BIRDS OF SIKKIM HIMALAYA.

STEVENS


Map of
THE SIKKIM HIMALAYAS.
Scale 1 inch = 8 miles.
88°
89°
28°
27°
Kongralama Pass
Donkhia La
KANGCHINJHAU
CHOMIUMO
KANGCHIPHU
SHUDU-TSHENPA
Mome Samdong
Tangu
Yeumtang
Chora La
Lachen
Yakcha
Lachung
Thanka La
KANCHINJINGA
Keadum
Cheungtong
Talung Chhu
Tong
Nanga
Singhik
Ringim
Mangan
Jongri
Dikchu
Tumlong
Cho La
Changu
Karponang
Penlong La
Gangtok
Chhumbi
Shamdong
Dentam
Rinchinpung
Temio
Rashab
Singtam
PHALLUT
TENDONG
Sanka Khola
Rangpo
Namchi
Maria Basti
Tar Khola
Gok
SANDAKPHU
Badamtam
Pashok Bw.
Tista Br.
Melli
Kalimpong
Kalo Pokhari
TONGLU
DARJEELING
Jalapahar
Ghoom
SENCHAL
Semana Basti
Sonada
Birik
Mangpu
Kurseong
Sukna
Mai R.
Mechi R.
Balasan R.
N E P A L
S I K K I M
T I B E T
B H U T A N
D A R J E E L I N G
D A L I N G

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NOTES ON THE BIRDS OF THE SIKKIM HIMALAYAS.

By

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(*With a Map and Plate I.*)

INTRODUCTION.

The Sikkim Himalaya is a compact portion of this enormous mountain range within the limits of latitude 26° 40′ to 28° N., and longitude 88° to 89° E. The whole extent of country represented is a wedge-shaped area, roughly circumscribed to the east by the Cho La Range from Tibet to Bhotan, and on the west by the Singile La Range from Nepal, with a length of 90 miles by 50 miles breadth, in average, representing some 4,500 square miles, and for comparison equivalent to about three-fifths the size of Wales.* Within these confines is the District of Darjeeling in the Bengal Presidency with its northern frontier adjoining Sikkim and comprising an area of 1,664 square miles, inclusive of the plains tract which is strictly beyond this sphere. Various terms have been employed in the designation of portions of this country, *viz.*, Native Sikkim, in the vernacular, Sukhim, otherwise the Independent State of Sikkim.† British Sikhim, as was formerly applied to the range on which stand the hill stations of Darjeeling and Kurseong, together with the contributory spurs originally leased in 1835, but later, with the acquisition of the Southern extremity of the Singile La Range in 1850, had reference to what now constitutes the elevated portion, in contradistinction to the plains of the Darjeeling District; with the exception of what was formerly known as British Bhotan (Daling) annexed in 1864-65, and is now the Sub-Division of Kalimpong. Thus it can be readily understood, how necessary it is to avoid all ambiguous terms in reference to localities, and to fix at least the approximate elevations, since even in the district of Darjeeling, there is a difference in altitude of from 300 feet (plains level,) up to Sandakphu at 11,923 feet. The dissimilarities in the physical features of this area exist to a greater degree over the whole country which consists of one extensive complex system of mountains and valleys. In view of these facts I have chosen this term, correctly Sikkim Himalaya, as employed by Hooker, and applicable to this composite territory.

This paper may be regarded as supplementary to my "Notes on the Birds of Upper Assam", Jour. Bom. Nat. Hist. Soc., Vol. XXIII. I have not hesitated to make use of information obtained in outlying parts, as will be noticed; all of which records have a bearing on the subject. It is mainly written from the standpoint of what is now understood as the *Zonal Distribution*, which is an important factor in the fauna and interdependent flora of the two Zoological Regions. It covers my first visit to the hills, March 1911, when elevations of from 2,000′–6,000′ were worked during a stay of twelve days. December 1911 to June 1912, 3,500′–12,000′, a period of twenty-three weeks, of which time from the 20th of January to the 25th of May, my head-quarters were at 10,000′-12,000′. From January 1914, with the exception of a three months' residence at 2,050′ when observations were limited between 950′-2,600′ my eight years' residence at an elevation of 4,720′, with an altitudinal range of some 2,600′ odd feet from 3,440′–6,100′ has supplied the bulk of the records, augmented by every available period of short leave, which has enabled me to widen operations during the winter, when several excursions attaining elevations around 10,000′ have been undertaken into the interior, this being the time when the majority of the birds of the higher limits are then below the prevalent snow-line.

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* The size of Wales is 7,362 square miles.

† There is no authoritative rendering of this name denoted by either *Sikhim* or *Sikkim*. The latter is most frequently employed and agrees best with Government usage.

These records complete over twenty years' acquaintance with the avi-fauna of the Eastern Himalayas. Full use has been made of information supplied to me by Mr. G. E. Shaw, B.Sc., who also has the advantage of a residential knowledge of a part of the country which presents a marked diversity in the distribution of many species in comparison with my surroundings.

His ornithological pursuits extend over many years. Without the inclusion of his records, these notes would have been incomplete. Where my fellow-planters have assisted me with specimens, acknowledgment is given in the text. My indebtedness is due to Sir Charles A. Bell, K.C.I.E., C.M.G., I.C.S., for, during his regime as Political Officer, granting me facilities to collect in the Independent State of H. H. The Maharajah of Sikkim.

The extraordinary wealth of insect and bird-life is nowhere more exemplified than in this wonderful zoological country, so much so that the great Dr. Alfred Russel Wallace refers to the Himalayan sub-region as perhaps one of the richest tracts of equal extent on the face of the globe.

The list of birds enumerated totals some 549 species and sub-species, and takes scant cognizance of the innumerable waders and ducks, the majority of which pass over as fleeting passage migrants. The Passeres alone number 365 and, as a further instructive example in support of this richness, one 250 acre block of forest has yielded a total of 172 forms with every possibility of an additional dozen or so being added to this number, whilst the surroundings within a radius of one mile have accounted for a supplementary 81 forms. The abundance of bird-life in this particular instance was the result of a favourable situation on a spur, with a northerly and southerly trend within an altitudinal range of from 4,700 feet to over 6,000 feet, whose upper limits extended to meet the Government Reserve. The land at the other extremity and in Nepal being under cultivation or rudely devastated of its natural vegetation has made this area in consequence a perfect "oasis" for the resident birds,in addition attracting the upward breeding migrants and those to and from higher altitudes, as well as stragglers driven down under stress of weather or owing to scarcity of food. The abundance of bird-life in this locality is obvious from a perusal of the following pages. Wherever private enterprise has safe-guarded its interests by conserving even a tithe of the indigenous forest this has all been in favour of the birds, and can well be appreciated by all true lovers of Nature's marvellous and bounteous gifts. Where no check has been kept on the primitive methods of land devastation in vogue the ultimate issue has been disastrous in many respects.

Since the first volume of Oates' "Fauna" was published in 1889, our knowledge has advanced on several basis, excepting in regard to Pterylosis. *i.e.*, the study of the distribution of the feather tracts in nestling birds, a branch of Ornithology whose advancement is dependent entirely on the raw material supplied to the systematist by the naturalist in the field, on whose efforts the systematist must also rely for data as regards migration and habits of species—aspects of bird-life whose study has hitherto been sadly neglected. The difficulties attendant on a close study of any of these problems, often under trying circumstances in a tropical climate, ought to be only too apparent, but unfortunately can only be rightly appreciated through actual experience, and can only be overcome by an increase in the ranks of observers with the necessary opportunity and leisure. Nevertheless, progress has been made in the fascinating study of distribution. In gauging the extent to which our present knowledge of the distribution of species is at variance with former records, due regard must be given to the fact that, in the period of time which has elapsed, conditions were not so advantageous for definitely fixing the exact locality and elevation at which species were found, as is necessitated by modern requirements. It must also be remembered that some species have increased and decreased according to whether conditions were favourable or otherwise in areas hitherto frequented by them, for, intensely conservative as birds are, changes in the natural features

of the country through man's agency must have produced its effect on the distribution of species. A botanical survey would assuredly reveal a decreased area under forest, while, to go to a greater extreme, specific vegetation which was familiar to Sir Joseph Hooker in his profound knowledge, is no doubt in many instances now relegated to more restricted or remote localities.

Climate.

A humid climate, extending over more than half of the year, has resulted in a luxuriant vegetation. This is the effect not only of the S. W. monsoon which lasts from May to October, the heaviest rainfall generally taking place during the four intervening months, but also of local rain which is more in evidence before the advent of the monsoon, so that in some years, with the exception of an excessive downpour, there is no tangible indication to denote the actual commencement of "the rains", which are correspondingly prolonged. Whilst the opposing face of the outlying spurs receives the full impact of the deluge, with the consequent result the wettest tract is at the base of the hills, characteristics in the configuration of the physical features cause much disparity in the rainfall which is far from being equally distributed, as for example: Kurseong 154 inches, Darjeeling 120, Gopaldhara 108, Pashok 66. As a short distance around any of these places would give results in excess or in deficit of these figures, it is obvious conditions in the valleys vary in the same respect according to the neighbouring protection, exposure, and slope of the ridges. This never-failing rain exerts its influence on the flora, subject to these several natural peculiarities, which directly affects the fauna. It is during this period of greatest activity in nature, when all insect-life is at its zenith, that the majority of the birds perform their duties of procreation, which is none the less remarkable when this heavy rainfall is taken into consideration.

Zoo-Geography.—The exact demarcation of the limits of the Palæarctic and Oriental Regions will remain a matter for modified speculation even with the increase of our knowledge. In deciding on any definite line of division nowhere can this difficulty be more evident than in a country which presents such a diversity in its physical features. Irregularities are bound to occur relative to the varying altitudes of the vegetation, which again is dependent on local peculiarities of soil, aspect and shelter, and this is actually the case, but more strikingly apparent, in the interior, where in the deep, narrow valleys the tropical vegetation meets the lowest belt of the temperate flora. Whilst the existence of this division has long since been recognized, opinions may be at variance as to the exact delineation of this divisional line, which can only be considered decisive by a complete zoological survey along the contour of the mountains when the perplexities connected with the presence or absence of forms could be satisfactorily eliminated and, if necessary, the required divergences established.

