three eggs taken from the grey nest one was densely marked all over with large blotches and specks; another had only one or two smaller blotches and specks scattered sparsely over the thin end the broad end having a broad cap formed by blotches; the third egg also had a cap at the broad end but of a very much paler, and browner colour, on the thin end there were only a few specks.

The average measurement of seventy-six eggs was, according to Stuart Baker, "15.9 × 11.5 mm."

The Green Pigeon of the Genus *Crocopus* in Bengal.

By

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

(Continued from page 104 Vol. XIX)

Some Notes on the Nesting of Bengal Green Pigeon.

By

DOROTHEA MILBURNE.

The following notes were made during May and June 1934 when a pair of these birds were seen nesting in unusual circumstances. *15th May*. Small flock of 4 or 5 birds noticed sitting on a Sau tree used as shade in the tea about $\frac{1}{4}$ mile from the bungalow. *17th & 23rd May*. Flock of 5 passed over the bungalow, morning and evening, with soft whistling cries, *Wheooooo, wheooooo* in flight.

Bengal Green Pigeon are not a common variety in this district. Small flocks of these, and other pigeon, pass through the garden throughout the year, more often heard than seen. No birds have been shot at near the bungalow,

During the next few days this programme was repeated almost to the minute. Unfortunately I was out a good deal but did not see the chick fed by other means.

31st May. 5-15 P.M. I noticed both cock and hen sitting on a neighbouring Sau tree and the chick standing alone about 2 feet from the nest on the same branch. A few minutes later it shuffled back. This was all accompanied by much whistling on the part of parents. I tried to ascertain whether the hen ever used the full whistled song with its characteristic high second note and feel sure, though without proof, that it is only used by the cock. Her song is a less varied, sotto voce version of mellow, cooing *wheooooos*.

1st June. 4-30 P.M. The hen was unusually restless, perhaps partly because women were plucking tea and chatting round her tree. She whistled constantly turning her head from side to side. When the women left she walked along the branch followed by the chick which I saw clearly for the first time as a perfect miniature pigeon, mynah sized with yellow-green back, very light bill and bright pink feet.

The cock was punctual at 5 P.M. and sat on a neighbouring Sau where he was joined by the hen, both whistling. After much tail wagging, the chick embarked on a surprisingly long flight of about 30 feet to another tree, the first I had seen, though it may have practised when out of the nest the day before. It took several more flights, one or other parent sometimes leading the way and both whistling. Presently the hen went off to feed, as usual, leaving father in charge. I did not see the family reunite and do not think they ever returned to the nest.

2nd June. I heard whistling from 6:30 to 7 A.M. and again from 5 P.M. onwards and saw the chick with one parent on a tree about 100 yards from the bungalow. Until June 7th I heard them daily at the same hours but further away and after that no more.

28th June. Three weeks later I saw a cock Bengal Green Pigeon sitting on a tree roughly 100 yards from the

bungalow preening his rain soaked wings. His contempt of myself, field glasses and even menacingly pointed stick tempted me to recognise him as our former cock or his maturing son.

The points that struck us as curious about the nesting of these jungle birds was that they should choose such a queer site in cultivated tea above a noisy engine and equidistant from a large bare bungalow, brilliantly lit at night, a kitchen and a motor house. They showed none of the game bird's usual instinctive fear of humans.

In April 1935 we again heard whistling and saw a few birds, but left for England before the end of the month and as far as I know they did not nest. In 1936 and 1937 I was away but my husband saw no sign of them. Since then, the jungle has receded and we get fewer unusual compound visitors.

Green Pigeons in Confinement.

Mr. C. M. Inglis in his note on the 'Game Birds of Sikkim Himalayas including the Darjeeling District and of the Jalpaiguri District, Bengal, (Jour. Dar. Nat. Hist. Soc. Vol. I. p. 2) writes—"In captivity green pigeons are rather lethargic and uninteresting birds inclined to get messy on account of their rather sticky food. The latter should consist of plantains mixed up with *sattoo* or boiled rice into a more or less crumbly condition." This estimate of their qualities is based on insufficient, if not wholly erroneous, data and appears to ignore the results of modern aviculture, specially in the matter of housing and feeding these soft-billed birds. Mr. Inglis is not alone to blame, for he repeats what Mr. Finn wrote long ago in his *Garden and Aviary Birds of India*. "Lethargic" is not the word for them, for in reality their activities are on a par with those of many of our domesticated pigeons and their quarrelsomeness, waddlings and antics are oftentimes too animated to escape notice. These are most in evidence in the mornings and afternoons, but towards noon with the warmth of day-time this animation is held in suspense, the birds relapsing into

