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I.—*The Birds of Bhutan and adjacent Territories of Sikkim and Tibet.* By F. LUDLOW, M.B.O.U. With Notes by N. B. KINNEAR, M.B.O.U., Department of Zoology, British Museum (Natural History).

(Plates I.—VII.)

INTRODUCTORY.

This paper is based on a collection of 1700 skins obtained by Mr. Sherriff and myself in Bhutan, Sikkim, and Tibet in 1933 and 1934. The vast majority of the specimens come from Bhutan. Few Europeans have ever travelled in this country, and I am aware of no publication relating to its ornithology.

[Indeed, the only collection thence of any importance was made nearly a century ago. In 1837 Captain R. B. Pemberton, accompanied by Lieut. Blake, as Assistant, and Dr. William Griffith, Medical Officer and Botanist, went on a Mission to the Court of Bhutan. The Mission went by water to Gauhati, in Assam, and left there on 21 December for Diwangiri, just over the Bhutan frontier. From there the route was north to Trashiyangsi, then west to Punaka, and so south to Buxa, which was reached on 18 May, 1838.

Griffith, the botanist, had a very limited knowledge of birds, and the notes in his journal are of little value. He apparently was responsible for all the collections, and had with him a taxidermist, F. Monteiro by name. All the birds are labelled by Monteiro in French, with sex and native name, but, unfortunately, no date or locality is given. The labels are numbered serially, the same number given to all the specimens of the one species, so the number is of little help in tracing localities.

Actually how many birds were brought back we do not know. The serial numbers run up to 218, and there were many duplicates. The Government of Bengal presented 145 skins from the collection to the Asiatic Society of Bengal in 1838, and the remainder were sent home and received at the East India Company's Museum in 1840. When that Museum was given up, the collections were transferred to the British Museum, and I have been able to trace over two hundred skins. No report on the collection was ever published, but most of the specimens are recorded in Horsfield and Moore's 'Catalogue of the Birds in the East India Company's Museum,' 1854-58.

In 1840, Guerin and Delessert described four birds from Bhutan—*Pica bottanensis*, *Chloropsis auriventris* (= *hardwickii*), *Muscicapa variegata* (= *Siva s. strigula*), and *Cypselus leucotus* (= *Hirundapus caudacutus nudipes*). It seems probable that these were some of the specimens which Pemberton collected. Later Blyth described the following from Bhutan, based on Pemberton's birds:—*Pica megaloptera* (= *bottanensis*), *Garrulax imbricatus* (= *Trochalopteron l. imbricatum*), and *Chleuasicus ruficeps* (= *Suthora r. ruficeps*), while Gray named *Paradoxornis gularis* (= *Psittiparus g. gularis*) and *Gennæus horsfieldi*, and Moore *Rubicilla vigorsi* (= *Phænicurus erythrogaster vigorsi*) from the same source.

In the Indian Museum, Calcutta, there are a few birds from Western Bhutan which were collected by the taxidermist who accompanied the Hon. Ashley Eden's Mission to Bhutan in 1864. Owing to the lack of transport and other difficulties the taxidermist was sent back before the Mission had proceeded far into the country.]

Bhutan, therefore, offered an extremely favourable field for investigation.

The difficulty lay in gaining admittance to the country. In our simple treaty with Bhutan she accepts the guidance of the British Government in her foreign relations, but in all other matters she is entirely independent. This independence she treasures above all things. For generations past she has isolated herself from the outside world in her effort to preserve intact the Arcadian simplicity of her civilization. She is unwilling to admit the stranger within her gates, and in all her schemes for development and progress she employs her own people, and rigidly excludes the foreigner. Although a foreigner, I was not exactly a stranger. I had met His Highness the Maharaja in 1928, soon after he ascended the throne. Could I gain admittance? I knocked politely at the door—a short pause—and then it was thrown wide open, and Mr. Sherriff and I were invited to travel without restraint throughout the country. Neither of us can ever forget the debt we owe to His Highness Sir Jigmed Wangchuk, K.C.I.E., Maharaja of Bhutan. Never for a moment did we experience the slightest inconvenience in the matter of transport and supplies. At every stage a prepared encampment awaited us. Presents of fruit, vegetables, and a kindly letter of enquiry reached us at frequent intervals in the most remote places. What more could the heart of a traveller in the Himalayas desire?

To His Highness's Foreign Minister, Raja S. T. Dorje, and Lt.-Col. F. M. Bailey, C.I.E., and the late Mr. F. Williamson, C.I.E., formerly Political Officers in Sikkim, we also owe far more than we can express.

Finally, I am deeply indebted to my two good friends Mr. Sherriff and Mr. Kinnear. Without their help this paper could not have been written. Mr. Sherriff was my constant companion in the field, sharing the trials and triumphs of both journeys. Half the specimens, at least, fell to his gun, despite the fact that he was responsible for the botanical work of the Expedition. The maps are his handiwork, and most of the illustrations. Mr. Kinnear is responsible for the identification of all our specimens. His critical remarks

will be found in brackets in the systematic portion of this paper. There is no indication in print, however, of the close liaison he established with us in the field. But Mr. Sherriff and I are well aware that there is hardly a page that follows that does not owe something to Mr. Kinnear's encouragement and guidance.

AREAS AND BOUNDARIES.

Bhutan is a rectangular block of Himalayan territory, 18,000 square miles in area, lying between latitudes $26^{\circ} 45'$ and $28^{\circ} 20'$ N. and longitudes $89^{\circ} 10'$ and $92^{\circ} 15'$ E. On the north it is separated from Tibet by the great Himalayan Range, whilst two tongues of Tibetan territory, the Chumbi Valley and Mönnyul, clutch it on the north-west and north-east, as in a pair of calipers.

On the south it is bounded by the pestilential Assam and Bengal Duars. To the south-west and south-east lie Sikkim and the N.E. Frontier Tract.

MOUNTAINS AND RIVERS.

The orographical structure of Bhutan looks complicated, but is really simple.

It consists of the main Himalayan axis running west and east, and a series of parallel ranges, springing from the main range, running north and south. These latter are cut into a number of minor ranges which run in various directions. In our journey across Bhutan we crossed each of these parallel ranges by passes which averaged about 12,500 feet (*vide* map, Pl. V.).

There are four river-basins in Bhutan. The western half of the country is drained by three rivers, the Amo Chu, Wang Chu, and Mo Chu, known respectively in British India as the Torsa, Raidak, and Sankosh.

The eastern half of Bhutan is drained by the Trongsa Chu, Bumthang Chu, Kuru Chu, Kulong Chu, Nyam Jang Chu, and Tawang Chu, which all unite to form the mighty Manas River shortly before it enters the Assam plains.

Of these tributaries, the Kuru Chu and Nyam Jang Chu rise on the Tibetan Plateau, and cut through the main Himalayan axis in deep gorges at an altitude of roughly 10,000 feet.

CLIMATE AND RAINFALL.

Bhutan is less than 100 miles in breadth, yet within this short distance every type of climate is to be found.

To the south lie the low foothills covered with dense tropical forest; to the north are the eternal snows of the great Himalayan Range. Between these two extremes there is every gradation of climate from the sub-tropical to the sub-arctic.

The rainfall in Bhutan is extremely heavy. Severe storms occur in May before the monsoon has set in, and the rains do not cease until mid-October. Precipitation varies considerably in different areas, even when such areas are in close proximity to each other. It appears to be heaviest in the region of the foothills, where comparatively low hills and ranges receive the full impact of the monsoon. Here the annual rainfall probably averages 200 inches. At higher levels it is not so depressingly heavy. In the alpine zone, for example, the early mornings often broke fine. At the same time a rainless day was such an unusual occurrence that we always recorded it with thankfulness in our diaries.

Paradoxical as it may seem, there are curious dry areas in Bhutan. They are to be found in some of the major valleys of the interior between 3000 and 6000 feet. In these areas the hill-slopes are almost destitute of forest, and exhibit a xerophytic type of vegetation.

It is difficult to account for this dry river-zone. Possibly it may be due to a current of hot air sucked up through the river gorge from the plains. At places such as Wangdi Potrang and Trashigong this dry up-stream wind is of diurnal occurrence, setting in a few hours after sunrise and dying down shortly after sunset. But the area of this dry zone is sharply circumscribed, and an ascent, sometimes of a few hundred feet, is sufficient to transport the traveller from comparatively arid country into dripping rain forest.

VEGETATION.

To give the reader a concise and tolerably accurate idea of the vegetation in Bhutan I have found it convenient to divide the country into four altitudinal zones, viz. :—

(a) *The Evergreen Zone.*

Along the southern boundary of Bhutan runs a tropical or sub-tropical belt of dense, almost impenetrable, forest which extends from the plains up to an altitude of 3000 or even 4000 feet. The heaviest rainfall occurs within this belt, and since frosts are unknown and the thermometer seldom sinks below 50° F., the luxuriant forest-growth is predominantly evergreen. It is an unhealthy, and for the most part uninhabited, area, given over to the elephant and tiger and other beasts of the forest. A few Nepalese settlers are to be found in the more favourable localities, but these people, and the few Bhutanese whom the traveller encounters, are emaciated and fever-stricken individuals, quite unlike the sturdy hillmen to the north.

(b) *The Deciduous Zone.*

Between 4000 and 8000 feet lies a zone of temperate forest where deciduous trees such as the maple, birch, and chestnut flourish, and oaks, hollies, rhododendrons, and magnolias abound.

Within this zone, as already remarked, there are found in some of the larger valleys of the interior comparatively dry belts where xerophytes are conspicuous.

Thin open forest of *Pinus longifolia* is frequently to be seen, whilst here and there the stately weeping cypress grows in splendid isolation.

The settled population of the country is confined almost entirely to this zone.

(c) *The Conifer Zone.*

Between 8000 and 13,000 feet lies the conifer and rhododendron zone. The former comprises *Pinus excelsa*, *Tsuga brunnoniana*, *Larix griffithii*, yews, junipers, and the silver fir (*Abies webbiana*)—the last-named being the dominant

conifer between 11,000 and 13,000 feet. There are at least fifty different species of rhododendrons in Bhutan, which constitute the glory of the forests in the spring of the year.

(d) *The Alpine Zone.*

Above the tree-line, which is approximately 13,000 feet, lies the alpine zone, where dwarf rhododendrons and willows and numberless flowers of great beauty flourish. We were collecting flowers as well as birds, and many of our botanical treasures came from this area.

SIKKIM AND S.E. TIBET.

We obtained a few specimens in Sikkim and S.E. Tibet. The former country has been well worked. Stevens (J. Bombay Nat. Hist. Soc. vol. xxix. no. 2 *et seq.*) has written an admirable paper on its ornithology, and the reader is referred to it for detailed information.

S.E. Tibet is not so well known, and a word as to the nature of the country we visited seems necessary.

When we speak of Tibet we normally conjure up in our minds a cold, barren, elevated plateau devoid of vegetation save for a few stunted shrubs and grasses. This picture is true for the greater part of the country, but it is not correct for certain parts of S.E. Tibet. It is not generally known that strips of Tibetan territory often occur south of the Himalayan axis, and that in some places they are almost in contact with the plains of Indo-Burma. The Chumbi Valley, for example, is a narrow strip of Tibet interposed between Sikkim and Bhutan. It is well forested, and its avifauna is totally different from that of the plateau region. On the eastern frontier of Bhutan is the Tibetan province of Mön-yul. Here Tibet almost impinges on the Assam plains, and parts of the province are actually in the subtropical zone.

Nor must it be imagined that the desolate plateau region of Tibet is entered immediately one arrives north of the main Himalayan Range. This is not always the case. There are many rivers in S.E. Tibet which rise on the plateau and cut their way through the Himalayan axis. The monsoon

current passes through these gaps in the range, and causes a heavy precipitation in the river-gorge country immediately to the north of it. This results in a luxuriant growth of trees, shrubs, and herbs.

In the areas we visited in 1933 and 1934 two rivers—the Kuru Chu and Nyam Jang Chu—pierced the main range, and we found well-forested valleys on its northern slopes, where the avifauna was Himalayan and not Tibetan. But as we ascended these rivers towards their source we rapidly passed into drier country, and quickly found ourselves on the true plateau surrounded by its unique and characteristic avifauna.

ITINERARY, 1933.

The most important highway in Bhutan traverses the country from west to east through the middle temperate region. This was the route we chose in 1933. It is aligned at right angles to the parallel ranges which spring from the main axis, and thus it no sooner ascends to a pass than it dips down into an adjoining valley.

This was rather a switchback method of progression, but it afforded us many opportunities of studying the zonal distribution of birds, and therefore had its advantages. Leaving Gangtok, in Sikkim, on 5 May, we were held up at Changu for a week owing to heavy snow on the Natu La. During our enforced halt at Changu the most interesting birds encountered were *Capella nemoricola*, *Turdus m. buddhæ*, *Fringalauda b. hæmatopygia*, and *Pyrrhospiza p. punicea*. A few days were spent in the Chumbi Valley, whence we proceeded in a leisurely manner to Ha. We crossed into the Ha Valley by the twin passes Chu La and Ha La, halting for ten days at Sharithang and Damthang, two encampments set amidst beautiful conifer and rhododendron forest on either side of the Massong Chung Dong Range.