In view of any misunderstanding which may still be prevalent, it is as well to bear in mind the following statement * which holds as good to-day as when it was originally penned.

"Which class of Animals is of most importance in determining Zoological Regions?—To decide this question we have to consider which groups of animals are best adapted to exhibit, by their existing distribution, the past changes and present physical condition of the earth's surface; and at the same time, by the abundance of their remains in the various tertiary formations will best enable us to trace out the more recent of the series of changes, both of the earth's surface and its inhabitants by which the present state of things has been brought about. For this purpose we require a group which shall be dependent for its means of dispersal on the distribution of land and water, and

* "The Geographical Distribution of Animals" by A. R. Wallace, 1876. Vol. I. pages 56-58.

on the presence or absence of lofty mountains, desert plains or plateaux, and great forests; since these are the chief physical features of the earth's surface whose modifications at successive periods we wish to discover. It is also essential that they should not be subject to dispersal by many accidental causes; as this would inevitably in time tend to obliterate the effect of natural barriers, and produce a scattered distribution, the causes of which we could only guess at. Again it is necessary that they should be so highly organized as not to be absolutely dependent on other groups of animals and with so much power of adaptation as to be able to exist in one form or another over the whole globe. And lastly, it is highly important that the whole group should be pretty well known, and that a fairly natural classification, especially of its minor divisions such as families and genera, should have been arrived at; the reason for which last proviso is explained in our next chapter on classification."

"Now in every one of these points the mammalia are pre-eminent; and they possess the additional advantage of being the most highly developed class of organized beings, and that to which we ourselves belong. We should therefore construct our typical or standard zoological regions in the first place from a consideration of the distribution of mammalia, only bringing to our aid the distribution of other groups to determine doubtful points. Regions so established will be most closely in accordance with those long-enduring features of physical geography, on which the distribution of all forms of life fundamentally depend; and all discrepancies in the distribution of other classes of animals must be capable of being explained, either by their exceptional means of dispersion or by special conditions affecting their perpetuation and increase in each locality."

"If these considerations are well founded, the objections of those who study insects or molluscs, for example,—that our regions are not true for their departments of nature—cannot be maintained. For they will find, that a careful consideration of the exceptional means of dispersal and conditions of existence of each group, will explain most of the divergences from the normal distribution of higher animals."

"We shall thus be led to an intelligent comprehension of the phenomena of distribution in all groups, which would not be the case if every specialist formed regions for his own particular study. In many cases we should find that no satisfactory division of the earth could be made to correspond with the distribution of even an entire class: but we should have the coleopterist and the lepidopterist each with his own geography. And even this would probably not suffice, for it is very doubtful if the detailed distribution of the Longicornes, so closely dependent on woody vegetation, could be made to agree with that of the Staphylinidæ or the Carabidæ which abound in many of the most barren regions, or with that of the Scarabeidæ, largely dependent on the presence of herbivorous mammalia. And when each of these enquirers had settled a division of the earth into 'regions' which exhibited with tolerable accuracy the phenomena of distribution of his own group, we should have gained nothing whatever but a very complex mode of exhibiting the bare facts of distribution. We should then have to begin to work out the causes of the divergence of one group from another in this respect; but as each worker would refer to his own set of regions as the type, the whole subject would become involved in inextricable confusion. These considerations seem to make it imperative that one set of "regions" should be established as typical for zoology; and it is hoped the reasons here advanced will satisfy most naturalists that these regions can best be determined, in the first place, by a study of the distribution of the mammalia supplemented in doubtful cases by that of the other vertebrates." Again Wallace writes:—

"I had accepted and supported Dr. P. L. Sclater's division of the earth's surface into six great zoological regions, founded upon a detailed examination

of the distribution of birds, but equally applicable to mammalia, reptiles, and several other great divisions, and best serving to illustrate and explain the diversities and apparent contradictions in the distribution of all land animals; and I may now add that the additional facts accumulated and the various divisions suggested during the thirty years that have since elapsed, have not in the least altered my opinions on this matter."

"No one is more aware than myself of the defects of the work, a considerable portion of which are due to the fact that it was written a quarter of a century too soon—at a time when both zoological and palæontological discovery were advancing with great rapidity, while new and improved classifications of some of the great classes and orders were in constant progress. But though many of the details given in these volumes would now require alteration, there is no reason to believe that the great features of the work and general principles established by it will require any important modification.*"

In the treatment of each species separately, stress has been made, in particular instances, of species belonging to Oriental genera having a Palæarctic zonal distribution. Amongst these may be considered, as having a breeding range in satisfactory proof of this contention, the following and, though others might well be included, the undermentioned species fall into this category with a certainty, and thus serve our purpose to the best advantage:—

Hodgson's Fulvetta—*Fulvetta vinipecta vinipecta.*
The Hoary Bar-wing—*Ixops nipalensis nipalensis.*
„ Stripe-throated Yuhina—*Yuhina gularis gularis.*
„ Slaty-headed Yuhina—*Yuhina occipitalis occipitalis.*
„ Green Shrike-Babbler—*Pteruthius xanthochloris xanthochloris.*

to these must be added species not of migratory habits, yet which might be regarded in some quarters as doubtful Palæarctic genera:—

The Rufous-fronted Tit—*Ægithaliscus iouschistos.*
† „ Great Parrot-Bill—*Conostoma æmodius.*
† „ Brown Suthora—*Suthora unicolor.*
† „ Fulvous-fronted Suthora—*Suthora fulvifrons fulvifrons.*
„ Black-faced Laughing-Thrush—*Trochalopterum affinis affinis.*
„ Rufous-bellied Pied Woodpecker—*Dryobates hyperythrus hyperythrus.*

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* "My Life", 1905, Vol. II, pages 94 & 98, A. R. Wallace.

† Blanford in his "Notes on the Zoology of the Alpine and Sub-Alpine Regions" states: "Only those species will be noticed which are found above the limit of trees and consequently no animals will as a rule be mentioned which are not found above 10,000 feet in Northern Sikkim. This elevation, which is about the lower limit of pines, is also a fair approximation to a boundary line between the two faunas which meet in the Eastern Himalayas, the Malay and the Palæarctic" and in reference to *Conostoma æmodius* and *Suthora unicolor* he remarks "Perhaps neither of the last two birds should have been comprised as neither was found above the lowest limit of the pines." Attention has previously been drawn to Blanford's remarks in regard to the demarcation of the two faunas in the Lachung Valley where, at an elevation of 8,000 feet, the south-east slopes of the mountains above Kedom are clothed with the *Abies brunoniana* (Hooker), while at an elevation of 8,300 feet one of the spruce firs, *Abies smithiana* according to the same authority, occurs in the adjoining Lachen Valley in Northern Sikkim.

Crow-Tits and Suthoras which are just as dependent on reed and bamboo-growth as Nutcrackers, Crossbills, &c., &c. are generally considered as occurring exclusively in the pine forests. An extensive tract of matted, dense, impenetrable bamboos is, equally with the superb rhododendron and other stately trees, quite as marked a feature in the vegetation as the pine forests are above. With one exception these birds have this distinct habitat, in respect to which their existence is vital. These peculiar specialized forms are now recognized as belonging to the Palæarctic avi-fauna, and there appears every justification for this inclusion; the presence of *Paradoxornis* at lower levels must be explained by the law of dispersal and these conditions of existence.

The Darjeeling Pied Woodpecker—*Dryobates darjellensis.*

and finally the bulk of the purely Palæarctic species belonging to undoubted Palæarctic genera, such as

The Himalayan Nutcracker—*Nucifraga hemispila.*
„ Himalayan Cole-Tit—*Lophophanes ater æmodius.*
„ Sikkim Black-Tit—*Lophophanes rufonuchalis beavani.*
„ Brown Crested-Tit—*Lophophanes dichrous dichrous.*
„ Nepal Tree-Creeper—*Certhia familiaris nipalensis.*
„ Nepal Wren—*Troglodytes nipalensis nipalensis.*
„ Himalayan Goldcrest—*Regulus regulus himalayensis.*

and as a representative of the Phasianidæ :—

The Monál—*Lophophorus impejanus* ;

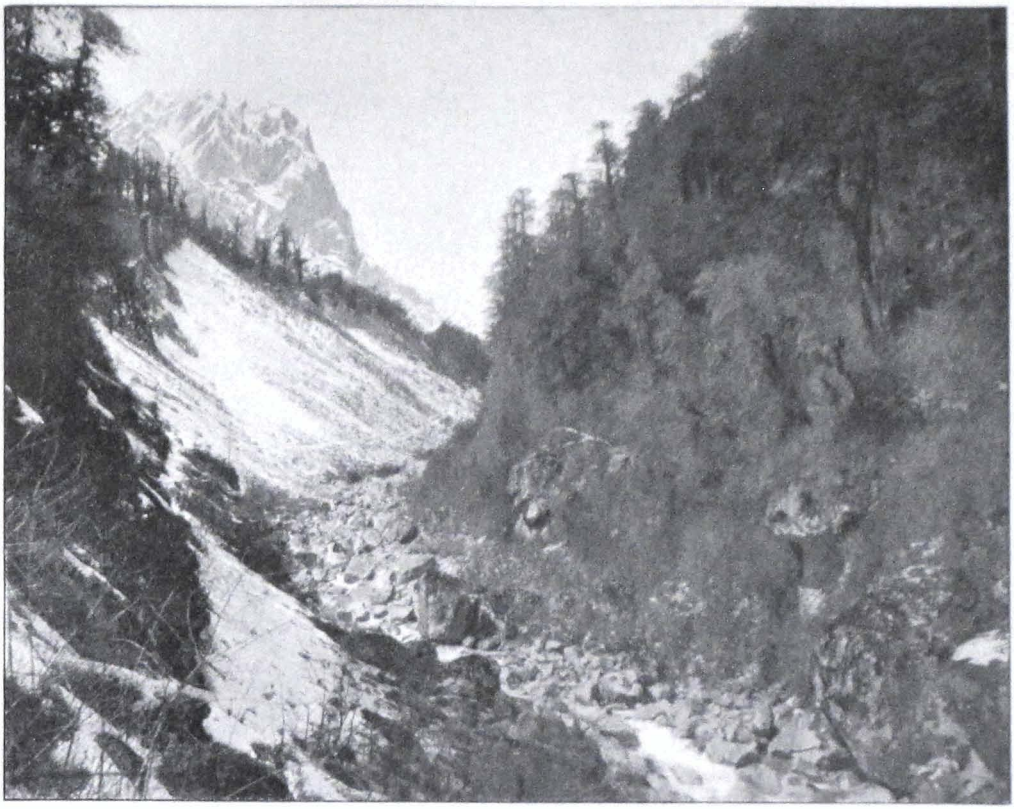
apart from the members of such genera as Pyrrhocorax, Phœnicurus, Calliope, Läiscopus, Prunella, Perissospiza, Pyrrhula, Loxia, Carpodacus, Procarduelis, Grandala, Columba, Ithagenes, &c., &c. ; the majority of which breed at extreme heights in the Himalayas, though the Finches are noted vagrants. I have only taken into consideration the abovementioned non-migratory species as being typical of birds, none of which probably breed below, but at and above the limit of *8,500* feet along the contour of the mountains encircling the main river basin, and as a sufficient illustration for the purpose in defining this division.