indolence and relaxation. The periods of activity hardly savour of dullness, and diverse are the sounds which are produced not through the mouth alone but by the flight feathers and wings which are in great request during a duel or fight. Scarcely a day passes when my own aviary does not present a sight like this. Nor is this activity sometimes unattended with grave consequences, specially to the smaller and weaker birds which, unless removed forthwith to a separate apartment, run a risk of being frightened or oppressed in the hurly-burly. The Green Pigeons, it will be apparent from their size and bulk and the exigencies of courting behaviour, require a larger space—flight as it is called—in an outdoor aviary, high and roomy, with trees and boughs providing not only cover and shelter from rain and strong winds but also facilities of movement. And watching them to advantage, one should as well bear in mind that while their antics or waddlings up and down a bough with wings outstretched or the ruffling of feathers or shaking of certain parts of their body are frequently indulged in, the physical efforts and exercises thereby brought into play are of supreme importance to their health apart from the effect they might serve to produce from the point of view of sexual æsthetics. In an aviary thus furnished and adapted to their needs another *sine qua non* is plenty of water to provide bath and drink, for notwithstanding the story of their aversion for descent to the ground at the water's edge, these birds do as a matter of fact revel in a regular dip, and that twice, as a never-failing routine, which I observe in my own aviary. So far these habits and the amenities of the bird-house contrived to cater to them are calculated to dispel rather than occasion any "mess" which might come upon or stick to them by reason of their housing in captivity. Mr. Inglis, acting evidently on the suggestion of Mr. Finn, prescribes for these birds a *menu*, which, he thinks, at the same time is mostly responsible for the 'messy' condition of the Green Pigeons. Plantains form an essential component of this menu. The economic status of this fruit is sufficient guarantee for its wholesomeness, if given fresh, though longer exposure in a tropical climate is apt to bring

in signs of decomposition. Its mingling with boiled rice, however, has a risk of furthering or quickening this decomposition, since boiled rice very soon gets sour and stale by exposure and a combination of these two ingredients makes the diet of doubtful efficacy. The banana nevertheless is an important item of food and so much is it relished by the birds that its taste is apt to pervert their natural hankering for the ripe berries and *Ficus* fruits, which appear to form the favourite diet of the Green Pigeons in their wild state. Still it is not inadvisable to keep as near as possible to the foodstuffs which Dame Nature has contrived for them. The Bur (*Ficus bengalensis*) and *Peepul* (*Ficus religiosa*) fruits can therefore hardly be omitted from their dietary, though it is difficult to get them in other than the periods when they become available. These fruits are to be chopped into small parts so that they may be easily swallowed without sticking to the birds' bills and it is never prudent for reasons stated above to mix these up with substances like the boiled rice or *satoo* paste (made with water) which is liable to get sour in a tropical place. It is noteworthy, however, that the gapes of the Green Pigeons are large for their size, besides being soft and elastic so much so that the way they can swallow whole fruits like plum, which are as large as the birds' head, passes our comprehension. Mr. Stuart-Baker has also drawn our attention to this feeding habit not only in confinement but also in the natural and wild condition of these birds. He writes—"Larger and soft fruit, such as figs, they tear to pieces, pulling off great lumps which they swallow whole. * * * * In confinement they consume almost any sort of grain, and I once shot a pair out of an Indian corn-field whose crops were full of the ripe, but still soft, maize. * * * * * My birds in captivity ate plantains greedily and would also eat the inside of oranges, invariably picking out the pips first before eating the fleshy part. Peaches and apricots they also ate, swallowing even the stone-kernel, shell and all, complete. In addition to fruit and grain they also ate a certain amount of green food such as lettuce, and once I saw a bird pulling some green shoots of rice which had just sprouted up in the corner of

the aviary". Fruits and berries are never difficult to get throughout the year for these frugivorous birds and considering the adaptability of the latter to the food provided in an aviary, the change of the fruit menu necessitated by the exigencies of season and circumstances (e. g. different fruits or berries available in different seasons) is apt to be productive of good rather than harm. Of the various artificial menus prescribed for the Green Pigeons I have found the following as beneficial without being to the distaste of the birds—

(a) bread and milk sop.

(b) preparation of *satoo* or powdered gram fried in *ghee* and afterwards when cool this preparation is mixed with minced carrot.

With many aviculturists in India the Green Pigeons have a bad reputation for being far too delicate to stand protracted captivity and the reason is not far to seek. The fault is never inherent in the birds but is due not infrequently to our ignorance as to their proper food in confinement in the tropics and oftentimes to bad housing. R. B. Sanyal in his "Handbook of the management of animals in Lower Bengal" cites a long list of the diseases—catarrh, diarrhoea, vertigo, rheumatism, epidemic—from which they suffer and suggests that they should be well protected from draughts and cold to which they are extremely susceptible. For his observation is—"Some feel the cold and like nothing better than a snug warm corner; several of them may be seen on a windy winter morning, sitting in a row with half their bodies inside the nests". The latter apparently refer to the appliances for nesting put up for those which are so inclined, but in the absence of proper screen or shelter they are very often resorted to by birds which seek protection against wind and rain.

Frugivorous birds are as a matter of fact easy to keep, provided proper attention is paid to their housing and food. The fruit diet of the Green Pigeons admits of elasticity, though a judicious selection is imperative of the artificial menu which, while being wholesome, must be to their liking.

So far as my experience goes, I have had no occasion for complaint in my choice of the diet, natural or prepared (referred to before) as supplied to my birds. Of the species that thrived in my aviary I find *Crocopus p. phœnicopterus* as the most hardy of the lot, while *Crocopus phœnicopterus chlorogaster* and *Osmotreron bisincta bisincta* are quite competent to hold their own in any mixed company. *Osmotreron fulvicollis* appears to be the most docile of these Pigeons nothing better makes for its contentment than a 'flight' all its own, where there is no molestation from a bullying kindred.