Here we found *Nucifraga c. hemispila*, *Lophophanes r. beavani*, *Lophophanes d. dichrous*, *Ægithaliscus iouschistos*, *Garrulax a. albogularis*, *Ianthocinclá o. ocellata*, *Suthora u. unicolor*, *Phylloscopus magnirostris*, *Phylloscopus t. trochiloides*, *Pyrrhoptectes epauletta*, *Propyrrhula s. subhimachala*, *Pyrrhula erythrocephala*, *Tragopan satyra*, *Ithaginis c. cruentus*, etc.

At Ha we were joined by the late Mr. F. Williamson, C.I.E., Political Officer in Sikkim, and Raja S. T. Dorje, and together we journeyed to Bumthang, the summer residence of His Highness the Maharaja.

We left Ha on 21 June, ascended the Cheli La, and dipped down into the wide open valley in which Paro is situated. We stayed here a week as the guests of the Paro Penlop, during which time we were treated with such lavish hospitality that collecting was out of the question.

On 28 June we continued our journey eastwards, halting at Pemithanka, Tsalimape, and Lometsawa, and reached Wangdi Potrang, in the Mo Chin Valley, *via* the Dokyong La, on 1 July.

At Wangdi Potrang (4500 feet) we found the valley of the Mo Chu comparatively dry and arid. The surrounding mountains were devoid of arboreous vegetation except near their summits, and were clothed only with shrubs and grasses. A hot dry wind blew violently up the valley. Amidst such different surroundings we noticed marked changes in the avifauna, which included such species as *Suya c. criniger*, *Melophus l. subscristatus*, *Molpastes l. leucogenys*, and *Franklinia r. rufescens*. Goral abounded and were as tame as goats. Higher up the Mo Chu, north of the deserted capital Punaka, lives an isolated colony of takin.

On 3 July we left for Trongsa, five marches distant, halting at Samtegang, Ritang, Chendebe, and Tsangsa. From Samtegang onwards we plunged again into leech-infested rain forest, but we were moving too quickly to do any serious collecting, and except for *Trochalopteron l. imbricatum* and *Pyrrhula n. nipalensis* we obtained nothing of any great interest.

Leaving Trongsa on 9 July we crossed the Yuto La, obtaining *Suthora f. fulvifrons* in bamboo growth on the summit. The descent on the eastern side of the pass produced a startling change in scenery, woods of oak, maple, and rhododendron giving place to beautiful fir forests with open grassy glades. We camped at Gyetsa, where we found Quail plentiful in the crops. Gyetsa is one of the two localities where Dr. Griffiths mentions "English-looking Magpies," and his specimens of

Pica p. bottanensis probably came from here, or from Bumdang Thang, thirty miles farther east.

A short march of six miles brought us to Bumthang, the summer residence of His Highness the Maharaja, where we received the warmest of welcomes.

We stayed here a week and then, on 18 July, the party split up. Mr. Williamson proceeded to Lhasa, whilst we continued our journey eastwards. Our time was now entirely our own and we halted where we pleased and collected assiduously. On the Rudo La we obtained *Myzornis pyrrhoura*, *Sylviparus m. modestus*, *Oreocincla dixonii*, and, in the hot steamy gorge of the Kuru Chu, near Lhüntse, *Hæmatospiza sipahi*, *Megalaima v. magnifica*, *Oriolus t. traillii*, and *Oriolus c. tenuirostris*. On the Donga La we got a new Wren, *Spelæornis s. sherriffi*, and the unknown female of the Tibetan Blood-Pheasant, *Ithaginis c. tibetanus*.

Trashiyangsi was reached on 28 July. From here we turned north up the Kulong Chu River into unknown country, and reached the Me La, on the Tibetan frontier, on 4 August. Four stages intervene between Trashiyangsi and the Me La. Of the birds encountered in this valley I may mention the following:—At Trashiyangsi itself *Caprimulgus i. jotaka*, *Lanius n. nigriceps*, *Æthopyga n. nipalensis*, *Lalage m. melaschista*, *Seicercus x. xanthochistos*, *Molpastes c. bengalensis*, *Garrulax a. albogularis*, *Dryonastes c. cærulatus*, *Munia p. punctulata*, *Picus c. chlorolophus*, *Sphenocercus s. sphenurus*, and *Gennæus l. lathamii*.

In dense temperate forest between Tobrang and Lao were *Pnoepyga a. albiventris*, *Pnoepyga p. pusilla*, *Tesia cyaniventer*, *Tesia castaneocoronata*, and *Glaucidium b. brodei*. In the silver fir forests at and above Shingbe *Æthopyga i. ignicauda*, *Lanius tephronotus*, *Propyrrhula s. subhimachala*, *Carpodacus edwardsi*, *Procarduelis n. nipalensis*, *Carpodacus t. thura*, *Perissospiza c. carnipes*, and *Ithaginis c. tibetanus*. At 14,000 feet, amongst the rocks and boulders of the Me La, *Lerwa lerwa*, *Lophophorus impejanus*, and *Tetraogallus c. centralis*.

From the Me La we returned to Tobrang and crossed the Donga La Range by an unexplored pass called the Pang La. In rhododendron jungle near the summit of the pass we found

the rare Shortwing *Heteroxenicus stellatus* in considerable numbers, also *Homochlamys major*. We now descended into the valley of the Khoma Chu. Near Tosumani we obtained specimens of *Procarduelis r. rubescens* and *Mycerobas melanozanthus*. Ascending the valley to its head, we reached Narim Thang on 18 August. Here we halted ten days. The most interesting birds obtained here were *Grandala caelicolor* and *Phylloscopus fuligiventer*, the latter in low rhododendron scrub above the tree line.

On 29 and 30 August we crossed the main range into Tibet by the Kang La and Pü La Passes (16,300 feet). The Hamo Chu Valley, in which we now found ourselves, was well forested, and we still continued to meet with Himalayan types such as *Ianthia c. rufilata*, *Pyrrhula erythrocephala*, *Mycerobas melanozanthus*, *Dendrotreron hodgsoni*, and *Ithaginis c. tibetanus*. But as we descended the Hamo Chu, and rounded a spur a few miles above its confluence with the Kuru Chu, the aspect of the country changed with great suddenness. The hill-slopes in front of us were quite bare, and we seemed to have stepped into the dry zone without the slightest warning. The nature of the avifauna now clearly announced that we had reached Tibet, though not the true plateau region. Here, at Lhakhang Dzong, a rather squalid Tibetan village at 10,000 feet, we saw for the first time such typical Tibetan birds as *Pica p. bottanensis* and *Columba r. turkestanica*.

The remainder of our journey in Tibet is of no great interest from the ornithological point of view. The avifauna of the Plateau is remarkably uniform throughout its vast extent, and most of the species we met with are familiar to everybody who has studied this region. I do not propose, therefore, to do more than outline our subsequent route. On leaving Lhakang Dzong we ascended the Kuru Chu to Towa Dzong and Mönda, and crossed the unexplored Mönda La to the Tö Monastery on the eastern shore of the Pomo Tso Lake. From Tö we proceeded to Ling, skirted the western shore of the beautiful Yamdrok Tso, and reached Nangkartse, four stages from Lhasa, on 13 September. We thence turned west over the Karo La to Gyantse, and returned to India by the Phari road to Kalimpong, which we reached on 7 October



Diwangiri Ravine (800 feet). Tropical Zone.



Trashiyangsi (6,000 feet). Deciduous Zone.



Mago (11,500 feet). Conifer Zone.



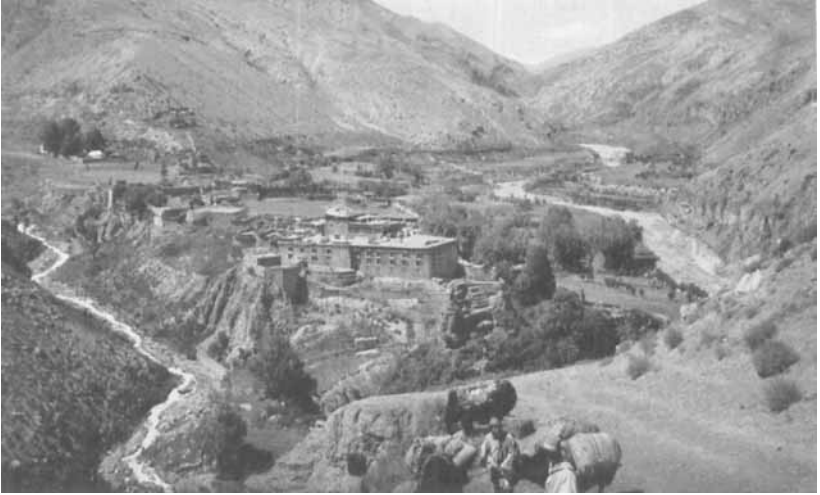
Sana (8,000 feet). Deciduous and Conifer Forest.



Mago (12,500 feet). Conifer and Rhododendron Zone.
Primulas in foreground.



Rong Chi Valley, Tibet (12,500 feet). North face of Himalayan Range,
Transitional Zone.