The arbitrary boundary between the two zoological regions in the Himalayas has been regarded as following a course at a fixed altitude, and is stated to occur at more or less indefinite limits from 6,000 feet upwards, yet is relative to the vegetation and bears a close connection with *the lowest limits of the coniferous forests*, and is in reality *a belt below the Pines.* It is generally conceded that deciduous forests are singularly deficient in bird-life, "except on the outskirts,"—a scarcity which is a common feature of the pine forests, and is substantiated in the numerous instances cited. At whatever elevation the change in the fauna takes place in the N. W. Himalayas, (which is apparently at much lower limits than this definition, and can be accounted for by the lower altitude at which the coniferæ are to be met with) it is certainly not the case in the Sikkim Himalayas, excepting in the valleys of the interior, when, as in the Lachung Valley, a drop in elevation of 2,000 feet results in a distinct separation of the two faunas at 6,500 feet.

"The rarity of Pines is perhaps the most curious feature in the botany of Tonglo, and on the outer ranges of Sikkim ; for between the level of 2,500 feet (the upper limit of *P. longifolia*) and 10,000 feet that of the *Taxus*, there is no coniferous tree whatever in Southern Sikkim." ("Himalayan Journals," page 117, J. D. Hooker.)

It will be noted from an examination of the map ; the valleys of the Talung and Ratong have been left open, as information is to some extent meagre as to the exact determination of the dividing line. The first named valley would amply repay working zoologically, but, judging from what we already know of the limits of the tropical vegetation in these valleys, there would almost certainly be found a corresponding marked division in the fauna at a similar altitude as prevails to the north-east having regard also to the close proximity of the snow line. Sir J. D. Hooker makes repeated reference to this phenomenon. Referring to the Ratong Valley from a point south-east of Jongri, he writes:—

"The view to the southward from Mon Lepcha, including the country between the sea-like plains of India and the loftiest mountain on the globe, is very grand, and neither wanting in variety nor in beauty. From the deep valleys choked with tropical luxuriance to the scanty yak pasturage on the heights above, seems but a step at the first 'coup-d-œil,' but resolves itself on a closer inspection into five belts : 1, palm and plantain ; 2, oak and laurel ; 3, pine ; 4 rhododendron



H. S. Photo.

LACHUNG VALLEY.

Track to Yumthang, four miles north of Lachung, looking north. 7th March, 1920. "Pine forests devoid of bird-life in winter."

H. S. Photo.

A VISTA OF KEDOM VILLAGE, LACHUNG VALLEY.

11th March, 1920. Elevation 6,500′. The demarcation of the Flora and Fauna of the two Regions is hereabouts strikingly exhibited.

and grass; and 5, rock and snow. From the bed of the Ratong, in which grow palms with screw-pine and plantain, it is only seven miles in a direct line to the perpetual ice. From the plains of India, or outer Himalaya, one may behold snowy peaks rise in the distance behind a foreground of tropical forest; here, on the contrary, all the intermediate phases of vegetation are seen at a glance. Except in the Himalaya this is no common phenomenon, and is owing to the very remarkable depth of the river-beds. That part of the valley of the Ratong where tropical vegetation ceases, is but 4,000 feet above the sea, and though fully fifty miles as the crow flies (and perhaps 200 by the windings of the river) from the plains of India, is only eight in a straight line (and forty by the windings) from the snows which feed that river. In other words the descent is so rapid, that in eight miles the Ratong waters every variety of vegetation, from the lichen of the poles to the palm of the tropics; whilst throughout the remainder of its mountain course, it falls from 4,000 to 300 feet, flowing amongst tropical scenery, through a valley whose flanks rise from 5,000 to 12,000 feet above its bed." (Page 244, and further in reference to the Lachen Valley.)

"Again, the Lachen Valley at this spot is nearly equi-distant from the tropical forests of the Terai and the sterile mountains of Tibet, for which reason representatives both of the dry central Asiatic and Siberian, and of the humid Malayan floras meet there." (Page 313.)

"At first sight it appears incredible that such a limited area, buried in the depths of the Himalaya, should present nearly all the types of the flora of the north temperate zone; not only, however, is this the case, but space is also found at Lamteng for the intercalation of types of a Malayan flora, otherwise wholly foreign to the north temperate region." ("Himalayan Journals," page 314, J. D. Hooker.)

Blanford mentions the lowest limit of the Pines at 500 feet below the village of Lamteng (Lachen) in this valley. The elevation of Lachen is identical with Lachung, 8,800 feet, but the gradient in general of the valley at its lower extremity is less pronounced in comparison to the Lachung Valley.

This line of demarcation isolates three small areas, of which Senchal, the farthest south, affords the severest test. Where the indigenous forest has undergone a certain amount of depletion, to form a correct estimate from this source, however, what formerly existed is fortunately recorded by Hooker; yet the presence of the Red Cat-bear, *Ailurus fulgens*, and the dispersal to much lower limits in the adjacent valleys of typical Palæarctic mammals such as the Tibetan Water-Shrew, *Nectogale sikhimensis*, and the Short-tailed Mole, *Talpa micrura*, (though the last named species has not reached quite the extreme limits of its distribution as it occurs in the plains of Upper Assam and is more common from 3,500 feet upwards in the valleys on the west, which, again, support a Pangolin, *Manis pentadactyla*, evidently not to be met with to the immediate east yet which occurs beyond) are anomalies only to be expected. * Whilst the prevalence in the surroundings during the summer months of such birds as the Brown Suthora *Suthora, unicolor*, Hodgson's Fulvetta, *Fulvetta vinipecta vinipecta*, the Nepal Tree-Creeper, *Certhia familiaris nipalensis*, the Darjeeling Pied Woodpecker, *Dryobates darjellensis*, with the addition of others as for instance, the Sikkim Jay, *Garrulus bispecularis interstinctus*, the Rufous-bellied Shrike-Tit, *Hilarocichla rufiventer*, the Brown Bullfinch, *Pyrrhula nipalensis nipalensis*, and several species which some authorities would, perhaps rightly, have no compunction in including as representing the Palæarctic avifauna, go to prove the correctness of this delineation, which even a strong intermingling of Oriental genera cannot be brought forward to refute; yet

* For further information respecting the distribution of the mammalian fauna, consult: R. C. Wroughton, B.N.H.S. Journal, Vol. XXIV, pp. 473, 474.

some allowance ought to be made for conditions which do not adversely affect to the same extent Tendong to the north.

This attempt may appear to favour of sheer presumption with the numerous difficulties to which attention has been drawn. I crave leniency on the score of " nothing attempted, nothing done " and the labour involved might well have been shirked for other pursuits during my home leave. It rests, however, on a firm basis as, in addition to results obtained from a study of the birds, intensive collecting of the invertebrates has been undertaken by me and I have also had assistance from others, and even if many years must elapse before a final conclusion can be drawn from an examination of such a vast amount of material still sufficient evidence has been forthcoming for a satisfactory dividing line, which in places may only be approximately defined but is strikingly apparent in some quarters. Up to the present, so far as I am aware, no endeavour has been made to define the limits of the two regions in the North-West : a portion of the Himalayas which must be sufficiently well known. If some enthusiast would undertake the task, the generally accepted "straight line" running through this vast range of mountains and innumerable valleys without any regard to the physical features of the country through which it passes, might also show some extraordinary divergences.

As our knowledge is increased of the intervening area, the demarcation of the Oriental fauna in the Eastern and Western sub-regions may not seem an insuperable difficulty as it is at present.

The distribution limits of some species can only be considered provisional and may require modification as years elapse. My opinions are expressed in good faith with no intention of dogmatizing but in the hope that they may be the means of elucidating the correct solution.

Note.—On the completion of these records, Mr. N. B. Kinnear has drawn my attention to an important article which previously was only known to me from references and I am again indebted to Lord Rothschild for the privilege of the use of the Tring Museum Library. The following extracts and remarks anent distribution of species are inserted here, as the former refer to an identical part of the country from which my conclusions were formed, and the latter have been embodied in this paper with a view to completeness as far as it is possible.

" Account of a visit to the Eastern and Northern Frontiers of Independent Sikkim." Pt. I General Account ; Jour. As. Soc. Bengal, Vol. XL, 1871, page 367. Pt. II. Zoology ; Ibid. Vol. XLI, 1872, page, 30. Dr. W. T. Blanford.