S. C. LAW.

[This is a most interesting paper on these beautiful birds and coming from such an enthusiastic and successful aviculturist as Dr. Satya Churn Law is also most valuable. We have certainly had no opportunities of studying these birds in large spacious flight aviaries, the one or two we have kept and seen being in fairly small ones and those we certainly found *lethargic* and uninteresting. We err in good company as Mr. Stuart Baker writing about the Wedge-tailed or Kokla Green Pigeon says:—"On account of their beautiful notes, which are fuller, richer and more sweet than those of any other Green Pigeon these birds are specially sought after as cage-birds. Beautiful, however, as they are, both as regards plumage and song, they are, on the whole *uninteresting* pets (the italics are ours). In a cage they are slow, *lethargic* (the italics are ours) and indeed stupid birds, and the two bad traits of greediness and quarrelsomeness which they share with the rest of their tribe, do not add to their attractions." Ed.] (*Journal D. Nat. Hist. Soc. Vol. 1. No. 4*)

2. The Burmese Green Pigeon.

Crocopus phœnicopterus viridifrons. (Blyth.)

We include this race as it is the one found in Chittagong, the Chittagong Hill Tracts and Cox's Bazaar according to Stuart Baker.

Field identification :—There is no very noticeable difference between this race and the typical one which would distinguish it in the field.

Description :—This subspecies does not differ greatly from the Bengal Green Pigeon, the yellow on the forehead, however, extends to the back of the crown and the upper tail coverts are greyish and contrast with the yellow basal band of the tail.

There is a good coloured plate of this race in Stuart Baker's "*Indian Pigeons and Doves*."

Distribution .—Stuart Baker gives the distribution of this race as follows :—

“From Chittagong and Manipur on the west, throughout Burma as far South as Moulmein and East into Siam where it grades into *C. p. annamensis* of Annam and Cochin China.” The type-locality of this race is, apparently, Mergai in Tenasserim. Some Sylhet birds are nearer this race than the typical one.

Habits :—This Green Pigeon ascends the hills up to about 2000 ft. It keeps to open country with woods and also frequents the neighbourhood of villages. In fact its habits, and nidification, do not differ from those of the Bengal Green Pigeon.

We would be glad of further information of this race in Bengal.

Fracas with *Panthera pardus*.

I knew by the rumbling snarl, that the leopard, which had been beaten out to cross a road dividing two sections of tea within 30 ft. of where I stood, had been hit.

Entering the tea to follow it up, I was greeted by the sight of a profuse blood trail, the blood being of a dark colour and full of air bubbles ; surmising from this, that I had hit him in the region of the lungs, I put several men up adjacent trees and ordered the remainder (about 100 men) to fan out and follow up about 20 yds. behind me.

Advancing cautiously along the blood trail, still profuse, I had covered about 100 yds. when I heard a blood curdling snarl and turned in time to see one of my men, to my left and about 50 yds. off, with the leopard on his shoulders and mauling him with his forepaws. The two fell into the tea out of my sight whilst the rest of the men upped trees like a crowd of monkeys. On rushing to the man's aid I found him crawling through the tea with his head and shoulders horribly mutilated and his skull visible under a tremendous gash. There was no sign of spots, so we carried the man out to an adjacent path and had him sent off to hospital immediately, together with a second man, who had sustained a slash across his face.

A short pause in the proceedings was made, a council of war held, and I sent off men to collect spears, bows and arrows and other implements of war, whilst I went ahead with two men to take up a position between the leopard and the labour lines, which by now were becoming alarmingly near to the scene of action.

Reaching a small hillock, I mounted guard to cover a nearby roadway, and put one of my men high up a siris tree for observation purposes, and within a few minutes, I was rewarded with the sight of the leopard cunningly creeping from bush to bush towards us, and ultimately coming to rest behind a large bush, into the centre of which, I sent two bullets crashing, causing the leopard to rush madly towards

the roadway which I covered, and to finally stop at a point some 20 ft. from the open road which he evidently was afraid to cross.

Realizing that the most opportune moment had come, I sent one man to muster the men, who were now armed to the teeth, whilst I took a position in the centre of the road with the second man behind me grasping a long spear.

On giving the signal, the men (now numbering about 200), advanced to force the leopard out across my front, when, with reasonable luck, I hoped to put an end to his career. Suddenly I received a tremendous whack across my shoulders from the man behind who shouted out that the leopard had arrived.

Having warned me, and considering his duty finished for the day, the man promptly disappeared along the road in a cloud of dust and small stones, leaving me gaping like a half wit, trying to locate the position of the leopard and to watch every direction at the same time.

I could see nothing of spots and was beginning to doubt his proximity, when suddenly our eyes met! The head of the leopard was sticking out under a bush behind and about 40ft from me, and on my spotting him, he let out another blood curdling snarl and charged me, with his belly almost touching the ground.

At about 20 ft. distance I opened fire and saw a cloud of earth on the other side of the beast—a distinct miss—and, knowing that it would not be advisable to miss a second time, I crouched down and waited for him to run into the gun barrels, which he did at a tremendous speed, knocking me off my aim and getting a bullet in his under belly.

The next few seconds are not very clear in my mind, and never will be, but I remember being pulled down to my knees and trying to grapple with the beast which was by now, roaring fit to waken the dead. A sickening blow on my face drove me off the road and into the small drain at the side (a distance of about 10ft.) where I lay in a blacked

out condition for a few seconds until the snarls of the leopaard made me put my hands over my head in anticipation of further mauling, about which I fear, I could have done little, had it come.

Peeping over the drain, I saw the leopard's tail disappearing into the tea opposite me, and, creeping quietly along the drain on my stomach I reached a tall tree and gained an altitude at a speed which would have made any monkey hang its head in shame.

From my perch I could see nothing of spots, but observed the men rushing towards me with spears etc., obviously glad to see me alive, as they had all witnessed the scene from a distance and could afford me no help at the time.