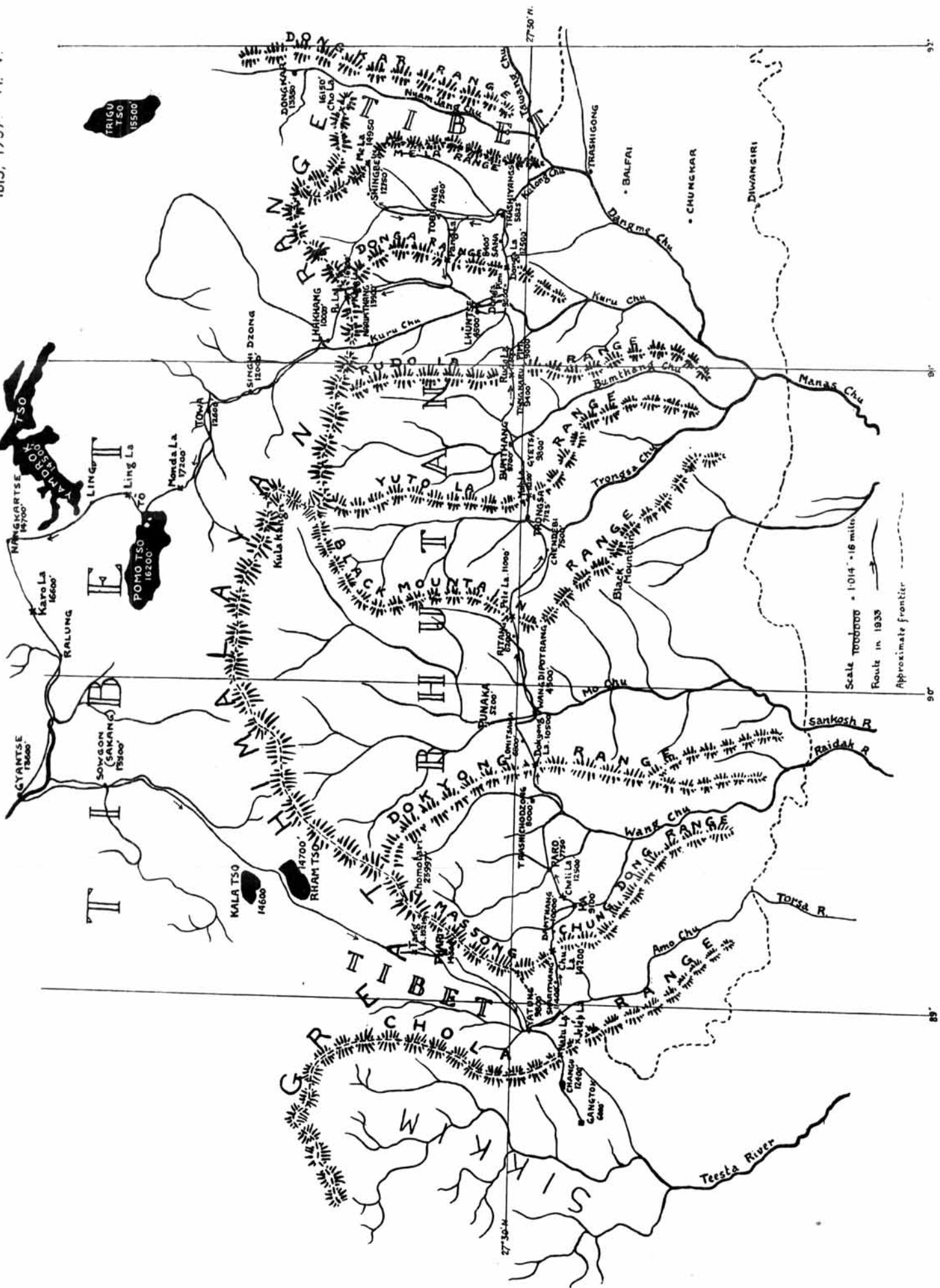


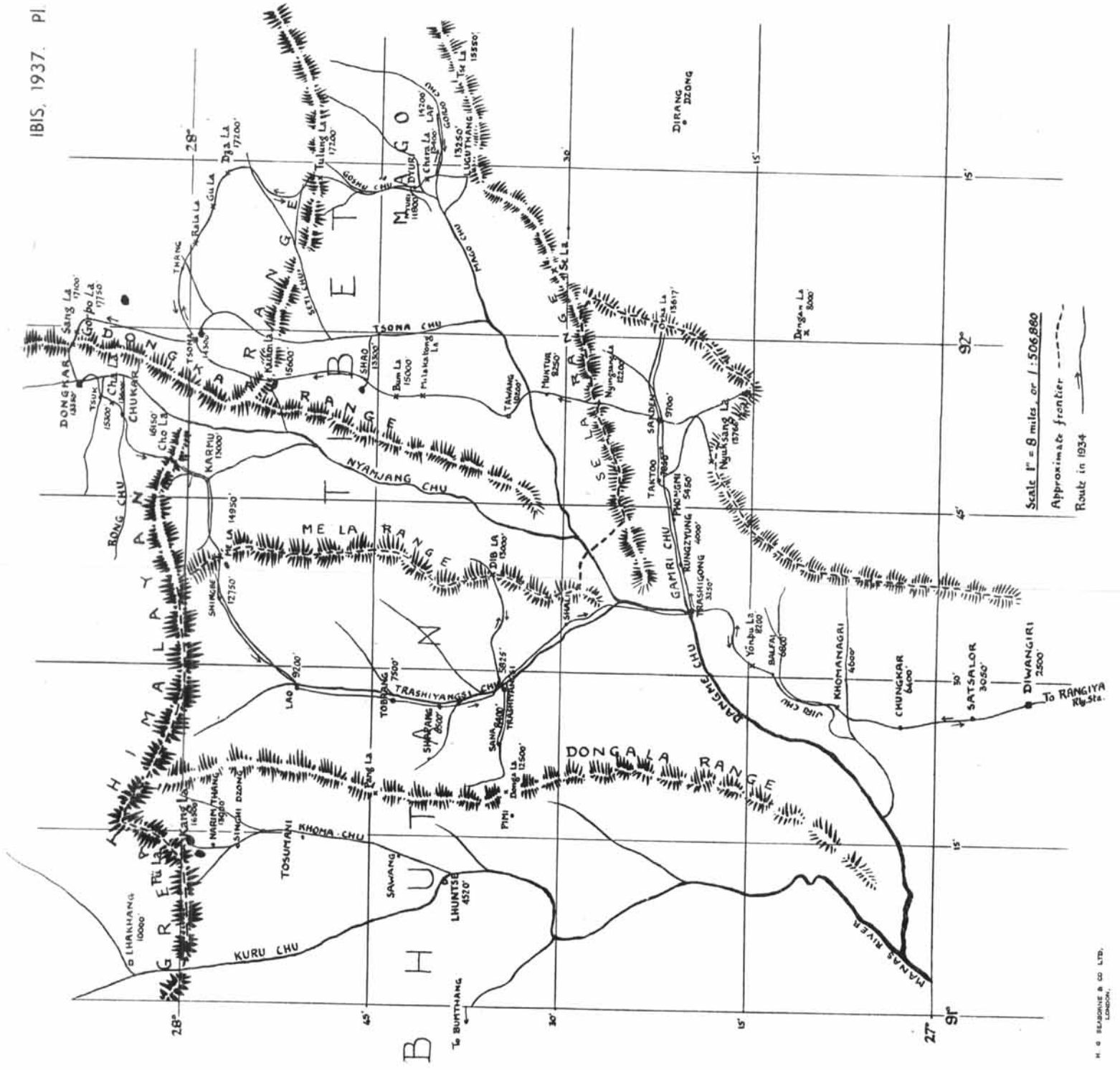
Dongkar, Tibet (13,500 feet). Dry Zone



Zangthang, Mago District (15,000 feet). Alpine Zone.

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STAGES AND ALTITUDES.

1933.

26 April-4 May ...	Gangtok.	6000 ft.
5 May	Karponang.	9000 ft.
6-12 ,,	Changu.	12,400 ft.
13 ,,	Chumpithang.	13,000 ft. (Natu La, 14,100 ft.).
14-19 ,,	Yatung.	9800 ft.
20-31 ,,	Sharithang.	11,400 ft.
1-10 ,,	Damthang.	10,000 ft. (Chu La, 14,200 ft., Ha La, 14,000 ft.).
11-20 ,,	Ha.	9100 ft.
21 ,,	Chanana.	10,000 ft.; (Cheli La, 12,500 ft.).
22-27 ,,	Paro.	7750 ft.
28 ,,	Pemitanka.	8350 ft. (Bela La 11,500 ft.).
29 ,,	Tsalimape.	7700 ft.
30 ,,	Lometsawa.	6700 ft. (Dokyong La, 10,500 ft.).
1-2 July	Wangdi Potrang.	4500 ft.
3 ,,	Samtegang.	7000 ft.
4 ,,	Ritang.	8200 ft.
5 ,,	Chendebe.	7500 ft. (Pele La, 11,000 ft.).
6 ,,	Tsangsa.	7500 ft.
7-8 ,,	Trongsa.	7100 ft.
9-10 ,,	Gyetsa.	9800 ft. (Yuto La, 11,200 ft.).
11-17 ,,	Bunthang.	9700 ft.
18 ,,	Tangnaru.	9400 ft.
19 ,,	Pimi.	9000 ft. (Rudo La, 12,600 ft.).
20-21 ,,	Khane Lhakhang.	8000 ft.
22 ,,	Tamachu.	5000 ft.
23 ,,	Lhüntse.	4500 ft.
24 ,,	Linji.	6500 ft.
25-26 ,,	Donga Pemi.	10,000 ft.
27 ,,	Sana.	8400 ft. (Donga La, 12,500 ft.).
28-30 ,,	Trashiyangsi.	5800 ft.
31 ,,	Shapang.	6500 ft.
1 August	Tobrang.	7500 ft.
2 ,,	Lao.	9200 ft.

3-10 August	.....	Shingbe.	12,750 ft. (Me La, 14,950 ft.).
11	..	Lao.	9200 ft.
12	..	Tobrang.	7500 ft.
13	..	Camp (Pang La east).	10,000 ft.
14	..	Camp (Pang La west).	7500 ft. (Pang La, 14,000 ft.).
15	..	Sawang.	6000 ft.
16	..	Tosumani.	10,500 ft.
17	..	Singhi.	12,500 ft.
18-28	..	Narim Thang.	13,900 ft.
29	..	Menchumo.	14,000 ft. (Kang La, 16,300 ft.).
30-31	..	Hamo.	13,500 ft. (Pü La, 16,300 ft.).
1-2 September	.....	Lhakhang.	10,000 ft.
3	..	Mug.	11,500 ft.
4	..	Singhi Dzong.	12,000 ft.
5-7	..	Towa.	12,600 ft.
8	..	Lhalung.	13,100 ft.
9	..	Mönda.	13,500 ft.
10	..	Pomo Tso.	16,200 ft. (Monda La, 17,200 ft.).
11	..	Ling.	14,600 ft.
12	..	Talung.	14,700 ft.
13	..	Nangkartse.	14,700 ft.
14	..	Dzara.	15,600 ft.
15	..	Ralung.	14,500 ft. (Karo La, 16,600 ft.).
16	..	Gobshi	13,900 ft.
17-24	..	Gyantse.	13,260 ft.
25	..	Sowgon.	13,500 ft.
26	..	Khangma.	13,900 ft.
27	..	Kala.	14,600 ft.
28-29	..	Dochen.	14,700 ft.
30	..	Tuna.	14,750 ft.
1 October	.....	Phari.	14,300 ft. (Tang La, 15,200 ft.).
2-7	..	Phari-Kalimpong.	(Jelap La, 14,390 ft.).

ITINERARY, 1934.

In our 1933 journey East Bhutan had attracted us greatly. Botanically and ornithologically it seemed to offer a favourable field for further investigation. In 1934, therefore, we planned

to work the basins of the Tawang Chu and Nyam Tang Chu, and then re-visit our old haunts in the Trashiyangsi Valley. Permission to return to Bhutan was readily given by His Highness the Majoraha, but it was not until late May that we received sanction from the Tibetan Government to visit the province of Mönnyul.

The season being well advanced, it was imperative for us to reach our collecting grounds without delay.

The quickest road thither was by the Diwangiri-Tawang Trade Route, and this we decided to take, although we knew we were running considerable risks in attempting to penetrate the fever-belt of the eastern Duars at this season of the year.

We left Srinagar on 13 June and reached Rangiya, on the East Bengal Railway, on the 17th. With the aid of a Ford lorry and car we had arranged to proceed to Darrang, in the foothills, and thence by pack-mules to Diwangiri, in one day. This would have taken us through the fever zone in daylight. But our plans miscarried. The monsoon broke the day we reached Rangiya, and though we ploughed our way through an appalling sea of mud to Darrang, we found the 2000-foot ascent to Diwangiri impossible. The track led up the narrow ravine of the Diwangiri stream, which was now an unfordable torrent. There was no alternative route, not even a hunter's path. So we put up at a neighbouring tea estate until the torrent subsided, and eventually reached Diwangiri on 22 June. The ascent of this ravine remains a nightmare. We forded the torrent thirty-five times, and the seven-mile march took nine hours to accomplish.

From Diwangiri to Trashigong all was easy going except for leeches and blister flies.

We reached Trashigong on 29 June and found ourselves in a dry part of the Manas Valley very much like that of the Mo Chu at Wangdi Potrang. From Trashigong we branched off eastwards up the unexplored Gamri Chu Villey to Sakden, which we reached in four stages. Here a calamity befell us which appeared at one time as if it would wreck our plans. This was malaria. With the exception of Sherriff, our interpreter, and Lepcha plant collector, the remainder of the party collapsed with malaria. We flew to the quinine bottle,

treated ourselves drastically, and after the lapse of ten days were sufficiently recovered to continue our journey.

We found Sakden excellent for birds and plants, and we returned to it in the autumn to collect seeds and study its avifauna more closely. We obtained here a new *Fulvetta* (*Fulvetta ludlowi*) and other interesting species such as *Prunella immaculata*, *Homochlamys major*, *Pteruthius x. xanthochloris*, etc. We expected to find *Tragopan b. molesworthi* here, as we were close to the supposed type-locality, but all the birds we saw were *Tragopan satyra*.

We left Sakden on 11 July, crossed the Se La Range by the Nying Sang La, and descended through silver fir and deciduous forest to Muktur, where we were almost eaten alive by leeches. The following day we crossed the Tawang Chu by a striking iron suspension-bridge, and ascended to the monastic town of Tawang, the only place in either Tibet or Bhutan of which we do not retain pleasant memories.

The passes between Tawang and Tsona held a rich flora, and at Shao, the intermediate stage, we passed through acres of *Primula sikkimensis*, and saw larger numbers of *Turdus m. buddhæ* than I ever remember having seen before.

The Kechen La seems to be on the main range, for here we saw *Otocorys a. elwesi* and *Fringalaua b. hæmatopygia*, whilst a few miles to the north brought us to Plateau country on which *Melanocorypha maxima*, *Montifringilla ruficollis*, etc., were abundant. *Grus nigricollis*, *Sterna h. tibetana*, and several Waders were noted on the Tsona marshes.

On 19 July we left Tsona and set out for the Mago district, where we proposed to spend a month. As far as the Tulung La our route lay north of the main range, and in the course of four days we crossed four passes of over 16,000 feet. After crossing the Tulung La we descended the valley of the Goshu Chu, and reached the twin villages of Nyuri and Dyuri in two days. Blackbirds were again very common, and we found *Carpodacus p. pulcherrimus* at 13,000 feet and *Capella nemoricola* at 14,000. We were now in the country of the Mönbas, a shy and timid race of Tibetan origin, and here we remained a fortnight, working the head-waters of the Tawang Chu. We then returned to Tsona. We were disappointed

with Mago. We had expected great things of the district, and it failed to come up to our expectations. On 15 August we left Tsona for Dongkar and crossed into the Nyam Jang Chu Valley by the Gorpo La (17,750 feet). We both fell in love with Dongkar. It lies within the dry zone, and we basked in the rays of a Tibetan sun and saw beauty in the bareness of the surrounding mountains. Here we saw *Pica p. bottanensis* again, also *Carpodacus e. roseatus* and *Emberiza c. khamensis*. Descending the Nyam Jang Chu, we crossed the Cha La into the large Rong Chu Valley, where the vegetation showed the rainfall to be considerable, though we were still north of the main range. Here we found *Perdix h. hodgsoniæ*, also *Leptopæcile s. obscura*, *Phylloscopus affinis*, and *Hodgsonius p. phœnicuroides*. Our next pass, the Cho La, took us across the Himalayan Range, and we found ourselves overlooking the beautiful valley we had gazed into from the Me La the previous year. On 22 August we crossed the Me La and took up our quarters in our old camp at Shingbe. The height of the flowering season was now past, and during the ensuing three months we devoted all our time to the collection of birds and seeds. We moved very slowly, making prolonged halts at various places in the Trashiyangsi Valley, and again visited Sakden. We finally made our exit *via* Diwangiri on 15 November.

Nearly 750 skins were obtained during these last three months. We paid particular attention to the Troglodytidae, and secured large and carefully sexed series of *Pnoepyga a. albiventer*, *Pnoepyga p. pusilla*, *Tesia cyaniventer*, and *Tesia castaneocoronata*, which have helped to elucidate several problems connected with this family. We also obtained specimens of *Elachura formosa*, *Spelæornis caudata*, and four more skins of the new race *Spelæornis s. sherriffi*. *Harpactes wardi* and *Garrulax gularis* were both obtained on the East Bhutan frontier—a considerable extension westwards of their previously known range. We were rather astonished to find *Mycerobas melanozanthus* in large flocks in tropical forest at Diwangiri.