"1870, September 6th.—We marched from Chungtam to Kedam, a short march up the Lachung Valley but involving a considerable ascent, from 5,200 to 6,600 feet. There is a very marked change about this in the fauna and flora. As far as Chungtam the common birds are the usual Sikkim form but at Kedam we found flocks of the Himalayan Siskin, *Chrysomitris spinoides*, and a Titlark, *Corydalla striolata*, abounded in all open spaces. Indeed this may be considered the boundary between the Malay and Palæarctic faunas, a boundary which, on the Chola range, is 3,000 to 4,000 feet higher." (Page 394.)

" 15th-20th.—On the 17th we marched down the Tista valley to Tarco on the northern flank of Mount Tendong," " and on the following day we crossed Tendong by a road which goes over the top of the mountain and descended to Namchi, opposite Darjeeling. The change in the fauna in coming southward is very marked, the number of forms increases, and there is a far greater prevalence of Malay types on the outer hills as compared with the upper Tista valley" (Page 420.)

" These elevations and all subsequently mentioned are taken from Hooker's ' Himalayan Journals.' (Blanford.)"

Migration.

Of the actual movement of the Passerine migrants little can be said; there can be no doubt that in the hills the majority straggle through the valleys in scattered parties or even as individuals. No observer seems to have been fortunate enough to come across a concourse of one species or a mixed assembly on migration. Whether some of the Passerine migrants which perform lengthy journeys pass over at extreme heights during the night has probably not been substantiated by any direct evidence, however this is undoubtedly the case with the waders and ducks. Though there appears to be no well-marked migration route through the country, the terrific heights of the snowy ranges do not form an insurmountable barrier to birds of comparatively weak flight, as the Mount Everest Expedition has disclosed. Some instances of migration have been recorded under the birds concerned.

Vernacular Names.

Contrary to what might be expected, the Paharia is not a close observer, confining his attention in particular to the various trees, bamboos, etc. as chiefly concerning his every-day wants. This trait seems to be developed in more primitive people, for whereas the Lepcha has a name for each species of bird, the Paharia (which term refers to the hill men Limboos, Newars, Rais, etc. of the Darjeeling district, many of whom now have only remote ties of relationship with the same castes in Nepal) if he does recognize differences, is merely content in relegating birds of similar form and habits under one heading, as his bird vocabulary is very limited. Neither has the younger generation got the grasp of the subject; and the increase of often spurious knowledge, instead of sound, common-sense education, may have something to do with their losing touch with nature. It is unfortunate so few names in the vernacular appear in this list in consequence of this failing.

Acknowledgments.

An examination of my material would not have been satisfactory without the opportunity to compare obscure and doubtful forms with the two standard collections at Home. I am grateful to Lord Rothschild, F.R.S., for granting me access to the magnificent collection in the Tring Museum, and to Dr. E. Hartert and Mr. Arthur Goodson for all kindness and help. My thanks are due to the Authorities of the British Museum for the privilege of the use of the National Collection. I would especially mention Dr. P. R. Lowe, Mr. N. B. Kinnear and Mr. Thomas Wells, and I am under an obligation to Mr. W. S. Millard for his assistance in connection with the publication of this paper and this equally applies to the Editors in seeing it through the press.

As is to be expected the "Fauna" Volumes of Oates and Blanford have formed the grounds of all study. The time seems opportune to express even a belated appreciation of this work before our well-worn and stained copies have been laid aside. May every success attend Mr. E. C. Stuart Baker in bringing his task to completion.* Dr. Hartert's "Die Vögel der Paläarktischen Fauna" treats of all the forms occurring in our area. The subject has never been so thoroughly tackled as in this monumental work, which has been freely consulted as also to a less extent "A Manual of Palæarctic Birds" (Dresser). The natural sequence followed is in accordance with Stuart Baker's Hand-List B.N.H.S., Vols. XXVII & XXVIII. References to other important treatises and articles are acknowledged in the text.

* With the appearance of the 1st Volume of the Second Edition of the "Avi-Fauna" a new era has opened for ornithologists in India and we can well congratulate the author.

The map is a section of the North-Eastern Trans-Frontier, Sheet No. 7. Scale 1 inch=8 miles. Some of the place-names do not agree with the current acceptance, but as it is principally a matter of phonetic spelling, the originals are sometimes more in accord with the local rendering, and it has not been considered advisable or necessary to make any alterations.* Whenever an omission existed, the required locality has been inserted to enable a reference from the text, as no up-to-date map exists, and the inclusion of several such place-names might lead to confusion by giving them undue importance on a map of the present scale, although, it is clear from the numerous omissions, that the tea districts had not reached their importance when this survey was undertaken. The black line represents the demarcation between the Palæarctic and Oriental Regions which is the 8,500 feet contour of the mountain ranges encircling the basin of the Tista River—the main affluent in the country—and its tributaries, with a divergence and drop in elevation to 6,500 feet at the head of the valleys in the interior, the reasons for which are stated elsewhere. All place-names mentioned are underlined as are also Blanford's localities.

Altitudinal records have been obtained by aneroid takings and approximate elevations calculated from authentic heights.

An asterisk denotes an observation.

All measurements are in millimetres unless otherwise stated.

The length measurement of the bill is, in the absence of the other details, taken from the *true base.*

This method is liable to error as the true base is concealed by the feathers of the forehead, and is arrived at with some little difficulty ; it requires careful accuracy and does not seem to be an improvement on the older method of the gape measurement.

An effective and preferable system is to measure from the anterior edge of the nostril to the tip of the bill.

Bill from feathers—Culmen measurement.

All tail measurements are from the commencement of the web, *i.e.*, minus the "quill proper", to the end of the longest feather.

Order—PASSERES.

Family—Corvidæ.

1. The Himalayan Raven. Corvus corax tibetanus (Hodgs.)

Recorded for the Himalayas at altitudes, generally of above 13,000'-14,000' which apparently is applicable to its status in Sikkim. Evidently *confined to high altitudes of the remotest ranges.* In the regions beyond Sikkim probably occurs in the valleys in the winter within its distribution area, as is the case with a number of birds from extreme high limits. From the third week in January to the end of May 1912, at elevations of from 10,000'-12,000', on the Singile La Ridge during a severe winter, daily observations failed to yield a single occurrence. This prolonged experience is at variance with Beebe's in mid-April, *vide* his reference to this Raven in his field notes on *Ithagenes cruentus* and from the identical tract of country on the Nepal-Sikkim Frontier.

Around Karponang, at 9,500', during March 1917 when the surrounding country was deep in snow, not a sign of this bird was forthcoming; neither, during a fortnight's sojourn in February and March, 1920, at 8,800' and upwards beyond the winter snow-line in the Lachung Valley, did a rigorous search of the

* Wherever available, the P. O. designation is to be recommended.

The locality Darjeeling, in the absence of any other definite information, should be restricted to the environs of the station. Circum. 7,000 feet.

adjacent mountains produce a single clue to its whereabouts. Information supplied locally to the contrary, as to its frequenting the village during a rigorous winter, I could place no reliance on, as during my stay these conditions were fulfilled without any tangible evidence of its appearance. I have put this negative evidence on record as there is some misconception as to its status. With the Jungle-Crow occupying the wilder tracts of the country, casual observers are apt to confound the two; which is inexcusable if due cognizance is taken of the inequality in size; and it has been reported to me as having been seen, when the bird in question was undoubtedly the next species.

Blanford states Ravens were not seen below 14,000′, above that were common both on the Cho La Range and in Northern Sikkim in the autumn of 1870 (18th, 19th September, Momay Samdong). During the Mt. Everest Expedition "observed up to 21,000′." Ibis, July 1922, pp. 495-526. "On The Birds collected by Mr. A. F. R. Wollaston during the First Mt. Everest Expedition." (N. B. Kinnear, M.B.O.U.)

2. The Himalayan Jungle-Crow. Corvus coronoides intermedius (Adams). "Kak", Paharia.

Recorded as *absent from the higher parts of the Himalayas*, which is *only correct for extreme limits* in the Sikkim Himalaya—Resident along the Nepal-Sikkim Frontier on the Singile La Ridge, possibly descending to lower limits on the approach of severe weather. During the winter a few pairs hung about the Sandakphu dak bungalow at 11,900′, though they were extremely wary and only one specimen was secured, ♀ 28-2-12. Bill from skull 54, from nostril, 34; wing, 330.

Observed on several occasions when the whole ground was deep in snow. Tonglo, 10,074′, 27-1-12, a single pair in the vicinity of the dak bungalow, having been hereabouts at all events for the last seven days.

Kalo Pokhari, 10,160, 28-3-12. On my return to camp this evening, I disturbed about forty Jungle-Crows in a patch of forest, mainly rhododendron trees, half a mile below the ridge on the slopes of the Mai ("Khola") Valley in Nepal; they were engaged arranging their domestic affairs and showed their disapproval of my intrusion into their presence by creating a noisy commotion: a clutch of four eggs was taken at this locality on the 27th April 1912. Sparingly nests around Gopaldhara; a clutch of four eggs taken on the 15th May 1912, and on the 24th April 1918, nest in one of the cryptomeria trees alongside the bungalow at 4,720′. Sometimes resorts for this purpose to a high bamboo-clump, when the nest is practically inaccessible. At Karponang was observed frequently at 9,500′ in March 1917. Very common in the village of Lachung and surrounding country at 9,000′ in February and March 1920. Numerous in the station of Darjeeling throughout the whole year.

It would be interesting to have evidence as to whether the Raven ever mingles with the Jungle-Crow at high altitudes or is entirely exclusive in its solitude. I surmise the bird which comes up to breed at "moderate elevations" will on examination prove to be *C.c. levaillanti*, Less.

Blanford states:—Crows were common up to about 13,000′, above which elevation they seemed to be replaced by Ravens, they appeared far more abundant about 8,000′ in the higher valleys than below that elevation; there were large flocks of them near most of the villages, but as usual with *C. vaillanti* ? (*levaillanti*) in the autumn of 1870.