Armed with spears, we entered the tea, and after some time, found my gun which had been either dragged or flung, about 30 ft. from the roadway.

An obliging coolie tore his shirt up and the blood was wiped off my face and out of my eyes—I had cuts on my nose and forehead which bled freely, and after another pow wow we started searching for the leopard, with the men in the tea and myself walking along a narrow path between the section and a deep drain which was heavily overgrown with jungle.

The light was by now gradually failing, and anxious as I was to kill the leopard I shouted for the search to cease for the day and was on the point of instructing the men to this effect, when there was a roar and I saw the beast heading my way, intending once more to make me "the target for tonight"—two bullets went his way before he had me down—I didn't have time to dodge him, and he proceeded to claw and rip at my shorts for a fraction of a second and then sprang off me on top of the nearest man, pulling him screaming down into the drain.

Loading up again as fast as I could, I jumped into the drain and found man and leopard locked together and rolling around! The screams of the man and the snarling of the

leopard were more than I could stand, and firing to hit the leopard, begging of the Almighty that it should not be the man, I then dropped the empty gun, got astride the leopard which was now nearer dead than alive, and tore him bodily off the man who had by now lost consciousness, dragged him a few feet away—still managing to growl labouriously—and then caught up the man and climbed out of the drain with him to hand him over to the crowd who were attempting to give assistance.

Returning to the leopard which was breathing heavily and apparently incapable of further action, I derived the deepest pleasure from methodically blasting him to pulp with all my remaining bullets.

Taking stock later, I found that my shorts had been so ripped up that my posterior was on view to the four winds of heaven ! and that I looked like something between a grass skirted "hula hula" girl ! and a blood covered Smithfield meat porter ! and after having the wounded men treated at the nearby hospital and my own little scratches fixed up, I borrowed somebody's shirt and slunk off to lick my wounds—determined to show no mercy to any leopard in future.

J. C. FORBES,

Burtoll T.E.

Dewan P. O. Cuchar.

Assam.

Two Clouded Leopards

By

H. B. GABB

The last time I was up in the hills on shikar I was in Northern Kashmir, where, as the result of elaborate planning, I had the good fortune to see, but not to bag, ibex, brown bear, Himalayan black bear and the protected musk deer. This year, circumstances took me to Rungneet Tea Estate, Darjeeling District, where I arrived on the last day of the smallgame shooting season. A small bore rifle and a 12-bore formed part of my equipment, but there were no plans or likely opportunities for anything ambitious. I hoped, however, that planter friends might very kindly permit me to try for a goral (goat-antelope) and a muntjac (barking deer).

At the outset, however, it was very welcome news that there were a few porcupines about, which had apparently been causing damage to vegetables and other garden produce higher up on the Estate. Moreover, they are a good addition to the larder. A few days later, I was out with a shot gun as soon as it was light enough to see, and strolled down a path which took me through the tea to a nearby nullah. In this was a stream with heavy cover on each side of it, including large clumps of bamboos. It was exhilarating in the early morning freshness, walking slowly up the path the other side, out in the tea again, and I hoped I would be fortunate enough to intercept a porcupine returing to its earth after a night of destruction elsewhere.

Time went quickly, and I found myself looking across the valley at the bungalow in which my family was presumably still asleep. It was stirring to hear bugle calls up in Lebong, over which cantonment, lying astride a heavily wooded hill-top, the sun soon rose, and to see once again that glorious view to the north, the snows of the Kanchinjanga Range. As my gaze came around to the bungalow—it was still in the shadows—I saw a window thrust open and our terrier land on the path outside. Imagining

that, by now, all porcupines must be safely back in their burrows, I took a last look down at the long level path below me with thoughts of going home to breakfast, and there I saw my porcupine, but it was out of range. Disappointed, but remembering how lucky I had been even to see one in such "big" country, I made for home, joined now by a chowkidar, Padmalal Chhetri.

As I came out of the nullah and was about 300 feet below, and about 300 yards from the bungalow, I met Sirisai Rai, one of the tea makers, with Bahadur and Birman Tamang, and he told me that if I would go downstream a few yards, he would show me a likely place for a porcupine. So I clambered down and was shown a small cave underneath a large overhanging rock, which receded quickly into dark rocky crevices. This was at 5,000 ft. There were two quills lying at the entrance, so my hopes rose, and I had no hesitation in deciding to smoke out any porcupine which might be at home. We accordingly looked around and quickly found quite a large bolt-hole on a higher level in a steep bank, well to one side of the overhanging rock. Heavy undergrowth was removed with the help of that most useful weapon, a kukri, and a boulder was rolled away from the mouth of the bolt-hole, so that I could face it and have a clear view.

After giving instructions for a fire to be lit at the main entrance, I took up a position, of necessity not more than three yards from it, with a 12-bore loaded with S. G. I fully expected to see a porcupine lumber out immediately, and was on the alert. No sooner had thin smoke started issuing from the hole than an animal about the size of a field-mouse ran out and dived into cover. At the same time there was a noise which definitely did not emanate from a porcupine, but, probably, from some small jungle cat. I could not see what it was, but felt sure that it could see me all right. After a few minutes I shouted to Padmalal Chhetri not to feed the fire any more, and, as the smoke cleared, I saw, crouching and looking down into the place it had left, one of the lesser cats—none other than a clouded leopard!