With the cessation of the rains on 18 October leeches disappeared, and we were able to creep through the forest

undergrowth and collect in comparative comfort. Resident birds were now reinforced by numbers of autumn migrants. We worked our way down to the evergreen zone and were kept very busy. So far we had left this zone quite untouched, and we greatly regretted we had not more time to devote to it. Had we been able to do this we could have added many more species to our collection, and this paper would have been a much more comprehensive guide to the birds of Bhutan than it is at present. As it stands, I am afraid the reader will search in vain for many a reference to the residents of the tropical and sub-tropical zone. But I trust he will be able to glean from the pages that follow some idea of the inhabitants of the temperate and alpine regions.

STAGES AND ALTITUDES.

1934.

17-21 June	.....	Menoka Tea Estate.	
22	..	Diwangiri.	2500 ft.
23	..	Satsalor.	3050 ft.
24	..	Chungkar.	6400 ft.
25	..	Khomanagri.	4600 ft.
26	..	Balfai.	6800 ft.
27-28	..	Ronglung.	5000 ft. (Yönpu La, 8200 ft.).
29	..	Trashigong.	3250 ft.
30	..	Rungzyung.	4000 ft.
1 July	.....	Phongmi.	5450 ft.
2-10	..	Sakden.	9700 ft.
11	..	Muktur.	8250 ft.
12-13	..	Tawang.	10,200 ft. (Nying Sang La, 12,200 ft.).
14	..	Shao.	13,300 ft. (Bum La, 15,000 ft.).
15-18	..	Tsona.	14,300 ft. (Kechen La, 15,600 ft.).
19	..	Thang.	14,500 ft. (Nyong Chung La, 15,600 ft.).
20	..	Gu.	15,700 ft. (Kala La, 16,700 ft.; Gu La, 16,650 ft.).
21	..	Zangthang.	15,400 ft. (Dza La, 17,200 ft.).

22 July	Lungur.	13,500 ft. (Tulung La, 17,200 ft.).
23-25 „	Mago.	11,600 ft.
26 „	Camp (Gorja Chu Valley).	12,500 ft. (Chera La, 13,500 ft.).
27-28 „	Lap.	14,200 ft.
29 „	Camp (Gorjo Chu Valley).	12,500 ft.
30 July-7 Aug.	Mago.	11,600 ft. (Chera La, 13,500 ft.).
8-14 August	Mago-Tsona.	
15 „	Camp.	15,500 ft. (Gorpo La, 17,750 ft.).
16-17 „	Dongkar.	13,350 ft. (Sang La, 17,100 ft.).
18-19 „	Dhukar.	13,600 ft. (Cha La, 15,300 ft.).
20 „	Camp.	14,300 ft.
21 „	Karmu.	13,000 ft. (Cho La, 16,150 ft.).
22-27 „	Shingbe.	12,750 ft. (Me La, 14,950 ft.).
28 „	Lao.	9200 ft.
29 Aug.-5 Sept.	Tobrang.	7500 ft.
6 September	Shapang.	6500 ft.
7-8 „	Trashiyangsi.	5800 ft.
9 „	Camp, Dib La.	8000 ft.
10-14 „	Camp, Dib La.	12,000 ft.
15-20 „	Camp, Dib La.	11,500 ft.
21-24 „	Camp, Dib La.	10,000 ft.
25-29 „	Camp, Dib La.	8000 ft.
30 Sept.-1 Oct.	Trashiyangsi.	5800 ft.
2-8 October	Sana.	8400 ft.
9-10 „	Trashiyangsi.	5800 ft.
11 „	Shali.	6450 ft.
12 „	Tsirgom.	3100 ft.
13-14 „	Trashigong.	3250 ft.
15 „	Rungzyung.	4000 ft.
16 „	Phongmi.	5450 ft.
17 „	Taktoo.	7850 ft.
18-25 „	Sakden.	9700 ft.
26-28 „	Taktoo.	7850 ft.
29 „	Phongmi.	5450 ft.
30 „	Rungzyung.	4000 ft.
31 „	Ronglung.	5000 ft.
1-3 November	Yönpu La.	8200 ft.

4-5 November	Khomanagri.	4600 ft.
6-8 ,, 	Chungkar.	6400 ft.
9-10 ,, 	Satsalor.	3050 ft.
11-14 ,, 	Diwangiri.	2500 ft.
15 ,, 	Rangiya Railway Station.	

Corvus corax tibetanus.

Prior to 1933-34 I had always looked upon the Tibetan Raven as a trans-Himalayan species. Twice only in ten years had I seen it south of the main axis. I was surprised, therefore, to find it in fair numbers in north Bhutan between 9000 and 14,000 feet and to see it in damp forested regions which I had considered hitherto to be quite outside the pale of this bird's habitat.

Stevens enquires if the Tibetan Raven ever mingles with the Jungle-Crow. Occasionally it does. I saw both these species feeding together at Yatung, Lhaxhang Dzong, and in the Mago district.

Corvus macrorhynchos intermedius.

3080, ♂, Sakden (9000 ft.), 21. 10.

Common in Bhutan, and in the Chumbi Valley, Tawang, and Mago districts of Tibet, all of which areas are south of the Himalayan Range.

Where rivers such as the Kuru Chu and Nyam Jang Chu cut through this range, this bird filters into the trans-Himalayan region, and was observed at Lhaxhang Dzong and at Chukar, near Dongkar.

[One in Pemberton collection.]

Corvus splendens splendens.

Not seen in Bhutan, though it was noted on the frontier at Diwangiri. To my amazement I saw this bird at Yatung (9800 feet), in the Chumbi Valley, on 18 May, in close proximity to three Ravens and several Jungle-Crows—a rather unique assembly of the genus *Corvus*.

I may as well correct here a misquotation by Meinertzhagen (Ibis, July 1927, p. 369), where he states I saw *zugmayeri*

at Dras, in Ladak. The bird noted was the Jackdaw, not the House-Crow (*vide* J. Bombay Nat. Hist. Soc. xxvii. p. 142).

Pica pica bottanensis.

2597, ♂, near Dongkar (13,500 ft.), 19. 8.

Delessert described this Magpie in 1840 from a specimen obtained in Bhutan.

We were constantly on the look-out for this bird in 1933, and did not see it anywhere in the country. We noticed it for the first time at Lhaxhang Dzong, which is in Tibet, and thereafter we met with it in various localities between this place and Gyantse. The wet climate of Bhutan seemed to me quite unsuited to this bird's habits, and I began to wonder if its reported occurrence there was not a mistake. But bearing in mind the lesson the Tibetan Raven had taught me, I decided to make another effort to clear up its status. From Lhaxhang Dzong we sent back our Lepcha plant collector through Bhutan to collect seeds, and I instructed him to look out for this bird on his return journey. He was already familiar with it, having seen numerous specimens at Lhaxhang Dzong. When I met him in the Chumbi Valley a month later he told me he had seen it at Bumdang Thang, near Bumthang, but nowhere else. His observation was independently corroborated by Raja Dorje, who saw it at Bumthang itself in August 1933.

Dr. Griffiths in his Journal also mentions "English-looking Magpies" at Bumdang Thang and at Faisa (Gyetsa), near Bumthang. I think, therefore, the Black-rumped Magpie undoubtedly occurs in the Bumthang neighbourhood, and that in all probability Delessert's type-specimen came from this locality. In 1934 we saw this Magpie only near Dongkar, in Tibet. It was absent from Tsona, which is above the tree zone. From my experience in 1933-34 I have no hesitation in saying that this Magpie is rare in Bhutan, and I have no evidence that it occurs in any locality other than the Bumthang neighbourhood.

[Originally described by Delessert in the 'Revue Zoologica,' 1840, p. 100, from Bhutan, but how he got his specimens

we are not told. In 1837-38 nine examples were obtained during Capt. Pemberton's mission to Bhutan, and one was among the specimens collected by the Mission and handed over to the Asiatic Society by the Government. This bird was, in 1842, described by Blyth as *Pica megaloptera* in J. As. Soc. Bengal, xi. p. 193, 1842.

The remaining specimens were sent home with the rest of Capt. Pemberton's collection in 1840 to the Hon. East India Company's Museum, and eventually came to the British Museum. About 1847 Hodgson, who was then living at Darjeeling, received an example from Tibet which he sent to the India Company's Museum in 1848, and it was described by Gray in the 'Annals & Magazine of Natural History,' (2) iii. p. 209, 1849, as *Pica tibetana*. Mandelli's collectors obtained two specimens of this Magpie in Sikkim in 1873, another on the Tibetan frontier in 1874, and two others from the same place, without date, are in the Museum. They also got seven in Tibet in 1874, '77, and '78. Walton obtained specimens at Lhasa, Kambajong, and Gyantse during the Tibetan campaign, and Mr. Ludlow also collected an example at the last-named locality. According to Hartert, this Magpie extends to Kansu, and Rock shot two specimens as far south as We-shi and Kwan-chiai (14,500 feet and 12,500 feet,) Szechuan, in 1931.

This is the largest of the eastern races of the Common Magpie, and twenty-five examples measure 230-268, as compared with 195-208 mm. in *P. p. sericea* from South China; the latter extends into Burma.

Urocissa flavirostris flavirostris.

2121, ♀, Trashiyangsi (6000 ft.), 30. 7; 2876, ♀, Dib La (9000 ft.), 23. 9.

Well distributed throughout Bhutan between 6000 and 11,000 feet. We found it tame and confiding and a frequent visitor to our camps in search of food. We failed to meet with *Urocissa melanocephala* and *Cissa chinensis*.

[2 ♂♂ and 1 ♀ in Pemberton collection and one example of *C. chinensis*.]

Dendrocitta formosæ himalayensis.

1948, ♂, Wangdi Potrang (6000 ft.), 1. 7 ; 2381, ♂, Sedonchen, 6. 10 ; 2449, ♀, Gamri Chu (5000 ft.), 1. 7 ; 3222, ♂, Khomanagri (4000 ft.), 5. 11.

Throughout Bhutan below 7000 feet.

I think I saw a party of *Dendrocitta frontalis* near Diwangiri in November 1934, but the only bird I shot escaped in the dense jungle and so this identification is doubtful.

[A single male in the Pemberton collection.]

Garrulus glandarius interstinctus.

1928, 1929, ♂♀, Ha (11,000 ft.), 17. 6 ; 1949, 1950, 2 juvs., Wangdi Potrang, 1. 7 ; 2728, ♂, Trashiyangsi (6000 ft.), 6. 9 ; 2737, ♀, Trasgiyangsi (7000 ft.), 9. 9 ; 2910, ♂, Trashiyangsi (8000 ft.), 27. 9 ; 2943, ♂, Trashiyangsi (8000 ft.), 29. 9 ; 3225, ♀, Khomanagri (4000 ft.), 5. 11.

The Sikkim Jay is moderately common and widely distributed throughout Bhutan. I have seen it as high as 12,000 feet in conifer forest in June and in semi-tropical forest at 4000 feet in November. It occurs in dense as well as open forest, and is, perhaps, most partial to the oak zone between 6000 and 8000 feet. I have heard it utter the characteristic call of its tribe, but on the whole it is a silent and unobtrusive bird.

[Pemberton brought back a male and, according to Baker, it is found in the Dafla Hills.]

Nucifraga caryocatactes hemispila.

1837, ♀, Sharithang (11,000 ft.), 29. 5 ; 2070, ♀, Donga La, 25. 7 ; 2955, ♀, Sana (8000 ft.), 3. 10 ; 3077, ♂, Sakden (9000 ft.), 20. 10.

Common throughout Bhutan from 6000 feet up to tree-limit. Observed at 12,000 feet in the Hamo Chu Valley in Tibet near Lhakhang Dzong.

[♂ and ♀ obtained by Pemberton. This race does not, so far as we know, occur farther east.]

Pyrhocorax pyrrhocorax himalayensis.

Common both in Bhutan and Tibet. Breeds in houses in the Chumbi and Ha Valleys in May and early June.

[♂ and ♀ in the Pemberton collection.]

Pyrrhocorax graculus.

A scarcer bird than the Red-billed Chough, especially north of the main range.

Pseudopodoces humilis.

2345, 2346, oo, Karo La (14,500 ft.), 15. 9 ; 2370, o, Tang La (15,000 ft.), 1. 10.

Absent from Bhutan ; common in Tibet north of the main range. In 1933 it was first seen between Towa and Lhalung, and was subsequently common as far as Gyantse. In 1934 it occurred between Tsona and the Tulung La. I have seen this bird perch on bushes, though in the ' Fauna ' (vol. i. p. 71) it is said never to do so.

Parus major tibetanus.

2347, 2348, ♂♂, Gyantse (13,200 ft.), 18. 9.

Met with in willow scrub at Gyantse. No Grey Tits were seen in Bhutan.

[*Parus major nipalensis*: two skins in Pemberton collection.]

Parus monticolus.