3. The Indian House-Crow. Corvus splendens splendens (Vieill).

More partial to the towns and villages but is distributed sparingly, if somewhat locally, over the whole area. *Occurs up to an elevation of* 7,900′ at Jalapahar at all events, though only recorded as ascending the Himalayas to about 4,000′

(Oates, F. B. I., Vol. I.). Chiefly confined to low elevations and not much in evidence; they are however securely established in the station of Darjeeling and the surrounding countryside. Odd birds come up the Rungbong Valley in the cold weather, when they are to be seen around the bungalow at Gopaldhara, 4,720′. Numbers congregated on the Nagri Spur in late January 1919, evidently preparatory to pairing for the nesting season. Observed plentifully in Gangtok at 5,500′ in March 1917. So far I have seen no breeding colonies in these hills but Dr. Scully records examining twenty nests on the 23rd June in the Nepal Valley, when half the number contained young birds.

4. The Black-rumped Magpie. Pica pica bottanensis (Deless.).

Recorded from the higher parts of Bhotan, Native Sikkim and Chinese Tibet. The exact status of this Magpie is unknown to me as I have failed to meet with it in the interior of Sikkim, though it occurs in the Chumbi Valley in Tibet.

5. The Yellow-Billed Blue Magpie. Urocissa flavirostris (Blyth). "Lam Puchari", Paharia.

Resident at Tonglo, Nepal-Sikkim Frontier, *throughout the winter at* 10,000′. One ♂ secured on Sandakphu at 11,000′ on the 3-3-12. Quite a characteristic feature of the bird-life of these high altitudes, to be seen in small parties of six to eight individuals, which forage much on the ground over the steep and rocky mountain slopes. On the frontier hereabouts I did not observe this Long-tailed Pie below 6,500′. On the Semana-Mirik and Sookia-Pokharibong Ridges it comes down *occasionally to 6,000′*, this being an extreme low limit. Sookia-Pokhari, (three miles below) ♂ ♀, 17-4-21.* Kalo-Pokhari, 10,160′, 22-3-12. These birds were most persistent in paying a visit to my camp for the carcase of my specimens; they would hop about my tent door within one or two paces from my feet, and were very voracious, often taking up in their gape three or four large pieces of raw flesh before taking flight.

Lachung, 8,800′. Half a dozen birds haunted the precincts of the village in February and March, 1920. Blanford did not meet with them above 8,000′ at Lachung in the autumn of 1870. This Magpie occurs in East Nepal and it is the only species of this genus I have met with in the Sikkim Himalayas.

Its call is a somewhat pleasing, yet not very pronounced, whistle. Seven specimens examined: ♂ Bill from skull, 37·5–39, av., 38·5; from nostril, 23–25, av., 24·2; wing, 185-195, av., 188·6; longest tail measurement, 385. ♀ Bill from skull, 35-37, av., 36·4; from nostril, 21·5-23, av., 22·4; wing, 178-184, av., 181·5; longest tail measurement, 405.

Soft parts:—♂ Iris, dull yellow "Mottled with brown" in this specimen.

6. The Green Magpie. Cissa chinensis chinensis (Bodd.). "Dhori Koili," Paharia.

Resident in the Rungbong Valley *up to 5,500′* and occurs in the *interior* of Sikkim up to an elevation of *4,750′* at all events. It has a decided preference for dense cover, but when in the open its vivid colours attract attention while on the move from one retreat to another. Its harsh, grating, "peep" "peep", quickly repeated call, however, frequently reveals its position; at times this discordant cry is replaced by a continued distinct and by no means unmelodious whistling chatter. Gopaldhara, 5,400′. Observed on the 1-2-21* in common with other resident birds, when a more congenial elevation might be expected, yet accounted for by the greater area to be covered at the cold season in search of food. "Blue" examples often seen in March. This fact can only be explained on the supposition that such birds are lacking in vigour at a period of the year when a healthy condition should be prevalent; one

such coloured individual was observed on the 24-5-14* and again on the 28-5-14*, possibly the same bird, another also on the 7-4-15*.

During the third week and onwards in July 1921, in the Rungbong and Balasan Valleys, the cherry trees were denuded of foliage with an extraordinary plague of caterpillars of the crepuscular moth *Achelura bifasciata*, one of the *Chalcosinæ*.—Family, *Zygænidæ*. A pair of these Magpies were to be seen on occasions in the early morning at Gopaldhara trifling with these blue and yellow banded larvæ, which were evidently too acrid for consumption, as even *Hierococcyx sparverioïdes* was content to leave them at their repast, this being too drastic for its palate. An interesting illustration of the advantage accruing from warning colours and unpalatability amongst the Lepidoptera!

7. The Indian Tree Pie. Dendrocitta rufa vagabunda (Lath.),

Distribution, as recorded by Oates, Himalayas up to 7,000′.

I have totally failed to meet with this Tree-Pie even at the lowest limits of its supposed range; it certainly *does not occur much beyond the base of the hills*, where it has been obtained at the plains level of 500′ (G.E. Shaw).

In the Eastern Dooars during January 1922 an odd pair or so used to visit the neighbourhood of the Bhotan Ghat forest bungalow on the Raidak River: they were to be commonly met with two miles to the south, in the more open country, beyond the limits of the heavy forest. Only one ♀ adult in clean moulted plumage was secured 29-1-22, which was altogether paler on the back than specimens, (sex and period similar), from the same identical tract of country further to the east in Upper Assam. Notwithstanding this distribution area is applicable to *vagabunda*, this specimen is clearly the typical form *D. rufa rufa* (Lath.).

8. The Himalayan Tree-pie. Dendrocitta sinensis himalayensis (Blyth). "Kokila", Paharia.

Commonly occurs in the Rungbong Valley and reaches an elevation of *6,000′*. Noted as equally plentiful around Singhik at an elevation of 4,600′ during February and March in the interior of Sikkim.

9. The Black-browed Tree-Pie. Dendrocitta frontalis McClell.

This species is represented in the Darjeeling Museum, but I have failed to locate this Tree-Pie; it can only be very locally distributed and entirely absent from large tracts, notwithstanding Jerdon's distribution area of 3,000′-5,000′ to the contrary quoted by Oates for Sikkim. Information as to its exact distribution in the Sikkim Himalaya is desirable.

10. The Sikkim Jay. Garrulus bispecularis interstinctus Hartert. "Lho-Khario-pho", Lepcha.

Sparingly and locally distributed. It appears to spread over a wider area on the outer ranges during the winter, but evidently occupies a *breeding range in elevation of from 7,000′-9,000′* or thereabouts.

The following records prove it descends to much lower limits on rare occasions. Kalo Pokhari, 10,160′, ♀ 22-13-12. This single specimen was brought in to my camp along with several *Garrulax albogularis* by a Gurkhali shikari from the Mai ("Khola") Valley in East Nepal, having been obtained at an approximate elevation of 8,500′. Gopaldhara, 6,000′, ♂ ♀ ♀ 2-11-19, obtained out of a party of six individuals. Lachung, ♀ 26-2-20. Two miles south, at an elevation of 9,000′, I came across a small party of which three were noted, but failed to meet with them again in the same Rhododendron forest. Mangpu, ♂ 18-11-19, elevation 3,600′; ♀ 21-11-19, elevation 3,800′ (G.E. Shaw). These two last records are very

interesting on account of the extreme low limit reached in its wanderings. In former years obtained above Toong, *circum.* 7,000′ on the Senchal-Kurseong Ridge (H.P.P. Barrett). There can be little doubt that it still occurs in this well wooded part of the district. The Mangpu records certainly refer to birds which have descended from this forest reserve. Single specimens are occasionally to be found in a representative collection from Darjeeling; as the exact locality is seldom definitely stated, such examples lose in value. Information as to its present status and exact distribution is desirable and every single record is important, provided it is accompanied with full data.

Five specimens examined: Gopaldhara, ♂, Bill from skull, 30, from nostril, 19; wing, 167; tarsus, 45; tail, 145. Soft parts: Iris, pale brown; orbits, cinnamon dusky-brown; tarsus, fleshy-mauve; claws, similar though darker. The stomach contained pieces of a nut of substantial texture and much sharp white gravel.

♀ Bill from skull, 30, from nostril, 19·5; wing, 165; tarsus, 45; tail, 147.

♀ Bill (damaged); wing, 165; tarsus, 45; tail, 145.

Kalo Pokhari, ♀, Bill from skull, 29, from nostril, 18·5; wing, 164; tarsus, 44; tail, 145.

Lachung, ♀, Bill from skull, 30, from nostril, 19; wing, 172; tarsus, 43; tail, 160.

This last specimen has not the deep tone in coloration of the other four specimens; it is paler on the forehead and crown, and has the back suffused with a vinaceous wash. The measurements almost point to a large race in the interior of Sikkim, but no definite result can be arrived at from this single specimen. Soft parts: Iris, hazel with a faint indication of an outer blue ring; tarsus, fleshy.

11. The Himalayan Nutcracker. Nucifraga ~~caryocatactes~~ hemispila. (Vig.) "Lek Bhali", Paharia.

Generally distributed, equally plentiful on the outer ranges as it is in the interior. Blanford found it rare on the outer ranges in the autumn of 1870. *Resident from 9,000′-10,000′.* On the Nepal Frontier it was "absent from the Pine forests in the winter" early 1912 when they were *breeding in a belt of forest below the pines.* The grating "cra" of this Nutcracker is quite a characteristic call of these high altitudes. Observed frequently around Karponang at 9,500′ but the majority of the birds were below this elevation in March 1917. Above Lachung at 10,000′ in March 1920 they were very noisy on the outskirts of the pine forests. I could detect no signs of breeding having actually commenced in sexing the birds obtained. Tonglo, Singile La Ridge, 10,000′, ♂, 9-2-12, one of a pair, testes active, evidently an early nesting species, but this specimen is the first obtained that gave any indication of this surmise. Kalo Pokhari, 28-3-12, an adult and fully fledged youngster taken at the nest near at hand, in Nepal, at an elevation of 9,500′ approx. below the pine forests, remarked upon at the time as an unusual ? early date, and the single fledgling as significant of this fact, heavy falls of snow at this time. 10,000′, ♀ 28-4-12, immature, in mottled plumage, showing the white, pear-shaped spots extending over the complete under surface. ♂ Adult, 23-5-12, undergoing moult, the new dark feathers on the breast are prominent. It evidently breeds at an earlier period of the year on the outer ranges than it does in the interior.