Now the clouded leopard (*Neofelis nebulosa macroleoides*), apart from being very uncommon, is seldom seen, owing to its arboreal habits. It flashed through my mind that it was a pity having to fire at such very short range and risk damaging the skin, but I had no alternative, so I fired at once. It was a female; but as she was found to measure 4ft. 6½in. between pegs, including the bushy dark-ringed tail, which was exactly two feet long, I presumed she was immature. The skin was not spoilt by a full charge of buckshot and was in perfect condition, the ground colour of the upper sides and flanks being the colour of a wild rabbit, with large irregular marbled patches, with smaller patches and spots on the belly and loins. I noted the very strong claws. In the stomach was porcupine meat, and I imagined that a porcupine had been killed in the cave.

During the following week I became convinced that there was some reason why she had not walked or sprung out of the burrow. She had not been nursing kittens, but I did wonder what the small animal was that had escaped. The next day, I shot a barking deer, the result of an early morning stroll, and three days later bagged a fair goral, a few miles away on a cliff-face deep in the midst of the Soom Tea Estate forest, but during the week I wandered across the nullah more than once in the hopes of getting a porcupine. On my last day of leave, eight days after bagging the clouded leopard, I again visited the overhanging rock early in the morning with Padmalal Chhetri. To our amazement we found, lying on the ashes of our fire, the end of the tail of another clouded leopard! The chowkidar quickly struck a match, and we saw up in the cave, hanging out of a crevice, the rest of the tail. I suppose jackals had made an unsuccessful attempt to get her out, and had torn off a bit of her tail in doing so. It took more than half an hour of hard work, with a thick, sharp-ended bamboo pole to free the dead body of this second female leopard.

She looked slightly smaller than the first one, although just as powerfully built. I thought at first that perhaps

the skin was rotten, as the whiskers were yellow and curled, but these proved to have been singed by fire. This leopard must have made a gallant attempt to escape through the fire, and been only a matter of a yard away from those attending to it, shortly afterwards dying of suffocation whilst attempting to join her companion. It is interesting to speculate what it was that deterred the first leopard from making good her escape, as soon as she smelt fire, instead of lingering at the mouth of the bolt-hole. It might have been because she was reluctant to leave the kill, of which she would no doubt be particularly fond, or it might have been because she would not desert her companion who had got into difficulties trying the wrong exit. It was not because she was overcome by smoke before she had a chance to get away, and I cannot believe that she regarded me as a serious obstacle, although I was crouching so close.

I left the next day with two skins of these little-known cats. These animals had been, without anyone's knowledge, reducing the number of porcupines (and no doubt Kalij pheasants, too); and, instead of ridding the Estate of one or two porcupines, as I had hoped, I had destroyed two of the animals which had themselves been preying on them. Another interesting point arises. A porcupine is so well protected by its quills that it can defend itself, presumably, if faced with one clouded leopard; but to be up against two would be a very different matter. I expect that these two leopards had been successfully hunting as a pair, and, in this particular case, perhaps one of them went in by the front door and drew the porcupine's fire, whilst the other one attacked, from the other direction *via* the bolt-hole, the most vulnerable point, the head.

The Hawk Moths of Darjeeling and Sikkim.

By

COL. F. B. SCOTT, F.R.E.S.

(Continued from Vol. XVIII page 132)

52. *Sataspes tagalica* Boisd. The form *tagalica* occurs in Sikkim and Silhet, *thoracica* in the Khasi Hills. Both forms are rare. In *tagalica* the wings are green, in *thoracica* blue, and the upper side of the abdomen is without yellow scales in *thoracica*.

Genus DEILEPHILA Laspeyres.

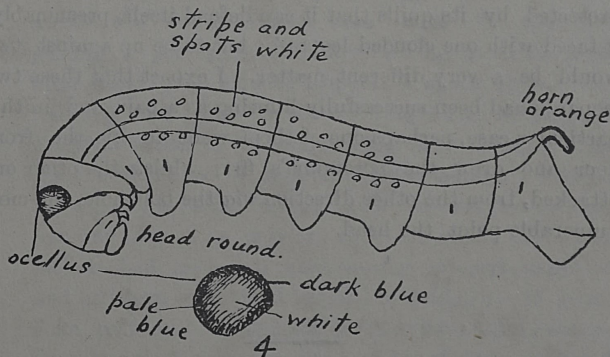
Imago green or dark olive-green, with pink and purple markings. Hind wing fuscous with a pale submargined line and a dark olive marginal band. Two species.

KEY TO THE IMAGINES.

Head and thorax green; fore wing green. *Expanse* ♂ up to 4.6"; ♀ up to 5" *D neri*.

Head and thorax dark purplish-brown; fore wing dark olive-green. *Expanse* ♂ up to 4.4"; ♀ up to 5" *D. h. hypothous*.

53. *Deilephila neri* (Linn.) (The Oleander Hawkmoth.)



Deilephila neri

Common in the plains. *Larva* green or reddish, with a whitish dorso-lateral stripe with white spots above and below

it. A large blue subdorsal ocellus on segment 4; horn orange and sausage-shaped. *Length* 3.6". *Food-plants*—Oleander; rose-periwinkle and others.

54. *Deilephila h. hypothous* (Cram.) Fairly common in the hills. *Larva* green; a dull green saddle-shaped marking on segment 2; a broad dorsolateral stripe, white on median segments, orange on anterior and posterior segments, and edged above with dark green; a small blue and white ocellus on segment 4 just below the dorsolateral stripe; on segment 6 to 11 a broad sky-blue stripe just below the dorsolateral stripe; and dark green oblique stripes. Horn long, tapering gently to near tip and then sharply to a point, down-curved, brown. *Length* 4". *Food-plants*—*Uncaria*; *Cinchona*.