1789, ♂, Sharithang (11,500 ft.), 22. 5 ; 1985, ♂, near Trongsa (7500 ft.), 6. 7 ; 2441, ♀, Gmari Chu (5000 ft.), 1. 7 ; 2452, ♂, (Gamri Chu 5000 ft.), 1. 7 ; 2730, ♂, Trashiyangsi (6000 ft.), 7. 9 ; 2954, ♀, Sana (8000 ft.), 3. 10 ; 2988, ♂, Sana (8000 ft.), 6. 10 ; 3121, ♂, Gamri Chu (7500 ft.), 27. 10 ; 3215, ♀, Khomanagri (4000 ft.), 5. 11.

Common throughout Bhutan from 5000–12,000 feet in summer. A nest with young was found on 5 July near Trongsa.

A party observed at Lhaxhang Dzong north of the main range in September. In November it was seen at Diwangiri. Stevens found it almost at plains level in the Eastern Duars in winter, so it is a bird whose altitudinal range is considerable.

[On comparing the above series with some in Mr. Whistler's collection from the Western Himalayas I can see no difference, and *P. m. lepcharum* Meinertzhagen, therefore, becomes a synonym of *monticolus*, a conclusion Dr. Ticehurst had already come to (Ibis, 1935, p. 40). Two examples in the

Pemberton collection, and there are several in the Museum from the Chumbi Valley, obtained during the second Mt. Everest Expedition.]

Lophophanes ater æmodius.

1715, ♂, Changu (11,500 ft.), 8.5; 1771, o, Lingmothang (11,500 ft.), 16.5.

I have no record of this Tit from Central or East Bhutan. It was common enough in the conifer forests of the Chumbi Valley and West Bhutan.

Lophophanes rufonuchalis beavani.

1711, ♂, Changu (12,000 ft.), 7.5; 1746, ♂, Changu (11,000 ft.), 11.5; 1756, ♀, Chumpithang (12,500 ft.), 14.5; 2008, ♀, Yuto La (11,500 ft.), 9.7; 2014, ♂ juv., 2017, juv., Rudo La (10,500 ft.), 19.7; 2101, ♂, Donga La (12,000 ft.), 27.7; 2297, ♂, Narim Thang (14,000 ft.), 26.8; 2532, o, Mago (12,500 ft.), 26.7; 2627, ♂, Shingbe (12,750 ft.), 26.8; 3049, o, Sakden (9000 ft.), 18.10; 3064, ♂, Sakden (12,000 ft.), 19.10.

Common everywhere, south of the main range, from 9000 feet up to tree-limit, and even above, for it was often seen in low rhododendron scrub at 14,000 feet.

[Three examples in the Pemberton collection.]

Lophophanes dichrous.

1755, ♂, Chumpithang (12,500 ft.), 14.5; 1770, ♀, Lingmothang (11,500 ft.), 16.5; 1783, ♂, Sharithang (11,500 ft.), 21.5; 1803, 1804, o♀, Chumpithang (12,500 ft.), 25.5; 2566, juv., Mago (12,000 ft.), 6.8; 2569, ♂, Mago (11,500 ft.), 7.8; 2778, ♂, Dib La (11,000 ft.), 12.9; 3063, ♂, Sakden (12,000 ft.), 19.10.

This Tit has the same distribution as the preceding species (I did not notice it above the tree-line) and is equally common.

[The juvenile differs from the adult in the shorter crest, the tips of which are darker than the rest of the feathers; the upper side is darker, and below the cinnamon-buff is paler and less uniform in colour. I cannot see any difference in *L. d. wellsi* Baker from Yunnan.]

Sylviparus modestus modestus.

2013, o. Rudo La (10,500 ft.), 19. 7 ; 2740, ♀, Trashiyangsi (8000 ft.), 9. 9 ; 2755, o, Trashiyangsi (8000 ft.), 10. 9 ; 2997, ♂, Sana (8000 ft.), 7. 10 ; 2999-3003, 3 ♀♀, ♂♂, Sana (8000 ft.), 8. 10.

A bird of the tree-tops in mixed deciduous and conifer forest. Generally seen in large parties ; often mixed up with *Phylloscopi*, from which they were very difficult to distinguish.

Curiously enough, we did not meet with *Machlolophus*.

[One specimen in the Pemberton collection. The race *S. m. saturator* from Mt. Victoria, Yunnan, and S. China does not appear to differ. It is impossible to distinguish fresh skins from Sikkim and Bhutan from Kuatun examples. A single Yunnan skin and several from Mt. Victoria, shot in the spring, look dark, but that, I think, is due to wear. 3 ♂♂, Bhutan, 55-60 mm. ; 4 ♀♀, 57-59 mm.]

Ægithaliseus concinnus rubricapillus.

1670-1672, ♂♂, ♀, Gantok (5800 ft.), 30. 4 ; 1973, 1974, o, juv., near Trongsa (8000 ft.), 4. 7 ; 2399, ♂, Chungkar (5000 ft.), 25. 6 ; 2667, ♂, Tobrang (8000 ft.), 31. 8 ; 3148, 3149, ♀♀, Gamri Chu (6000 ft.), 29. 10 ; 3209, ♂, Jiri Chu (6000 ft.), 4. 11 ; 3234, ♀, Chungkar (6000 ft.), 7. 11.

Found throughout Bhutan between 5000 and 7000 feet in thin deciduous forest, and sometimes in thick scrub. It seemed rather local in its distribution, and was generally observed in large parties.

[Three skins in the Pemberton collection.]

Ægithaliseus iouschistos.

1794, ♀, Sharithang (11,000 ft.), 24. 5 ; 1862, ♂, Damthang (10,000 ft.), 2. 6 ; 1869-1871, ♂♂♀, Damthang (10,500 ft.), 3. 6 ; 1908, ♀, Ha (10,000 ft.), 12. 6 ; 2849, ♀, Dib Lal (10,000 ft.), 21. 9.

Tolerably common in West Bhutan ; only seen once in East Bhutan, though the party was a large one of thirty to forty individuals. A bird of mixed deciduous and conifer forest. An egg was extracted from the oviduct of no. 1794.

[Two examples in the Pemberton collection ; also found in the Chumbi Valley, Tibet, 10,000 feet, by the Second Mt. Everest Expedition.]

Melanochlora sultanea sultanea.

3270, ♀, Satsalor (3000 ft.), 9. 11.

We saw this low-altitude bird on one occasion, and I have no notes concerning it.

[One in the Pemberton collection.]

Conostoma æmodium æmodium.

2780, ♀, Dib La (11,000 ft.), 13. 9 ; 2790, 2791, ♀♂, Dib La (11,000 ft.), 13. 9 ; 2805, ♂, Dib La (11,000 ft.), 15. 9 ; 2823, ♂, Dib La (11,000 ft.), 17. 9 ; 3103, ♀, Sakden (9000 ft.), 23. 10.

This Parrot-Bill resembles the Laughing-Thrushes in its habits and calls, and is often associated with them. No. 3103, for example, was mixed up with the most cosmopolitan collection of Laughing-Thrushes I have ever seen. The party included *Ianthocincla o. ocellata*, *Trochalopteron e. nigrimentum*, *Trochalopteron a. affine*, and *Garrulax a. albugularis*. It is not a shy bird, and is generally found in thick bamboo and rhododendron bushes. It feeds on fruit as well as insects, and is particularly fond of wild raspberries. The iris is not brown as stated in the 'Fauna,' but is the same colour as the tip of the bill—pale orange-yellow.

Suthora unicolor unicolor.

1875, 1876, ♂♀, Damthang (10,500 ft.), 4. 6 ; 1879, 1880, ♂♀, Damthang (10,000 ft.), 5. 6 ; 2689, ♂, Tobrang (8500 ft.), 2. 9 ; 2787-2789, 3 ♂♂, Dib La (11,000 feet), 13. 9 ; 3144, ♀, Gamri Chu (7500 ft.), 28. 10 ; 3147, ♂, Gamri Chu (7500 ft.), 28. 10 ; 3176, ♀, Yönpu La (8000 ft.), 2. 11.

A silent, sedentary, skulking bird which is generally found in thick bamboo-jungle. When fired at or alarmed it seeks safety in the dense thickets in which it is found, and I cannot recall a single instance of a flight of more than 20 yards.

Suthora fulvifrons fulvifrons.

2003, ♀, Yuto La (11,000 ft.), 9. 7 ; 2019, ♀, Rudo La (11,000 ft.), 19. 7 ; 2784-2786, ♀♂♀, Dib La (11,000 ft.), 13. 9 ; 2817, ♂, Dib La (10,500 ft.), 17. 9.

Recorded from Nepal and Sikkim in the 'Fauna,' to which must now be added Bhutan ; and since specimens were obtained

on the extreme eastern frontier it will probably be found at a later date in the tribal country of the N.E. Frontier Tract.

Not seen below 10,000 feet, and always in bamboo thickets.

This delightful little bird is utterly fearless of man. Its call is a faint mouse-like "cheep," which is constantly uttered as it flits from stem to stem. The iris is red-brown, not merely brown as stated in the 'Fauna.'

[2 ♂♂, wing 56 mm. ; 3 ♀♀, 55 mm.]

***Suthora poliotis poliotis* ≥ *Suthora poliotis humii*.**

3186, 3187, ♀♂, Yönpu La (8000 ft.), 2. 11 ; 3264-3266, ♀♀♂, Satsalor (4000 ft.), 9. 11.

We saw these birds twice, and on each occasion they consisted of a large party. The behaviour of the birds in these two parties differed. The Yönpu La party suddenly appeared from nowhere, showed tremendous activity, and disappeared in a flash the moment I fired. The Satsalor flock were as tame, confiding, and as reluctant to take wing as *fulvifrons*. Both parties were found in mixed deciduous and bamboo-jungle. In size, coloration, and habits these birds reminded me forcibly of the Bearded Reedling of the Tarim Basin.

[Of these specimens no. 3186 is typical *S. p. humii*, but no. 3187 has the yellow on the cheeks much reduced. The remaining three specimens probably represent *Suthora daftaensis* Godwin-Austen, from Toruputi Peak, Daffa Hills, described and figured in J. As. Soc. Bengal, xlv. p. 72, 1867. The type is a very bad skin, and resembles rather closely specimens from the Naga Hills and Manipur, which are said to be the same as *S. p. poliotis* Blyth, from the Khasia Hills. Mr. Ludlow's specimens, however, have no grey on the sides of the breast and are certainly nearer the Daffa Hills bird in this respect than the typical. For the present I think it advisable to list them as intermediate until more specimens are forthcoming.]

[*Psittiparus gularis gularis*.

Baker in the 'Fauna,' i. p. 118, gives the type-locality as Sikkim! Gray and Mitchell figured this bird in the 'Genera of Birds,' ii. p. 389, 1845, and used Horsfield's MS. name,

Paradoxornis gularis, which he had given to the single specimen in the East India Company's Museum, sent home by Capt. Pemberton from Bhutan in 1845.]

[*Psittiparus ruficeps ruficeps*.

Two examples are recorded by Horsfield and Moore as obtained by Pemberton in Bhutan. This species was described by Blyth from two specimens he saw from Bhutan in 1842. Apparently they were the two which came to the East India Company's Museum, one of which, the co-type, is now in the British Museum. Sclater, *Ibis*, 1892, p. 74, and Finn, 'List of Birds in the Indian Museum,' 1901, p. xii, give the type in that Museum as from Darjeeling, which is wrong.]

***Sitta himalayensis*.**

1682, ♂, Gangtok (5800 ft.), 2. 5; 1967, 1969, ♀♂, near Trongsa (7500 ft.), 4. 7; 2061, 2062, ♀♂, Donga La, 25. 7; 2106, ♂, Trashiyangsi (8000 ft.), 28. 7; 2140, ♂, Trashiyangsi (8000 ft.), 1. 8; 2253, ♂, Khoma Chu Valley (7500 ft.), 15. 8; 2413, ♂, Jiri Chu Valley (6500 ft.), 26. 6; 2646, ♂, Trashiyangsi (8000 ft.), 29. 8; 2926, ♂, Trashiyangsi (8000 ft.), 27. 9; 3007, ♂, Trashiyangsi (6000 ft.), 9. 10; 3131, ♂, Gamri Chu (7500 ft.), 27. 10.

Common and well distributed throughout Bhutan. Found most frequently in oak and deciduous forest between 6000 and 9000 feet.

[Two examples in the Pemberton collection. The Tonkin bird may turn out to be a small race. A male and female measure: wing 67 mm., bill from skull 15-15.5; one from Yunnan 67, 15.5; another from S. Shan States 69, 15; and one from Mt. Victoria 75, 17. 11 ♂♂, as above: wing 69-75 mm., bill 16-17.5; 2 ♀♀, 73-74, 16.5.]

***Sitta castanea cinnamoventris*.**

3297, ♂, Diwangiri (2000 ft.), 12. 11.

This Nuthatch is said in the 'Fauna' to be most common between 4000 and 7000 feet. This was not our experience. We spent many days at these altitudes, but saw no specimens until we reached Diwangiri. Stevens considers 6000 feet

to be "too great an extreme limit for Sikkim." However, Meinertzhagen (*Ibis*, July 1927, p. 411) records it in Sikkim at 5600 feet in winter.

Godwin-Austen obtained *Sitta formosa* in the Daffa Hills at 5000 feet. We did not see it.

[♂ and ♀ in the Pemberton collection.]

Dryonastes ruficollis.

3322, 3323, ♀♀, Diwangiri (2000 ft.), 13. 11.

Common in cultivated areas at Diwangiri. Not seen elsewhere.