Eleven specimen examined:—all adults.

♂ Bill from skull, 46§-51·5, av., 48·9; from nostril, 34-39, av., 36·2.

♀ Bill from skull, 43§-49, av., 45·7; from nostril, 31-37·5, av., 33·5.

♂♀ Wing, 210-229, av., 220·5. ♀ wing, 211-220, av., 214·6.

Four ♂♂ and one ♀ show the white spot on the seventh primary; these in common with the rest are fully adult.

Soft parts.—Iris, dark brown; bill and tarsus, black.

§ The bill is worn to a chisel point in these two examples.

12. The Himalayan Red-billed Chough. Pyrrhocorax pyrrhocorax (Linn.). "Chumboo" Lepchs.

Confined to the far interior. Found in the *valleys in the winter.* Lachung, 8,800′, 27-2-20—11-3-20, A flock of not less than one hundred and fifty birds used to fly almost daily, from the surrounding mountains on the south-east of the village, and settle in and about the scantily cultivated barley fields and adjacent rocky ground of the village, where they busily set to work probing their bills deep down into the ground for food. On occasions they came within a few feet of the dak bungalow, affording me a never-ending source of pleasure in watching all their varied actions; sometimes two male birds would come to blows, to the apparent indifference of a member of the other sex. The advent of a Jungle-Crow to add his quota of pecks to the unfortunate bird which was getting the worse of the encounter, notwithstanding its determination to continue the fight whilst sprawling on its back, necessitated my interference to end the fracas. I had to leave all preparation of skins and drive them away; no doubt the quarrel was commenced again in some more secluded spot. When the ground was under snow they would betake themselves a few miles further south down the valley, to work their way back leisurely, along either side of the rocky mountain slopes, always uttering their usual plaintive call. It is a matter for congratulation that there has evidently been no decrease in their numbers in the interior since Hooker in May 1849, recorded the Red-billed Crows around the village of Lachen (Lamteng), at a similar elevation in the valley to the west. Blanford has recorded it up to 16,000′, but speaks of it as rather scarce on the Cho La Range. During the Mt. Everest expedition "observed at 20,000′ in September." (A.F.R. Wollaston).

Two specimens examined:

♂ Bill from nostril 56; wing, 313; tarsus, 66.

♀ Bill from nostril, 51; wing, 303; tarsus, 58.

Soft parts: Iris, dark brown; bill and tarsus, blood-red tinged with mauve; claws, black.

While birds of these large dimensions occur in other parts of the Palaearctic Region, specimens from Turkestan, which area might be consistently taken as a centre of its distribution, are appreciably smaller; this seems to be a good reason for regarding this large race from the Himalayas as distinct. I am confident a large series of sexed specimens would sustain my contention, as this race is more or less isolated in its distribution area. Unfortunately no definite result can be arrived at from my meagre material, I have also only two specimens from Turkestan for comparison.

♂ Bill from nostril, 38; wing, 288; tarsus, 53.

♀ Bill from nostril, 41; wing, 274; tarsus, 51.

13. The Yellow-billed Chough. Pyrrhocorax graculus (Linn.).

Recorded for the Himalayas, "low down in winter, 15,000′ or higher in summer appears to move locally according to season."

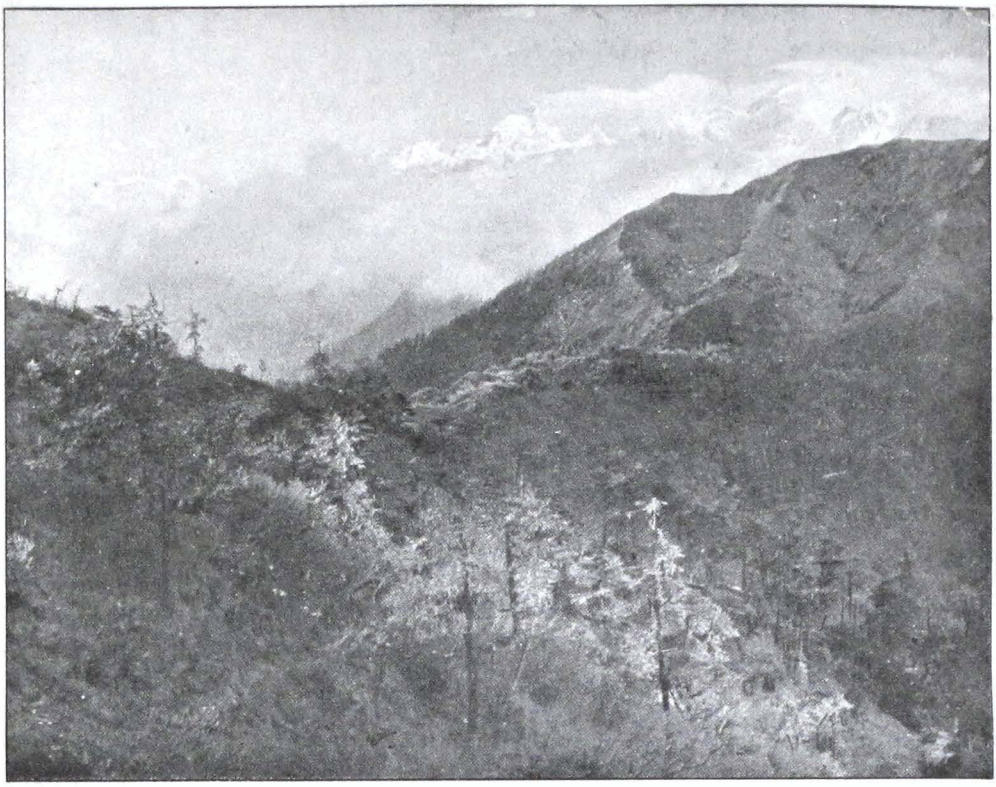
Sandakphu, Singile La Ridge, Nepal side of the frontier at 11,850′, 6-3-12. Ten Yellow-billed Choughs came slowly up from the valley below, beating along one of the spurs of the south face of the mountain; they sailed overhead in close proximity to me, settling alternately on the low bushes and rocks, hopping about the ground in the beds of the gullies on the steep, rocky slopes, and were most fearless, occasionally uttering a weird, plaintive call. Several Jungle-Crows evidently jealous at these arrivals in their own domain, where food was none too plenty to support such an influx of competitors, mingled with the party;

whilst there was no actual molestation noticeable, it was obvious they were not welcomed. Observed several days later on the western face of the mountain when they were very shy, in some measure due to the howling, west winds, which were then prevalent, and not conducive to prolonged and peaceful foraging.

Kalo Pokhari, 10,160′, 14-4-12*. Twelve Yellow-billed Choughs passed overhead this morning, heading south. This fact would almost point to severe weather at hand, incessant rain yesterday, to-day dull and foggy, most depressing conditions. My fears were soon to be realized as the wind veered round during the night, with the result my camp was buried in snow next morning to a depth of two feet. I was curious to know how far they descended but unable to carry out the necessary search.

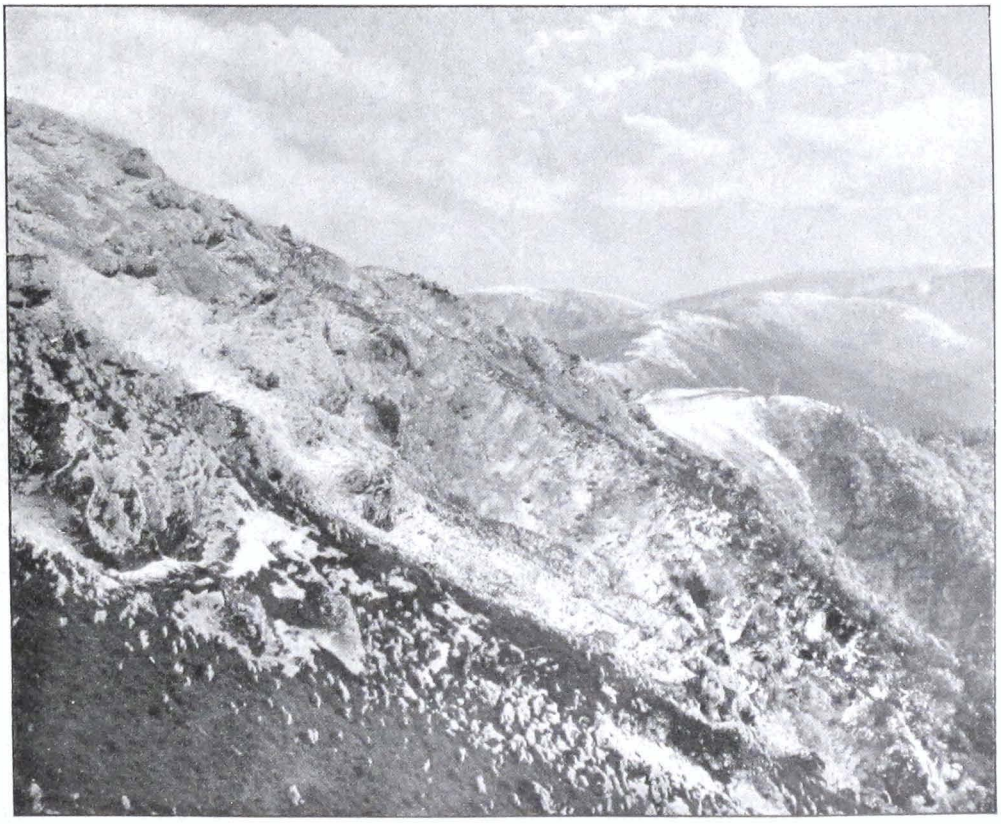
Lachung, 9,000′. A few pairs haunted the steep face of the mountains on the west of the village during the last week in February and first week in March 1920, after which they disappeared. On no occasion were they to be seen in the precincts of the village; which ground was left in entire possession of Jungle-Crows and Red-billed Choughs. Blanford remarks on this fact and the disparity of their numbers. During the Mt. Everest Expedition "observed up to 20,000′" (A.F.R. Wollaston).