Genus AMPELOPHAGA Bumer and Grey.

Imago brown or greyish, hind wing fuscous, without any conspicuous markings except in *obliquifascia*; underside reddish. Four species.

KEY TO THE IMAGINES.

1. Fore wing with sharply defined, parallel, greyish-white lines at nearly equal distances between base and outer margin; hind wing blackish brown. *Expanse* 4" ... *A. dolichoides*.
Fore wing without such lines ... 2
2. Fore wing with a broad, dusky brown, oblique band from middle of costa to tissues above tornal angle. *Expanse* 3.1" ... *A. obliquifascia*.
Fore wing without such oblique band... 3
3. Underside of hind wing and abdomen bright rufous testaceous. *Expanse* ♂ 3.2"; ♀ 4" ... *A. k. khasiana*.
Underside of hind wing and abdomen bright red. *Expanse* ♂ 3.6"; ♀ 4" *A. rubiginosa harterti*.

55. *Ampelophaga rubiginosa harterti* Roths. Khasi Hills; Assam. Fairly common. Larva green or bright red, with a yellow dorso-lateral stripe, and body dotted with yellow; horn stout, down-curved. The anterior segments of the body are expanded into ventro-lateral flanges. Length 3.8". Food-plants—Vines; Saurauja.

56. *Ampelophaga l. khasiana* Roths. Sikkim; Khasi Hills. Rare. Larva similar to that of *r. harteri*, but with groups of long spines along the dorso-lateral stripe. Length 3.4". Food-plants—Vines; Saurauja.

57. *Ampelophaga dolichoides* (Feld). Sikkim; Assam. Very rare.

58. *Ampelophaga obliquifascia*. Hamps. Khasi Hills. Very rare, only one ♀ known.

Genus ELIBIA Walker. One species.

59. *Elibia dolichus*, (Westw). Imago, head, thorax and abdomen brown, thorax with three pale stripes, abdomen with a broad pale dorsal stripe. Fore wing pale brown with green pale lines; a large black white-centred stigma. Hind wing bluish at base, outer area blackish. Expanse ♂ upto 5"; ♀ upto 6". Larva with a round ocellus on segment 4; horn reduced to a button-like prominence. Length about 4". Food-Plant not recorded.

Genus ACOSMERYCOIDES Mell. One subspecies.

60. *Acosmerycoides l. leucocraspis* (Hamps.).

Imago head grey; palpus whitish laterally; tegula and patagium chocolate brown; vertex of thorax grey-brown; abdomen with the first three segments chocolate-brown, rest of dorsum greyish, sides whitish. Fore wing purplish-grey, suffused in parts with rufous and obscurely shaded and lined with darker colour. Hind wing black-brown. Expanse ♀ 4.8" Assam, very rare, ♂ not known.

Genus ACOSMERYX Boisduval.

Imago brown and grey, the markings forming a tessellated pattern; underside tawny. Five species.

KEY TO THE IMAGINES.

1. Fore wing upperside, grey submarginal line or band straight, extending to vein SM² *Expanse* 3·4" to 4·5" ... *A. naga*.

Fore wing upperside, grey submarginal line or band curved, ending at vein R³ or a little beyond 2

2. Fore and hind wing distinctly dentate 3

Fore and hind wing not dentate 4

3. First discal line of fore wing straight from vein R³ to SM², heavy. *Expanse* ♂ 3·8"; ♀ 4" ... *A. s. sericeus*.

First discal line of fore wing thin, interrupted. *Expanse* 3·7" to 4" ... *A. omissa*.

Hind wing underside almost entirely ferruginous-tawny or vinaceous; fore wing upperside tawny-cinnamon to chestnut-brown. *Expanse* 2·8" to 3·5" *A. anceus subdentata*.

Hind wing underside much shaded with olive-grey, ground-colour of fore wing upperside greyish-olive. *Expanse* 3·5" to 4" *A. socrates*.

61. *Acosmeryx naga* Moore. Common in hills. Larva green or pink with a broad white and yellow dorsolateral stripe; and pale yellow oblique stripes; from pale purple, downcurved. The anterior segments expanded into ventro-lateral flanges, the flanges being yellow above and purple below. Length 4". Food-plants—Vines; Saurauja.

62. *Acosmeryx anceus subdentata* Roths. & Jord. Sikkim; Bhutan. Rare. Larva similar to that of *naga*, but ground-colour darker and the markings not so conspicuous; horn reddish-brown. Length 3·8". Food plant—Vines.

63. *Acosmeryx socrates* Boisd. Sikkim ; Bhutan. Two forms, *f. socrates* and *f. cineria*, both occurring together and very similar to each other in all stages. Common in some localities. *Larva* similar to that of *naga*. but the stripes from the flange embrace the spiracle on segments, forming an ocellus-like marking ; a round dorsal spot, yellow centred by plum-colour on the dorsum segments 5 to 11. Horn reddish-brown. *Length* 4". *Food-plants*—Vines ; *Leea* ; *Dillenia*.

64. *Acosmeryx s. sericeus* (Walk.). Sikkim ; Bhutan ; Silhet. Rare.

Genus LEPCHINA Oberthür. One species.

66. *Lepchina tridens* Oberth. *Imago*, head and thorax violaceous-grey ; abdomen brown ; underside reddish. Fore wing violaceous-grey with velvety-grey lines and patches. Hind wing brown with darker shades. *Expanse* ♂ 2.6". Darjeeling. Rare, and ♀ not known.