Dryonastes caerulatus caerulatus.

2133, 2134, ♂♀, Trashiyangsi (6500 ft.), 31. 7; 2403, ♂, Chungkar (5000 ft.), 26. 6; 2729, ♀, Trashiyangsi (6000 ft.), 7. 9; 2911, ♀, Trashiyangsi (8000 ft.), 27. 9.

A rather silent bird, local in its distribution.

[The last three birds show rather more white than usual on the ear-coverts. Nos. 2133 and 2134 are juveniles, slightly darker than adults; thighs brownish and under tail-coverts brown, not white.]

Garrulax leucolophus hardwickii. (Ticehurst, Bull. B. O. C. xlv. p. 113, 1926: Naga Hills.)

3158, 3159, ♂♀, Gamri Chu (3000 ft.), 31. 10; 3319, ♀, Diwangiri (2000 ft.), 12. 11.

Not seen in 1933, as we were generally too high for it. Noted up to 4000 feet in East Bhutan.

[These birds belong to the dark eastern race and are not intermediate like Sikkim birds. In the Indian Museum Calcutta, there is an example, obtained by the Hon. A. Eden in Eastern Bhutan, which probably belongs to the typical race. Unfortunately, in the 'Fauna' (viii. p. 599) the distribution of this race is given as Garhwal and N.W. Himalayas, which is wrong, and should be Bhutan, Assam, and N. Burma.]

Garrulax pectoralis pectoralis.

3232, 3233, ♂♂ Chungkar (3000 ft.), 6. 11; 3324, ♀, Diwangiri (2000 ft.), 13. 11.

A stronger fier than most Laughing-Thrushes.

Garrulax moniliger a moniliger a.

3324, ♂, Diwangiri (2000 ft.), 14. 11.

[A single female in the Pemberton collection.]

Garrulax gularis. (Plate VII.).

3309, ♂, Diwangiri (2000 ft.), 12. 11 ; 3325, 3329, 3330, ♀♀♂, Diwangiri (2000 ft.), 13. 11.

Obtained in dense undergrowth. We found this Laughing-Thrush more reluctant to fly than any other. When we compared our birds with the description in the 'Fauna' we were convinced we had secured a new race. But the remarkable difference in colour, so Mr. Kinnear informs me, is due to fading, and the description in the 'Fauna' presumably applies to old skins.

Diwangiri must be very near the western limit of this bird's range.

[The colour of this species fades in skins, and the plate (49) in vol. iii. of Gould's 'Birds of Asia' is not sufficiently bright.

McClelland's Laughing-Thrush was discovered by Dr. John McClelland when he accompanied Drs. Wallich and Griffith on a deputation to study the tea forests, as they were called, in Assam. The deputation travelled *via* the Khasia Hills to Sadiya, and from there Griffith and McClelland made an expedition to the Naga Hills. There is nothing on record to say where McClelland obtained his different specimens, and no locality other than Assam is given in his paper in the 'Proceedings of the Zoological Society,' 1839, p. 150.

Mr. Baker has restricted the type-locality to Cachar, but McClelland does not seem to have visited that district, and Sadiya would probably be more likely.

According to the 'Fauna' (vol. i. p. 152), this bird is rare in the Khasia Hills, where Jerdon obtained a specimen in 1862 (the bird figured by Gould). Hume did not meet with it in Manipur, and apparently was unaware that Godwin-Austen obtained a single specimen at Suntung. There are several specimens in the Museum from near Sadiya, one as low as 300 feet, taken by Cockburn and Godwin-Austen, and farther west the latter obtained two at Borpani, in the



Garrulax gularis.
Fulvetta ludlowi.
Spelæornis s. sherriffi.

Dafra Hills, but considered it rare, "never to range higher than 2000 feet." Baker, 'Nidification of Birds,' says it breeds freely in N. Cachar between 4000 and 6000 feet, but is hardly ever found below 2900 feet in winter. In Stevens's experience, though absent from the plains, it is confined to the base of the hills in N. Assam.]

Garrulax albogularis albogularis.

1791, ♂, Sharithang (10,500 ft.), 22. 5; 1796, ♀, Sharithang (11,000 ft.), 24. 5; 1815, ♂, Sharithang (11,000 ft.), 26. 5; 2120, ♂, Trashiyangsi (6000 ft.), 30. 7; 2684, ♀, Tobrang (8000 ft.), 1. 9.

Baker ('Fauna,' i. p. 153) says this bird does not occur in Bhutan—a rash statement to make when he had only the Pemberton collection to go upon. As a matter of fact, it is undoubtedly the commonest Laughing-Thrush in Bhutan within its zone of distribution, and we must have seen it nearly every day we spent within this zone.

The bird annoyed us intensely. Time and again a movement in a tree or bush, a faint squeak, or an imperfect view, would make us pause expectantly, and then would follow a torrent of sibilant notes from a multitude of Whitethroats, and we would remark "only *albogularis*"—using at times much stronger language. It shows less fear of man than any other Laughing-Thrush I know of except, possibly, *Trochalopteron affine affine*, and just moves ahead or to one side of the intruder. We found it more often in thick forest than in open scrub, but it does not shun the latter. Even in the breeding-season it seems to be gregarious, and we seldom came across isolated pairs. The gregarious habit, so strongly developed in this bird, must be of enormous advantage in detecting danger. With a dozen or score of keen eyes peering everywhere, what enemy could surprise it?

[Baker's remarks that this bird is not found in Bhutan is copied from the first edition of the 'Fauna.' There is a female in the Museum from that country collected by Pemberton, as already recorded in the Catalogues of the British Museum and Indian Museum.]

Ianthocincla ocellata ocellata.

1856–1858, ♀♀♂, Damthang (10,500 ft.), 2. 6 ; 1892, 1893, ♂♀, Damthang (10,500 ft.), 9. 6 ; 2459, ♀, Sakden (9000 ft.), 3. 7 ; 2793, ♂, Dib La (11,000 ft.), 14. 9 ; 3060, ♀, Sakden (9000 ft.), 19. 10.

Throughout Bhutan between 7000 and 11,000 feet in summer. In the breeding season it has a piercing eight-syllabled call which, like many other bird-notes, I cannot render intelligible in print. Not uncommon, but not a conspicuous bird, and one more addicted to bushes and shrubbery than trees.

[One was obtained by the native collector of the Second Mt. Everest Expedition in the Chumbi Valley in May 1924.]

Ianthocincla rufogularis rufogularis.

2053, ♀, Linji (6500 ft.), 24. 7 ; 2446–2448, ♂♀♂, Gamri Chu (5000 ft.), 1. 7 ; 2950, ♂, Trashiyangsi (6000 ft.), 1. 10 ; 3017, ♂, Trashiyangsi (6000 ft.), 12. 10 ; 3219, ♂, Khomanagri (4000 ft.), 5. 11 ; 3280, ♂, Satsalor (3000 ft.), 10. 11.

An arrant skulker in dense thickets and scrub-jungle on the borders of cultivation between 3000 and 6000 feet.

Meinertzhagen (Ibis, Oct. 1927, p. 572) obtained specimens in Sikkim at 11,600 feet *in winter*, whilst Stevens records it from the low valleys not above 4500 feet.

[Two specimens were in the Pemberton collection, but now there is only one in the Museum.]

Trochalopteron erythrocephalum nigrimentum.

2091, ♂, Donga La (10,000 ft.), 26. 7 ; 2113, 2114, ♂♀, Trashiyangsi (8000 ft.), 28. 7 ; 2156, ♀, Lao, Trashiyangsi Valley (9000 ft.), 2. 8 ; 2226, 2227, ♂♂, Lao, Trashiyangsi Valley (9000 ft.), 11. 8 ; 2460, ♀, Sakden (9000 ft.), 3. 7 ; 2783, ♂, Dib La (11,000 ft.), 13. 9 ; 2824, ♀, Dib La (11,000 ft.), 17. 9.

I have no record of this bird below 7000 feet in summer. A bird of dense jungles, neither obtrusive nor very gregarious.

[All the specimens of this race in the Hodgson collection were received in 1848 and 1859, after Hodgson had left Nepal in 1843 and gone to live at Darjeeling, and are, therefore, almost certain to have come from Sikkim. East Nepal should accordingly be deleted from the range of the present race. Pemberton obtained two examples.]

Trochalopteron affine affine.

1699, 1700, ♂♀, Changu (11,000 ft.), 6. 5, 1722, ♀, Changu (11,500 ft.), 9. 5; 1820, ♂, Sharithang (11,500 ft.), 27. 5; 1922, ♀, Ha (11,500 ft.), 17. 6; 2491, ♂, Sakden (10,000 ft.), 8. 7; 2568, ♀, Mago (11,500 ft.), 7. 8; 3061, o, Sakden (9000 ft.), 19. 10.

Not seen below 8000 feet in summer. It goes higher than any other Laughing-Thrush, and I have records of it from the Me La and Kang La in dwarf rhododendrons up to 14,000 feet. A tame bird, and very common throughout Bhutan.

[Two examples in the Pemberton collection.]

Trochalopteron squamatum.

One example in the Pemberton collection.]

Trochalopteron phœniceum phœniceum.

One example in the Pemberton collection.]

Trochalopteron lineatum imbricatum.

1944, ♂, near Trongsa (7500 ft.), 6. 7; 2031, 2034, ♂♂, Khane Lhakang, Kuru Chu Valley (8000 ft.), 20. 7; 2151-2153, ♂♀♂, Tobrang (8000 ft.), 2. 8; 2228, ♂, Tobrang (8000 ft.), 12. 8; 2410, ♂, Jiri Chu Valley (6500 ft.), 26. 6; 2416, ♀, Yönpu La (8000 ft.), 27. 6; 2683, ♂, Tobrang (8000 ft.), 1. 9; 2921, ♀, Trashiyangsi (8000 ft.), 27. 9; 3239, ♀, Chungkar (6000 ft.), 7. 11.

Seen for the first time at Chendebi, near Trongsa. Probably the Black Mountain Range forms its western boundary. From Trongsa eastwards it was common between 5000 and 8000 feet. It avoids dense forest, and is found most commonly in thick scrub on the borders of cultivation, though it also inhabits bushes and long grass in uncultivated areas. The habits of this bird are similar to those of the other races.

[A male and two unsexed birds in the Pemberton collection. This bird was originally described by Blyth (J. As. Soc. Bengal, xii. p. 951, 1843) from a specimen collected during Capt. Pemberton's Mission to Bhutan. There is also a female from Senchu La, Buxa Duars, obtained by Lt.-Col. L. A. Waddell in May 1892. All the specimens of this race in the

Hodgson collection were received in 1848 and 1859, and, therefore, probably came from Sikkim, since Hodgson left Nepal in 1843. Eight males, 77-82 mm.; four ♀♀, 75-79.5 mm.]

Grammatoptila striata sikkimensis. (Ticehurst, Bull. B. O. C. xliv. p. 104, 1924 : Sikkim.)

2457, 2458, ♀♂, Gamri Chu (5500 ft.), 2. 7; 2655, ♀, Tobrang (8000 ft.), 30. 8; 2738, 2739, ♀♂, Trashiyangsi (7000 ft.), 9. 9; 3009, ♀, Trashiyangsi (6000 ft.), 10. 10.

We did not meet with this bird in 1933, and I have records from East Bhutan only, where it is quite common. Its normal habitat is in thick rain-forest, though I have shot it in scrub as well. It possesses a wonderful repertoire of notes and calls.

[One of the Gamri Chu birds is typical *sikkimensis*, while the other has the band on the head almost as much developed as in *G. s. austeni* Oates, from the Daffa Hills. The remaining birds are intermediate, but one in the Pemberton collection is *sikkimensis*.]

Pomatorhinus ruficollis ruficollis.

1968, ♀, near Trongsa (8000 ft.), 4. 7; 1998, ♂, Trongsa (7500 ft.), 7. 7; 2054, o, Linji (6500 ft.), 24. 7; 2715, o, Tobrang (8000 ft.), 4. 9; 2915, 2929, ♀o, Trashiyangsi (8000 ft.), 27. 9; 3192, ♂, Yönpu La (8000 ft.), 3. 11; 3255, ♂, Chungkar (6000 ft.), 8. 11.

We found this bird tolerably common in Central and East Bhutan both in thick forest and in more open country. Not noticed above 8000 feet.

[Pemberton collected two specimens in Bhutan.]

Pomatorhinus erythrogegens haringtoni.

3166, ♂, Gamri Chu (3000 ft.), 31. 10; 3211, ♂, Khomanagri (4000 ft.), 5. 11.

Obtained both in thick forest and in open scrub. It has a loud, resonant alarm-note. We did not see either *schisticeps* or *ferruginosus*, both of which are likely to occur in Bhutan.

[According to Baker this Scimitar-Babbler does not occur east of Sikkim, but Oates, correctly, includes Bhutan in the

distribution, since there are two of Pemberton's birds in the Museum.]

[*Pomatorhinus schisticeps schisticeps.*

One example in the Pemberton collection.]

Xiphiramphus superciliaris superciliaris.

2775, 2776, ♂♂, Dib La (11,000 ft.), 12. 9 ; 2813, ♂, Dib La (11,500 ft.), 16. 9 ; 2822, ♀, Dib La (11,000 ft.), 17. 9 ; 2846, ♂, Dib La (11,500 ft.), 20. 9 ; 3145, 3146, ♂♂, Gamri Chu (7500 ft.), 28. 10 ; 3156, ♀, Gamri Chu (6000 ft.), 29. 10.