(To be continued.)



H. S. Photo.

SINGILE LA, 12,126′, AND EVEREST.
From Phalut, 18th February, 1912.



H. S. Photo.

PHALUT SUMMIT, 11,811′.
18th February, 1912.

[*From the* JOURNAL OF THE BOMBAY NATURAL HISTORY SOCIETY, *Dec.* 31, 1923.]

NOTES ON THE BIRDS OF THE SIKKIM HIMALAYAS.

By

HERBERT STEVENS, M.B.O.U.

Part II.

(*With three plates.*)

(*Continued from page* 518 *of this volume.*)

FAMILY—PARIDÆ.

14. The Indian Grey-Tit. Parus major cinereus (Vieill.)

Recorded for the Himalayas at all altitudes up to 9,000′ or more according to Oates. This distribution is entirely erroneous for the Sikkim Himalaya. I have failed to locate this Tit even at the lowest limits; it may have some status in the Tista Valley at elevations approaching the plains-level; all efforts to prove this conjecture have been to the contrary, and so far it has only been obtained at the *foot of the hills in more or less open country* at 500′ by Mr. G. E. Shaw. I suspect the heavily forested tract along the foot-hills demarcates its distribution more effectively than any appreciable rise in elevation is likely to affect any extension at dispersal, and this appears to be the case on the north frontier of Assam; also *P. monticolus* is a predominant species and the two Tits have well-defined breeding distribution-areas. Unless there is an overlapping in its eastern limits with "*commixtus*"; *Parus major tibetanus* Hart., which occurs in the Chumbi Valley in Tibet may well be a good species.

15. The Green-backed Tit. Parus monticolus ~~monticolus~~ (Vig.) "Chichin Kothi," Paharia.

Oates states it appears to be found chiefly from 4,000′-8,000′ in elevation. In the Eastern Dooars, January 1922, I found it in small parties in forest at the base of the hills at almost the *plains-level.* Bhotan Ghat, Raidak River, ♂ ♀, 26-1-22. Mr. N. B. Kinnear has shown me a specimen recently obtained by the 2nd Mt. Everest Expedition at 12,000′ *in summer* from the Chumbi Valley in Tibet, and there can be little doubt this species is extending its distribution limits. Dikchu, Tista Valley, 2,150′, 22-2-20* and 13-3-20,* and at a somewhat lower elevation to the south of this place, to even 8,800′ in Lachung, where I saw a pair *in the winter*, 28-2-20.*In Gangtok at 5,800′, 21-2-20* I observed this Tit to be gregarious for the first time in large parties of fifteen to twenty birds composed entirely of this species, foraging on the ground. It breeds commonly in the Rungbong Valley from 4,000′-5,000′ in April and May; clutches sometimes number seven eggs (4-4-18).

Ten specimens examined:

♂ Wing 65-67, av. 65·9; ♀ 63-64, av. 63·3.

Soft parts: Iris, hazel; bill, horny-black, tip and edges of lower mandible lighter; tarsus, plumbeous-blue.

16. The Red-headed Tit. Ægithaliscus concinna ~~iredalei~~ (~~Stuart Baker~~).

Strictly sedentary. Occurs at elevations of from 5,000′-7,500′ *on the Outer Ranges*, not moving to any appreciable extent below its lowest limits in the cold weather. In the *Interior* observed above Chungthang in the Lachung Valley on the 11-3-20* at an elevation of 6,000′. Around Singhik at 4,600′ on the 12-3-20* and between Singhik and Dikchu in the Tista Valley on the 13-3-20* at an elevation of 3,500′. Mai ("Khola") Valley, East Nepal, commonly occurs

from 6,000′-7,000′. The distribution as stated generally from 6,000′-10,000′ is, in the latter instance, undoubtedly too high an altitude for the Eastern Himalayas as it does not overlap in its distribution with *Æ. ioschistos*. Gopaldhara, 4,720′, 16-7-21* a pair of these Tits amongst a large party of small birds composed of *Phylloscopi, Zosterops, Certhia discolor* (pair) &c., &c., searching the trees around the compound daily, particularly bad weather; this elevation at this time of the year being considered worthy of record.

Nine specimens examined;

♂ Wing 47-51; av. 49-8. ♀ 46-49.

17. The Rufous-fronted Tit. Ægithaliscus ioschistos (Hodgs.).

This charming, diminutive species shares in all the varied actions of the true Tits. It seems to be impervious to cold and its copious plumage is significant of this fact. It is *generally distributed* at elevations of from 9,000′-10,000′, and rarely descends under stress of weather except perhaps evading the heavy snowfalls in winter, when its zonal distribution is modified from 8,000′-9,000′, and then may be found in small parties of eight to ten individuals, otherwise only in pairs in April, May and onwards. Kalo Pokhari, Nepal side of the Frontier, 9,500′, ♂ ♀ 12-4-12. Sikkim side of the Frontier, 10,000′, ♂ ♀ 18-4-12. ♂ ♀ 27-4-12. One pair also observed at 10,000′, 19-5-12.* Partial to Rhododendron forest (below the belt of the pines at the breeding season). Blanford states "probably only pine forests" where he met with it on two occasions only in the autumn: Lachung Valley at 10,000′, Lachen Valley at 9,000′. My own experience is that birds give the pine forests a wide berth if they can obtain sustenance in other more favourable haunts. It occurred around Karponang in the winter, 9,600′, ♂ ♀ 24-3-17. Lachung, common around 8,800′ and lower, from the 25th of February to the 11th of March 1920, frequenting light trees, bushes and scrub-growth adjacent to the river; *absent from the pine forests which were practically devoid of all insect and in consequence bird-life*, a single pair at an extreme, high-winter limit of 9,500′, 28-2-20.*

Eight specimens examined:

♂ Wing 55-60; av. 56·8. ♀ 56-57; av. 56·7.

Iris, naples (dark lemon) yellow.

18. The Yellow-browed Tit. Sylviparus modestus modestus (Burton).

Sparingly distributed, yet locally common. *Found from an elevation of* 6,500′-9,500′. On one occasion obtained at Gopaldhara at 6,000′, ♀ 26-12-20, and a probable record for Singhik in the interior of Sikkim, at 4,600′, 24-2-20.* Lachung, 8,600′, ♂ 27-2-20, a few birds noticed. Kalo Pokhari, 9,500′, several obtained in March and April, 1912. Senchal, 7,500′, ♂ 7-2-17. Semana Basti, (below) at 6,500′, 8-2-18.*

Easily overlooked and most difficult to locate owing to its insignificant size and dull green plumage, as it haunts the tops of the trees when in leaf; at times it may be seen amongst low tree-growth. Oates describes a ring of feathers round the eye yellow, edge of wing and the under wing-coverts bright yellow; these colours are absent in my specimens which would be more aptly described as greenish-white: in one example, ♂ 18-3-12, the edge of the wing hardly showing any imperceptible difference in colour to require notice.

Seven specimens examined:

♂ Bill from feathers at base 5-6·5, av. 5·9; wing 58-64 av. 60·6.

♀ Bill 6-6·5, av. 6·3; wing 55-58, av. 56·5.

19. The Indian Black-spotted Yellow Tit. Machlolophus spilonotus spilonotus (Blyth).

Sparingly and locally distributed. Resident at as low an elevation as 4,700′ *in the interior* of Sikkim, (Singhik, February, 1920). Found generally at 6,500′-8,000′, *on the Outer Ranges.* The elevation of 3,000′ as stated by Oates, is in need of revision, as it is far too low a limit for the Sikkim Himalaya. Observed near Ghoom at 7,200′, 17-1-17.* A pair obtained in the Mai. ("Khola") Valley, East Nepal, 28-3-12, at an elevation of 8,000′ approx., also, a ♂ and a ♀ obtained on the 27-4-12, at 7,000′ approx. Soft parts: Iris brown; bill dark plumbeous-horny; tarsus bluish-plumbeous.

20. The Sultan Tit. Melanochlora sultanea sultanea (Hodgs.).

Confined to the hot, steamy valleys. Commonly occurs in the Tista Valley at *low elevations* up to 2,500′ at Dickchu, 23-2-20*. A small party once observed in the Rungbong Valley at 3,500′ in January 1912, denoting an upward movement.

21. The Himalayan Cole-Tit. Lophophanes ater æmodius (Hodgs.).

Resident throughout the *winter at high elevations along the Singile La Ridge.* Commonly occurs from Tonglo to Phalut at 10,000′-12,000′, from January to March, and numerous around Kalo Pokhari at 10,160′, in April and May, similarly on the Nepal-Sikkim Frontier. Karponang, 9,500′, in March 1917. Lachung, 8,800′ observed in *February* and *March* 1920, seeking food amongst the scrub-growth around the village in severe weather. Blanford records it as less common than the other two species, but far from rare in the pine forests with a similar distribution.

Five specimens examined:
♂ Bill from feathers at base 7; wing 58-60, av. 59.
♀ Bill 7; wing 55-58, av. 56·7.

22. The Sikkim Black Tit. Lophophanes rufonuchalis beavani (Blyth).

Resident on the Outer Ranges with a *similar distribution in elevation as L. a. æmodius*, but more plentiful. Tonglo, 10,000′, January. Kalo Pokhari, 10,160′, March, April, May. Occurred around Lachung at 8,800′ in *February* and *March* 1920, being driven with inclement weather into the village. Blanford records it as by far the commonest Tit in the pine forests of Sikkim, both on the Cho La Range and in the northern valleys.