Genus PANACRA Walker.

Imago. Small moths of typical sphingid shape, brown mottled and lined with different colours. Nine species and subspecies.

KEY TO THE IMAGINES.

1. Interspace between the antemedian and the discal lines of fore wing green, like head and thorax.
Expanse ♂ 2".8 ; ♀ 3".2 ... *P. b. busiris*.
- Median interspace not green ... 2
2. Third and fourth discal lines of fore wing heavily dentate, merothoracic tegula with pale golden-metallic scales at hind edge.
Expanse ♂ 2".2 ; ♀ 2".5 ... *P. m. mydon*.
- Third and fourth discal lines of fore wing not dentate behind ... 3

3. Median interspace pale, band-like, a pale shade crossing the discal lines between veins R^2 and R^3 , distal margin not angulate, not denticulate. *Expanse* 2"·2 to 3"·2 *P. variolosa*.
 Median interspace not band-like, ante-median lines indistinct ... 4
4. Distal border of hind wing underside dilated before middle ... 5
 Distal border of hind wing underside not dilated before middle ... 6
5. Distal margin of fore wing underside clay-colour or brown, second white sub-marginal mark an acute angle or a triangular spot. *Expanse* ♂ 2·3"; ♀ 2·6" ... *P. doherityi*.
 Distal margin of fore wing underside pale ochreous; second white sub-marginal mark and angle of 90° or more 7
6. Inner or main discal line of fore wing reaching the apex. *Expanse* ♂ 2·1"; ♀ 3·2" *P. automedon*.
 Discal line of fore wing reaching the costa before the apex. *Expanse* 1·6" *P. moseri*.
7. Post-discal tawny or ochreous area of hind wing underside extended from costal to abdominal margin, interrupted before middle; fore wing not distinctly sinuate, sub-marginal double line of fore wing underside extended to hind margin, interspace pale, the lines not dilated in middle, but not joined to discal line by a brownish-black streak. *Expanse* 2·3" to 2·6"... .. *P. perfecta*.

Hind wing underside as before; fore wing sinuate, submarginal lines of fore wing underside dilated basad, joined to first discal line along vein R^2 , pale band of hind wing upperside much broader than brown marginal border. *Expanse* about 2"·6 ... *P.m.metallica*

Post-discal area of hind wing underside almost entirely replaced by olive-brown in upper half, greater part of hind wing brown; fore wing sinuate; pale band of hind wing upperside narrow. *Expanse* ♂ 2·5" : ♀ 2·7" ... *P. sinuata*.

67. *Panacra b. busiris* Walk. Sikkim; Khasi Hills; Silhet. Rare.
68. *Panacra automedon* Walk. Sikkim; Silhet. Rare.
69. *Panacra moseri* Gehlen. Darjeeling; Assam. Rare.
70. *Panacra dohertyi* Roths. Assam. Very rare.
71. *Panacra variolosa* Walk. Khasi Hills; Silhet. Rare.
72. *Panacra sinuata* Roths. & Jord. Sikkim; Khasi Hills. Rare.
73. *Panacra m. metallica* Butl. Sikkim. Rare.
74. *Panacra perfecta* Butl. Sikkim. Bhutan. Very Rare.
75. *Panacra m. mydon* Walk. Khasi Hills; Silhet. Very common. *Larva* pale yellowish-green, covered more or less with reddish-brown blotches. On segments a reddish and black ocellus, with a white eyebrow-like marking above it, in the middle of which is a red spot. Horn orange and distal half sharply downcurved. Length 3·8". *Food-plant*—Arums. The caterpillar often rests during the day low down on the stem of the food-plant, or under leaves and stones near it. It adopts a very snake-like attitude and appearance when alarmed.

Genus. *ANGONYX* Boisduval. One species.

76. *Angonyx testacea* (Walk.). *Imago*, head, thorax and abdomen darkgreen. Fore wing darkgreen with a narrow grey or white discal band; a covered submarginal line. Hind wing blackish umber-brown, with a grey spot before and angle and a broad, irregular, brown marginal band. *Expanse* ♂ 2.4"; ♀ 2.6". Khasi Hills; Silhet. Not common. *Larva* grass-green, with a narrow pink dorso-lateral stripe; horn bluish with a yellow tip. Length 2.6". *Food-plant*—*Strychnos nuxvomica* Linn. (The Strychnine tree) in S. India.

Genus *ENPINANGA* Rothschild & Jordan. One species.

77. *Enpinanga assamensis* (Walk.). *Imago*, head, thorax and abdomen pale greyish-brown; paired dark brown streaks with pale streaks below them from top of head to second segment of abdomen. Fore wing greyish-brown; a large black patch on discocellulars, with a triangular patch beyond it; a reddish oblique streak from apex. Hind wing purplish-fuscous, inner margin pale; a streak of dark hair along vein SM^s. *Expanse* 2.2". Silhet, very rare, ♀ not known.

Genus *NEPHELE* Hübner. One species, with two forms.

78. *Nephele didyma* (Fabr.). *Imago*, head, thorax and abdomen olive-brown or green; abdomen with lateral black segmental bands. Fore wing olive-brown or green, with six waved transverse lines. Hind wing raw-umber colour. *Expanse* ♂ 3.0"; ♀ 3.8". The form *didyma* has two silvery spots on the forewing, which are absent in the form *hespera*. Both forms very common, especially in the hills. *Larva* green or brown, with a conspicuous white oblique stripe running across segments 6 and 7, and a whitish dorso-lateral stripe on 8 to 12. Horn brown, down-curved, ending in a short conical tooth. Length 2.8". In the pupa the base of the tongue of the moth is contained in a laterally flattened hollow sheath projecting a long way in front of the head. *Food-plant*—*Carissa carandas* Linn.