We found this Scimitar-Babbler quite common in thick bamboo growth at 11,000 feet on the East Bhutan frontier in September. Six weeks later we found it as low as 6000 feet in dense bramble-thickets near Trashigong. It is a shy, restless bird, and keeps well out of sight as it flits from bush to bush or from one bamboo clump to another. Its call is a pleasing ripple of whistling notes. Stomach-contents contained the remains of insects, but at times it feeds on fruit, and no. 2846 was seen to swallow a whole raspberry just before it was shot. The iris is not red-brown or vermilion as stated in the 'Fauna,' but *pale grey*.

[Oates, in the 'Fauna,' gives the distribution of this bird as Sikkim, and a single specimen from the Manipur Hills. Baker adds Bhutan to the distribution, on what authority I do not know, and the Khasia and Cachar Hills, where he met with it himself.

4 ♂♂, wing 75-83 mm. ; bill from skull 43-57.5.

2 ♀♀, wing 76 mm. ; bill from skull 48.

An unusual bird from Manipur measures, wing 80 mm. and bill 50.5, and a male from Tonkin, identified by Delacour as *X. s. forresti* Rothschild, has a wing of 80 mm. and a larger bill, 57.5.]

Pellorneum ruficeps mandelli.

3351, ♀, Diwangiri (2000 ft.), 14. 11.

We were generally too high for this bird in Bhutan, and only saw it in the thick Diwangiri jungles.

[Recorded from Bhutan and Buxa Duars, but not from Bhutan proper.]

Pellorneum ignotum ignotum.

3327, 3328, ♂♀, Diwangiri (2000 ft.), 13. 11.

A skulker in thick bamboo growth.

[The Assam Babbler has not hitherto been found west of Dejoo, at the base of the Daffa Hills in Lakhimpur, where Stevens collected four birds. He also got a specimen at Margherita. The type comes from Dollah, near Sadiya, and there is in the Museum another from Dihing Bridge, collected by Waddell in June 1892. Godwin-Austen, the same year as Hume gave the name *ignotum* to the species, described *Turdinus nagaensis* (Ann. Mag. Nat. Hist. xx. p. 519) from the East Naga Hills. In all he collected three specimens—the type, one from the Naga Hills, and another from Sengmai, Manipur Valley. These specimens appear to have less white on the belly and the underside generally darker. The skins, however, are very badly made up, and that may account for the apparent difference. There is also a single skin in the Museum from Hensein, N. Chin Hills, collected by C. Hopwood in May 1914, and not recorded by Baker in the 'Fauna.'

8 ♂♂, wing 57·5–60 mm. ; bill from skull 14·5–15 ; tail 47–58·5.

2 ♀♀, wing 56–58 mm. ; bill from skull 14–14·5 ; tail 40–42.]

Stachyris nigriceps nigriceps.

3201, ♂, Jiri Chu (3000 ft.), 4. 11 ; 3281, ♀, Satsalor (3000 ft.), 10. 11 ; 3343, ♀, Diwangiri (2000 ft.), 14. 11.

Fairly common from 3000 feet downwards near Diwangiri.

[A single specimen in the Pemberton collection.]

Stachyris chrysæa chrysæa.

3257–3259, ♂♂, Chungkar (6000 ft.), 8. 11.

In flocks in dense scrub.

Stachyridopsis ruficeps ruficeps.

2035, ♂, Khane Lhakang (8000 ft.), 21. 7 ; 2109, ♂, Trashiyangsi (7500 ft.), 28. 7 ; 2139, o, Trashiyangsi (6500 ft.), 1. 8 ; 2714, o, Tobrang (8000 ft.), 4. 9 ; 2747, ♂, Dib La (8000 ft.), 10. 9 ; 2908, ♂, Trashiyangsi (8000 ft.), 26. 9 ; 2914, o,

Trashiyangsi (8000 ft.), 27. 9 ; 2942, ♂, Trashiyangsi (8000 ft.), 29. 9 ; 3153, ♂, Gamri Chu (6000 ft.), 29. 10 ; 3301, ♂, Diwangiri (2000 ft.), 12. 11.

Common in summer in East Bhutan between 5000 and 8000 feet.

Aleippe nipalensis nipalensis.

3244, 3246, 3254, ♂♀, Chungkar (6000 ft.), 7. 11 ; 3292, ♀, Satsalor (2000 ft.), 11. 11.

In thick scrub in large parties. Very restless.

Pseudominla castaneiceps castaneiceps.

1689, o, Gangtok (6000 ft.), 5. 5 ; 1941, ♂, Dokyong La, 30. 6 ; 2150, ♀, Trashiyangsi (7500 ft.), 2. 8 ; 2395, 2396, ♂♀, Chungkar (6000 ft.), 24. 6 ; 2856, 2857, oo, Dib La (9000 ft.), 21. 9 ; 2900, ♀, Trashiyangsi (8000 ft.), 25. 9 ; 2957, ♂, Sana (8000 ft.), 3. 10 ; 3042, ♀, Gamri Chu (5000 ft.), 16. 10 ; 3154, o, Gamri Chu (6000 ft.), 29. 10 ; 3179, ♂, Yönpu La (8000 ft.), 2. 11.

A very common bird in Bhutan in summer between 6000 and 10,000 feet. In the 'Fauna' the upper limit of its range is stated to be 7000 feet, but it goes much higher than this in Bhutan. It collects in large flocks in the autumn, when it is very active. A bird of dense forests.

[Two juveniles are duller above than the adults, with sides of the breast and flanks greenish-brown ; postocular streak white, without any yellowish tinge : 3 ♂♂, 56-57 mm. ; 2 ♀♀, 56.5.]

Fulvetta vinipectus vinipectus.

1767, 1768, ♂♂, Yatung (9800 ft.), 15. 5 ; 1777, ♂, Yatung (9800 ft.), 19. 5 ; 1891, ♀, Damthang (10,000 ft.), 7. 6 ; 1913, ♂, Damthang (10,000 ft.), 13. 6 ; 1976, o, Trongsa (8000 ft.), 4. 7 ; 1979, 1980, ♀♂, Trongsa (11,000 ft.), 5. 7 ; 2007, ♀, Yuto La (11,500 ft.), 9. 7 ; 2024, 2025, oo, Rudo La (10,500 ft.), 19. 7.

Common in Bhutan in summer between 7500 and 11,000 feet, especially in rhododendron jungle. We did not meet with it east of the Rudo La, where it was replaced by the next species.

[Baker in the 'Fauna' (i. p. 290) states that this bird is found as far east as Assam, north of the Brahmaputra, but in his 'Handlist,' 1921, confines the distribution to Nepal and Sikkim. I know of no record farther east than Bhutan.

This species is divided into the following races:—*F. v. vinipectus* Hodgson: Nepal, Sikkim, and E. Bhutan; *F. v. kangrae* Ticehurst: N.W. Himalayas; *F. v. austeni* (Ogilvie-Grant): Naga Hills and Manipur; *F. v. ripponi* (Harington): Chin Hills; *F. v. valentinæ* (Delacour): Tonkin; *F. v. bieti* (Oustalet): N.W. Yunnan, W. Szechuan, S.E. Tibet, and N.E. Burma.]

Fulvetta ludlowi. (Kinnear, Bull. B. O. C. lv. p. 134, 1935: Sakden, Bhutan.) (Plate VII.)

2756, ♀, Dib La (11,000 ft.), 10. 9; 2769, 2770, ♀♂, Dib La (11,000 ft.), 11. 9; 2836, 2837, ♀♂, Dib La (11,000 ft.), 19. 9; 3058, ♂, Sakden (9000 ft.), 19. 10; 3066–3068, ♂♂♀, Sakden (9000 ft.), 20. 10; 3109, ♀, Sakden (9000 ft.), 24. 10; 3118, 3119, ♀♂, Gamri Chu (7500 ft.), 27. 10; 3140, 3141, ♂♀, Gamri Chu (7500 ft.), 28. 10; 3188, ♀, Yönpu La (8000 ft.), 3. 11; 3205, ♀, Jiri Chu (8000 ft.), 4. 11.

This *Fulvetta* was quite common in bamboo and rhododendron forest on the extreme eastern frontier of Bhutan between 7500 and 11,000 feet.

In its habits it is very similar to *vinipectus*, and is quiet, slow in its movements, and at times remarkably tame. We found them in small parties of six to ten individuals in the autumn.

[*Description* (male and female).—Head chocolate-brown, sides of head and nape reddish-brown; mantle slightly paler than head; rump, scapulars, and upper tail-coverts ochraceous brown; primaries black, 4 and 5 edged with white; secondaries blackish-brown edged with fulvous; tail the same colour as back and edged with ochraceous on the outer margins. Throat white, heavily streaked with brown; rest of underside grey, with the exception of the flanks, thighs, vent, and under tail-coverts, which are pale ochraceous-brown. A juvenile is similar in colour, but slightly paler.

Colour of soft parts.—Bill dark horn, fleshy at base of lower mandible; feet fleshy brown; iris brown.

Measurements.—6 ♂♂, wing 59–64 mm.; 8 ♀♀, wing 56–60 mm.

Remarks.—From *F. v. vinipectus* this species differs in the absence of the white line above the black one, which extends from above the eye to the nape; and differs from *F. manipurensis* in possessing a white throat.]

Lioparus chrysotis chrysotis.

2861, 2865, 2866, 3 ♀♀, Dib La (9000 ft.), 22. 9; 3123–3127, ♀♀♀♀, Gamri Chu (7500 ft.), 27. 10.

Seen twice in East Bhutan. On each occasion in thick bamboo growth. They were in large parties of twenty to thirty individuals. All the specimens we were able to sex were females.

Leioptila capistrata capistrata.

1684, ♂, Gangtok (6000 ft.), 2. 5; 1686, ♀, Gangtok (6000 ft.), 4. 5; 1946, ♀, Dokyong La (8500 ft.), 30. 6; 1977, ♀, near Trongsa (6500 ft.), 4. 7; 2000, ♀, Trongsa (7000 ft.), 7. 7; 2678, ♀, Tobrang (8000 ft.), 1. 9; 3132, ♀, Gamri Chu (7500 ft.), 27. 10.

Common in deciduous forest throughout Bhutan between 4000 and 8000 feet. It possesses a large variety of notes, and insists on being heard and seen. We bracketed it with *Garrulax a. albogularis* as the most prominent bird of the forest within its zone of distribution.

[A skin in the Pemberton collection. The Black-headed Sibia has been divided in the Himalayas into two races—*L. c. capistrata* (Sikkim and Bhutan) and *L. c. pallida* (Murree and Kumaon). Kumaon specimens are intermediate between *pallida* (type-locality Simla) and *capistrata* (Sikkim). In Nepal there is a very rufous bird in which the dark saddle on the back is suffused with rufous, and in the Museum are five specimens of this type collected by Scully, and two of Hodgson's, including the type of *Sibia nigriceps* Hodgson (J. As. Soc. Bengal, xl. p. 182). In addition, there is a single skin from "Kumaon," collected by Strachey, which closely resembles this red type. It is true there are two of Hodgson's specimens which are the ordinary *L. c. capistrata* colour, but they may have come from Darjeeling, as did most of his later collections.

There is also a typical skin from Nepal Dalka, taken by Mandelli's native collectors. Whether this bird is a separate race or not at present it is impossible to say.]

Leioptila annectans annectans.

3299, ♀, Diwangiri (2000 ft.), 12. 11.

The type-locality is Darjeeling, but in the western portion of its range it must be rare, for Stevens, who worked Sikkim very thoroughly for a number of years, did not meet with it. We saw it only on this one occasion. The specimen obtained was one of a small party feeding on the topmost branches of a high tree in thick forest.

Actinodura egertoni egertoni.

2404, juv., Chungkar (5000 ft.), 25. 6; 3011-3013, 3 ♀♀, Trashiyangsi (5500 ft.), 11. 10; 3272, 3273, ♀♀, Satsalor (6000 ft.), 9. 11; 3274, 3275, ♀♂, Satsalor (3500 ft.), 9. 11.

In small parties in dense thickets. Stevens compares it with the Laughing-Thrushes in many of its habits, and with this I agree. When first seen I mistook this bird for *Trochopteron l. imbricatum*.

[**Heterophasia picaoides picaoides.**

One example in the Pemberton collection.]

Sibia nipalensis nipalensis.

2084, ♀, Donga La (10,000 ft.), 26. 7; 2688, ♂, Tobrang (8500 ft.), 2. 9; 2853-2855, ♂♀♀, Dib La (9000 ft.), 21. 9; 2960, o, Sana (8000 ft.), 3. 10; 2970, ♂, Sana (8000 ft.), 4. 10; 3193, ♀, Yönpu La (8000 ft.), 3. 11.

Fairly common in mixed deciduous and conifer forest between 7000 and 10,000 feet. It seems to feed chiefly on insects concealed in the mossy growth adhering to the trunks and branches of various trees.

[One skin in the Pemberton collection. These birds are typical *nipalensis*, and do not approach *daflaensis* Godwin-Austin from the Dafia Hills. It is doubtful if that bird is a race of *nipalensis*, since it is streaked below instead of plain, and the chest-feathers are uniform and not with paler centres.]