Genus GURELCA Kirby.

Imago very small, grey marked with brown and black ; hind wing yellow with a broad black marginal band. Outer margin of fore wing toothed, and costal margin of hind wing broadly excised.

KEY TO THE IMAGINES.

1. Hind wing with black border of vein
width. *Expanse* 1.6" ... *G. h. hyas*.

Hind wing with black border narrow-
ing behind ... 2

2. Lobes of costa of hind wing of equal
width. *Expanse* 1.7" ... *G. montana*.

Lobes unequal, basal lobe wider than
apical lobe ; border of hind wing
sharply defined on inner side.

Expanse 1.9" ... *G. h.*
himachala.

79. *Gurelca h. hyas* (Walk.). Common in the hills. *Larva* very variable, ground-colour greenish, greyish, yellowish or brown ; markings also variable ; there may be conspicuous white oblique stripes, and dark brown or yellow patches. Horn brown, covered with small black tubercles and white hairs, stout, distal one-third strongly up-curved, thick to near tip. *Length* 2". *Food-plant*—*Paederia foetida* Linn., a creeper with foetid-smelling leaves.

80. *Gurelca h. himachala* (Butl.). Khasi Hills, rare. *Larva* variable as that of *hyas* in colour ; there is usually a yellow dorsolateral stripe, and the horn is very long, tapering gently to beyond the middle, then slightly thickening again ; tip bifid. *Length* 2". *Food-plant*—*Paederia foetida* Linn.

81. *Gurelca montana* Jord. Tibet, rare. *Larva* similar to that of *himachala*, but horn of medium length, slightly up-curved, tip broadly bifid, slate-colour with a pale ring beyond the middle. *Length* 2". *Food-plant*—*Paederia tomentosa* Bl. (in China).

Genus SPHINGONÆPIOPSIS Wallengren. One species.

82. *Sphingonaepiopsis pumilio* (Boisd.) *Imago* similar in colour and shape to *hyas*, but differs in having a black spot at end of cell and a broad, oblique, dark band from costa to inner margin. *Expanse* ♂ 1·1" ; ♀ 1·2". The smallest Indian Hawk-moth. Khasi Hills ; Silhet. Common in some seasons, rare in others. *Larva* very variable in ground-colour, green, yellowish, reddish or dark brown, but there is always a white subspiracular stripe. *Length* 1·6". *Foodplant*—*Hedyotis uncinella* Hk. and Arn. ; *Galium* (Linn.) ; *Oldenlandia*. (Linn.) The larva often pupates among the leaves of the food-plant above the surface of the ground.

Genus EURYPTERYX Felder. One specie.

83. *Eurypteryx b. bhaga* Moore. *Imago*, colouring like that of *Deilephila hypothous* ; head thorax and abdomen brown with a dark, triangular, dorsal patch on each of the last two segments of the abdomen. Fore wing deeply excised below apex, brown with darker and paler markings. Hind wing brown with a pale submarginal line. *Expanse* 3·3". Sikkim ; Bhutan ; Khasi Hills. Rare.

Genus RHODOSOMA Butler. One species.

84. *Rhodosoma triopus* (Westw.). *Imago* bee-shaped. Head and thorax olive-green or fulvous, with two creamy-white stripes on metanotum ; abdomen black, with crimson lateral bands on segments 2 to 5, fulvous dorsal and lateral spots on 5 to 8 ; short lateral tufts ochraceous-yellow, and tufts black. Fore wing brownish-black with six black bands ; a large, white, semivitreous, quadrate spot beyond the discocellulars. Hind wing black, with a large white patch on costa ; and angle with a crimson and white patch. *Expanse* 2·6" to 3·1". Sikkim ; Bhutan ; Assam. Rare. *Larva* green with a white dorso-lateral stripe ; horn long, laterally compressed, curved gently up and then down, as in *Acherontia styx*. *Length* 2". *Food-plant*—*Adina globifera* Salisb. (in China). The moth flies by day,

(To be continued.)

An Extraordinary General Meeting of the Bengal Natural History Society was held on Saturday 29th September, 1945 at 11 a.m.

The following were present : R. S. T. John, I.C.S. in the Chair, Col. G. A. Webb & Messrs Y. S. Ahmed, I.F.S., F. J. A. Hart, I.F.S., A. V. Pullan, T. A. Baldry, W. H. Mathews, J. Lister, V. S. Edwards, T. V. Dent, I.F.S. & J. T. Mulroney.

The Draft Constitution was approved on the proposition of Mr. Edwards, seconded by Mr. Baldry.

A General Meeting of the Bengal Natural History Society was held at 11-15 a.m. on the 29th September 1945.

Members present as above with R. S. T. John Esq., I.C.S., in the Chair.

1. Accounts for 1944-45 were passed.
2. A new Executive Committee was appointed as follows :—
 1. Deputy Commissioner.
 2. Divisional Forest Officer.
 3. Lt. Col. G. A. Webb, v.D.
 4. Messrs. W. H. Mathews.
 5. „ J. Lister.
 6. „ F. J. A. Hart, O.B.E. ; I.F.S.
 7. „ A. V. Pullan.
 8. „ T. A. Baldry.

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