Siva strigula strigula.

1690, ♀, Gangtok (6500 ft.), 5. 5; 1942, ♂, Dokyong La (10,400 ft.), 30. 6; 1970-1972, ♂♀♀, near Trongsa (8000 ft.), 4. 7; 2015, 2016, ♂♂, Rudo La (10,500 ft.), 19. 7; 2078, 2079, ♂♂, Donga La (10,000 ft.), 26. 7; 2155, ♂, Trashiyangsi Valley (9000 ft.), 2. 8; 2462, ♀, Sakden (9000 ft.), 3. 7; 2488, ♂, Sakden (10,000 ft.), 8. 7; 2774, ♀, Dib La (11,000 ft.), 11. 9.

Common throughout Bhutan between 6000 and 11,000 feet.
[Two birds in the Pemberton collection.]

Siva cyanouroptera cyanouroptera.

1688, ♂, Gangtok (6000 ft.), 4. 5; 3283, ♀, Satsalor (3000 ft.), 10. 11.

Scarce. Inhabits a lower zone than *strigula*.

[The female in fresh plumage is flushed with yellow on the underside. A single specimen in Pemberton's collection.]

Yuhina gularis gularis.

1938, ♂, Dokyong La (10,000 ft.), 30. 6; 1982, ♂, near Trongsa (11,000 ft.), 5. 7; 2009, ♀, Yuto La (11,000 ft.), 9. 7; 2067, ♀, Donga La (10,000 ft.), 25. 7; 2160, ♀, Shingbe (10,000 ft.), 3. 8; 2225, ♂, Trashiyangsi Valley (11,000 ft.), 11. 8; 2744, ♀, Trashiyangsi (8000 ft.), 9. 9; 2767, ♂, Dib La (11,000 ft.), 11. 9.

Recorded in the 'Fauna' as occurring "principally between 4000 and 7000 feet." This probably refers to its winter distribution. In summer we did not see it below 8000 feet, and found it most plentiful between 9000 and 11,000 feet. A spruce, lively bird, generally to be found in mixed conifer and rhododendron forest, though we obtained it also in low scrub near the summits of the minor passes west of Bunthang.

[Old skins in this species have become a warm brown on the upper side. The Yunnan bird has been separated by Rothschild as *griseotincta*, but the only difference between specimens collected by Forrest and Ludlow is that the former have a slightly greyer tinge on the throat and more pinkish on the breast. One specimen in the Pemberton collection.]

Yuhina occipitalis occipitalis.

1766, ♀, Yatung (9800 ft.), 15. 5; 1784, ♂, Sharithang (11,500 ft.), 21. 5; 1861, ♂, Damthang (10,000 ft.), 2. 6; 2010, ♂, Yuto La (11,000 ft.), 9. 7; 2461, ♂, Sakden (9000 ft.), 3. 7; 2681, 2682, ♂♀, Tobrang (8000 ft.), 1. 9; 3050, ♂, Sakden (9000 ft.), 18. 10.

The altitudinal range of this bird in summer agrees with that of the preceding species. Its habits, too, are very similar. It has a harsh, grating series of notes which it constantly utters in a most determined and business-like manner. When the rhododendrons are in bloom it derives much of its sustenance from their flowers.

[This race does not extend farther east than Bhutan, where Pemberton obtained it. Old skins in the Museum are considerably browner than the specimens listed above.]

Yuhina nigrimentum nigrimentum.

3210, ♀, Jiri Chu (3000 ft.), 4. 11.

Apparently confined to low altitudes, for the only occasion on which we met with it was in dense semi-tropical forest at 3000 feet.

[I can see no difference between this specimen and three birds collected by Forrest in Yunnan, and *intermedia* Roths. (Nov. Zool. 1923, xxx. p. 46) is, therefore, a synonym.]

Ixulus flavicollis flavicollis.

1963, ♂, near Trongsa (8000 ft.), 4. 7; 1987, juv., near Trongsa (7500 ft.), 6. 7; 1991-1993, ♀♀♂, near Trongsa (7500 ft.), 6. 7; 2041, ♂, Kuru Chu Valley (8000 ft.), 21. 7; 2391, 2392, ♂♂, Chungkar (6000 ft.), 24. 6; 2722, ♀, Tobrang (8000 ft.), 5. 9; 2978, ♀, Sana (8000 ft.), 5. 10; 2983, 2984, ♂♀, Sana (8000 ft.), 6. 10; 3142, ♀, Gamri Chu (7500 ft.), 28. 10; 3190, 3191, ♀♀, Yönpu La (8000 ft.), 3. 11.

Noted between 5000 and 8000 feet. Baker records *I. occipitalis* from Bhutan, but we did not meet with it.

[Two skins in the Pemberton collection. In freshly moulted birds the back is olive-brown, crest rich dark brown, sides of head greyish-brown; below throat white, and the whole underside the same, with a strong wash of yellow. The old

skins in the collection have become considerably darker above, and the yellow has almost, if not quite, gone from below.]

Herpornis xantholeuca xantholeuca.

3206, ♂, Jiri Chu (3000 ft.), 4. 11.

Obtained in dense secondary growth, mixed up with a party of *Stachyris n. nigriceps*.

Lelothrix lutea calipyga.

1947, ♀, Dokyong La (9000 ft.), 30. 6; 1984, ♂, near Trongsa, 5. 7; 2032, ♂, Kuru Chu Valley (7000 ft.), 20. 7; 2696, 2697, ♀♀, Tobrang (8000 ft.), 3. 9; 2719, ♀, Tobrang (8000 ft.), 5. 9; 2896, o, Trashiyangsi (8000 ft.), 25. 9; 3004, ♂, Sana (8000 ft.), 8. 10.

A fairly common bird between 5000 and 8000 feet, especially in scrub and secondary growth on the outskirts of cultivation. It keeps close to the ground and scuttles through the undergrowth, uttering a succession of pretty whistling notes. It also has a harsh, hissing series of alarm notes.

[Two examples in Pemberton's collection.]

Cutia nipalensis nipalensis.

One example in the Pemberton collection.]

Pteruthius erythropterus.

2001, ♂, Trongsa (5000 ft.), 7. 7; 2412, ♂, Jiri Chu (6500 ft.), 26. 6; 2953, o, Sana (8000 ft.), 2. 10.

Met with between 5000 and 8000 feet in thick forest. We found this bird rather scarce in Bhutan, but it is so slow and unobtrusive in its movements and habits that it is easily overlooked, and it may be commoner than we imagined.

[A male in the Pemberton collection.]

Pteruthius ænobarbus melanotis.

2994, 2995, ♂♂, Sana (8000 ft.), 7. 10.

Met with only on one occasion. According to Stevens and Baker this bird is always found in pairs, but the above two specimens were obtained out of a party of six or seven individuals which were associated with *Phylloscopi* and *Sylviparus*.

[A male in the Pemberton collection.]

Pteruthius xanthochloris xanthochloris.

1943, ♂, Dokyong La (8500 ft.), 30. 6 ; 3094, ♂, Sakden (9000 ft.), 22. 10 ; 3174, 3175, ♂♀, Yönpu La (8000 ft.), 2. 11 ; 3283, ♂, Yönpu La (8000 ft.), 3. 11 ; 3268, ♀, near Satsalor (6000 ft.), 9. 11.

Generally in pairs, but not always. Nos. 3174 and 3175 were shot out of a flock of ten to twelve individuals which were mixed up with *Phylloscopi* and *Pseudominla*.

Ægithina tiphia tiphia.

3336, 3337, ♂♀, Diwangiri (2000 ft.), 13. 11.

Only seen at Diwangiri.

Myzornis pyrrhoura.

2011, 2012, ♂♂, Rudo La (10,500 ft.), 19. 7 ; 2102, ♂, Donga La (11,000 ft.), 27. 7 ; 2161, ♂, Shingbe (11,000 ft.), 3. 8 ; 2830, 2831, ♀♂, Dib La (11,500 ft.), 18. 9 ; 2848, ♀, Dib La (12,000 ft.), 20. 9 ; 3070, ♂, Sakden (9000 ft.), 20. 10 ; 3204, ♀, Yönpu La (8000 ft.), 4. 11.

Found between 8000 and 12,000 feet, generally in rhododendron forest. This is a perfect little gem among birds—a living emerald. It is quiet, unobtrusive, generally in pairs, and always immaculately dressed. The crop of no. 2830 contained wild raspberries. The bill is jet-black, not dusky-brown as in the 'Fauna.'

[The above birds cannot be separated from Yunnan specimens. Males have a darker rust-coloured patch on the throat and chest than the females, and in the latter the green border to the feathers of the head is broader and lighter in appearance.]

Chloropsis hardwickii hardwickii.

1961, ♀, Wangdi Potrang (5000 ft.), 3. 7 ; 2379, ♀, Sedonchen (3500 ft.), 6. 10 ; 2400, ♂, Chungkar (5000 ft.), 25. 6 ; 3043, ♂, Gamri Chu (6000 ft.), 17. 10 ; 3296, ♀, Diwangiri (2000 ft.), 12. 11 ; 3347, ♂, Diwangiri (2000 ft.), 14. 11.

Moderately common between 2000 and 6000 feet.

[Male and female in the Pemberton collection. No. 2379 is a juvenile female in which a few yellow feathers on the breast and

blue moustachial streak are just beginning to show. In no. 1961 no yellow feathers are showing, and the moustachial streak is very pale, with no signs of turquoise-blue.]

Mesia argenteauris argenteauris.

3287, 3288, ♂♂, Satsalor (2000 ft.), 11. 11.

Seen only in tropical forest.

[One specimen in the Pemberton collection.]

Minla ignotineta.

1944, 1945, ♂♀, Dokyong La (10,400 ft.), 30. 6 ; 2056, 2057, ♂♂, Donga La (9500 ft.), 25. 7 ; 2154, ♂, Trashiyangsi Valley (9200 ft.), 2. 8 ; 2390, ♂, Chungkar (6000 ft.), 24. 6 ; 2858, ♂, Dib La (9000 ft.), 21. 9 ; 2966, 2967, ♂♀, Sana (8000 ft.), 4. 10 ; 3207, ♂, Jiri Chu (6000 ft.), 4. 11.

A common bird between 6000 and 10,000 feet in thick forest. Collects in large flocks in the autumn.

[A single example in the Pemberton collection.]

Criniger gularis flaveolus.

3230, 3231, ♀♀, Chungkar (3000 ft.), 6. 11 ; 3348, ♀, Diwangiri (2000 ft.), 14. 11.

In flocks in thick forest.

[One in the Pemberton collection.]

Microscelis psaroides psaroides.

1865, ♀, Damthang (10,000 ft.), 2. 6 ; 1885, ♂, Damthang (10,000 ft.), 6. 6 ; 2423, ♂, Gamri Chu (3250 ft.), 30. 6 ; 2445, ♂, Gamri Chu (5000 ft.), 1. 7 ; 2949, ♂, Trashiyangsi (6000 ft.), 1. 10.

A bird with a wide zonal distribution. Common in Bhutan, and observed in the Tawang and Mago districts of Tibet.

[I can see no difference between Sikkim and Bhutan birds and those from Manipur, Assam, and Chin Hills (*M. p. nigrescens* Baker, Bull. B. O. C. xxxviii. p. 15, 1917), if specimens in the same state of plumage are compared. There appears to be a good deal of variation in the colour. One specimen collected by Pemberton, and two males in the Chumbi Valley in July by the Mt. Everest Expedition.]

Ixos flavala flavala.

3276, 3277, ♀♂, Satsalor (3000 ft.), 10. 11.

I have nothing to add to the description in the 'Fauna.'
[Two skins brought back from Bhutan by Pemberton.]

Ixos maclellandii maclellandii.

2402, ♂, Chungkar (5000 ft.), 25. 6.

Shot in open scrub.

[One specimen in the Pemberton collection.]

Aleurus striatus.

2405, ♀, Chungkar (5000 ft.), 25. 6 ; 3261, ♀, Chungkar
(6000 ft.), 8. 11.

In large parties.

Molpastes cafer bengalensis.

2119, ♂, Trashiyangsi (6000 ft.), 29. 7 ; 2429, ♂, Gamri Chu
(3250 ft.), 30. 6.

Very common between 3000 and 6000 feet.

Molpastes leucogenys leucogenys.

2052, ♀, Lhüntse (3500 ft.), 24. 7 ; 3029, ♂, near Trashigong
(3000 ft.), 13. 10 ; 3167, ♂, Gamri Chu (3000 ft.), 31. 10.

Inhabits the drier, barer valleys. Most abundant at 3000 feet,
but seen up to 6000 feet (Trashiyangsi).

[Two skins in the Pemberton collection.]

Otocompsa jocosca emeria.

3298, ♂, Diwangiri (2000 ft.), 12. 11.

Common at Diwangiri, but not seen elsewhere.

In Bhutan, at any rate, this Bulbul does not occur at
anything like the higher limits (7000 to 8000 feet) laid down
in the 'Fauna,' and this seems to have been Stevens's experi-
ence in Sikkim also.

Otocompsa flaviventris flaviventris.

3279, ♂, Satsalor (3000 ft.), 10. 11.

Common at Satsalor, near Diwangiri, in thick scrub.

[Specimens in the Pemberton collection.]