Nine specimens examined:
♂ Bill from feathers at base 9-9·5, av. 9·1; wing 67-72, av. 70.
♀ Bill 9-10, av. 9·3; wing 64-69, av. 66·5.
Soft parts: Iris dark brown; bill horny-black; tarsus plumbeous.

23. The Brown Crested Tit. Lophophanes dichrous dichrous (Hodgs.).

Commonly occurs as a *resident on the Outer Ranges from an elevation of* 9,000′-12,000′. Less numerous in the interior of Sikkim where I have noticed a marked disparity of its numbers compared with the other Cole-Tits.

Parties of this Tit, *L. a. æmodius* and *L. r. beavani* seen on numerous occasions, occupied taking food on the ground amongst the snow, particularly when foraging between dwarf rhododendron and birch on the mountain slopes and summits in January and February. I did not observe it in the Lachung Valley

in February and March 1920. I may also have overlooked it in taking down my notes at Karponang in 1917. Blanford records it from 8,000'-13,000' (August, September), northern Sikkim.

Six specimens examined :

♂ Bill from feathers at base 8-9, av. 8·5 ; wing 71-74, av. 72·5.

♀ Bill 7-8, av. 7·4 ; wing 67-70., av. 68·8.

Soft parts : Iris red-brown ; bill horny-black ; tarsus slaty-plumbeous.

FAMILY—PARADOXORNITHIDÆ.

24. The Great Parrot-billed Babbler. Conostoma æmodium (Hodgs.) "Tuti" Paharia.

Sparingly distributed on the Singile La Ridge. More plentiful in the mountains of the interior at 10,000'-12,000'. Kalo Pokhari, 10,500', ♂ 27-4-12, secured on the Sikkim side of the Frontier, in "maling" bamboo-growth. Karponang, 10,000', ♂ 24-3-17, one of a pair, surprised near the roadside in dense bamboo thickets.

Two specimens examined :

♂ Bill from feathers at base 22 ; wing 125-128.

Soft parts : Iris stone-yellow, (yellow ochreous-stone); bill ochreous-yellow, lighter at tip ; tarsus ochreous-plumbeous or plumbeous-horny; claws of a similar shade.

25. The Brown Suthora. Suthora unicolor (Hodgs.).

Resident in the *Interior* of Sikkim *from 6,500'*, and *at 10,000' on the Singile La Ridge*, correspondingly with a suitable, dense bamboo-growth which is the habitat of this Crow-Tit in common with other interesting species. It occurs both on the ridges in the outer ranges and in the valleys of the far interior ; as it is strictly sedentary I am confident I located these birds in the identical place where Blanford recorded them from. Occurs sparingly on Tiger Hill, above Darjeeling. Obtained at 8,500', 28-9-19. (G. E. Shaw).

Kalo Pokhari, 10,000', ♂ 2-5-12, ♂ 7-5-12, found in parties of half-a-dozen or thereabouts, so could not yet be breeding.

Kedom , Lachung Valley, 6,500', ♂♂ 26-2-20. 7,200', ♀ 26-2-20.

Five specimens examined : ♂ Bill from feathers at base 14-15, av. 14·6 ; wing 85-92, av. 88·8. ♀ Bill 14 ; ~~14-6~~, wing 88.

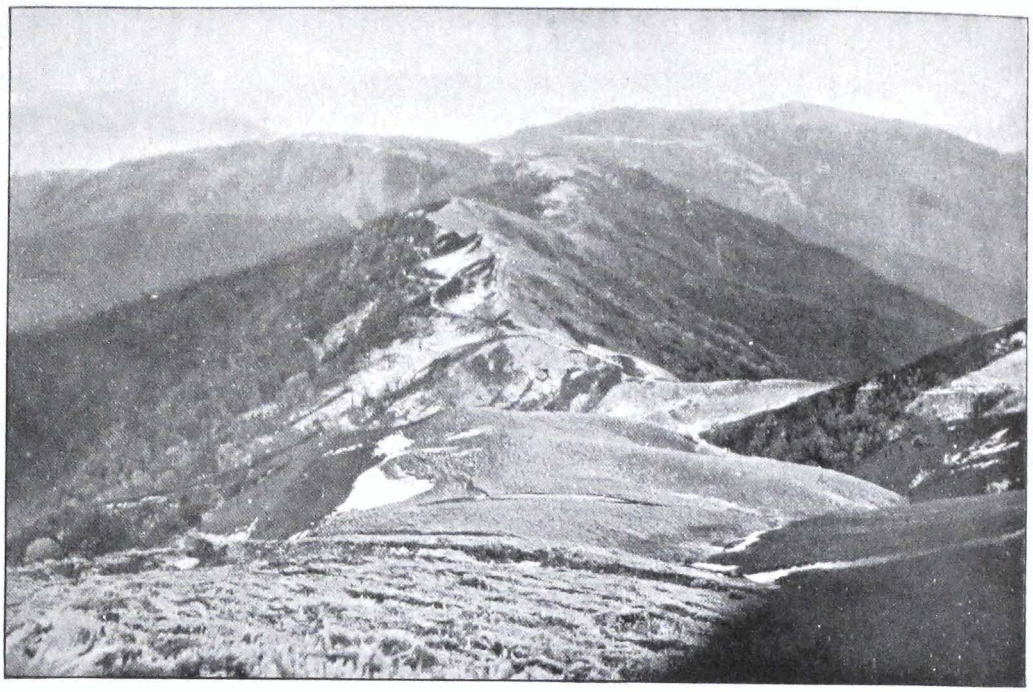
Soft parts: Iris stone-grey of a beautiful tint ; bill fleshy-yellow for two-thirds, remaining portion at tip of both mandibles lighter yellow ; tarsus greenish-grey.

26. The Black-fronted Suthora. Suthora poliotis humii (Sharpe).

Found at a lower elevation than *Suthora fulvifrons*, probably *about 6,000'-8,000' on the Outer Ranges* and as low as *4,500' in the Interior.* More addicted to a varied tree and scrub-growth, and therefore more generally distributed but far from common ; a pair of birds or at the most a small party accompanying a mixed assortment of Babblers, etc., Kalo Pokhari, Mai ("Khola") Valley East Nepal, 7,500', ♂ 7-3-12, obtained in dense bamboo-growth.

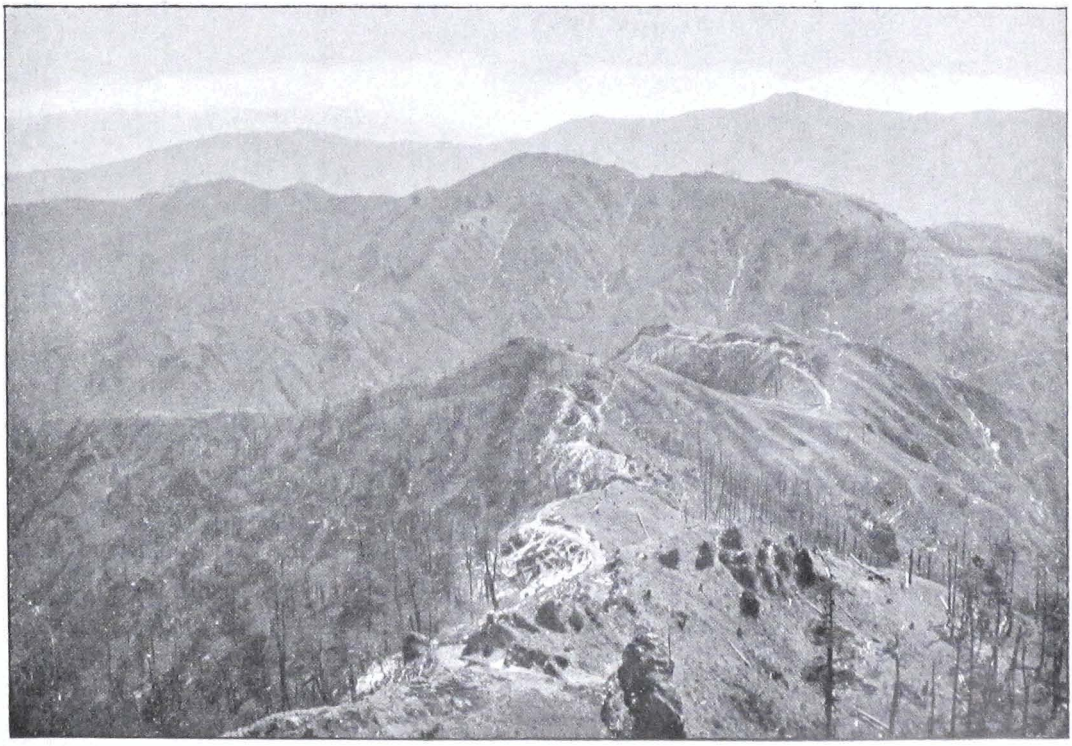
Singhik, 4,700', ♂ 24-2-20, probably three or four pairs in a mixed party of small Babblers, inclusive of a pair of *Machlolophus spilonotus.* Gopaldhara 5,700', 26-3-18,* evidently one pair only. I had observed a small party at 6,000' on a previous occasion. *Not previously recorded for Nepal.*

Oates states Sikkim where this species appears to be common at and "above Darjeeling". This locality can only refer to Senchal to the south, and there is every likelihood of it still being found there in much the same quarters as *Suthora unicolor* has been located.



H. S. Photo.

SINGILE LA RIDGE.
Looking south to Sandakphu from Phalut. February, 1912.



H. S. Photo.

SINGILE LA RIDGE.
Looking south to Tonglo from Sandakphu. March, 1912.

Two specimens examined:
♂ Bill from feathers at base 7; wing 45-47.
Soft parts: Iris brown; bill black.

27. The Fulvous-fronted Suthora. Suthora fulvifrons fulvifrons (Hodgs.)

Sparingly distributed on the Singile La Ridge, more plentiful in the *Interior of Sikkim at altitudes of 9,000′-10,000′* in suitable localities, wherever the dense "prong" and "maling" bamboo covers the mountain-slopes, as it apparently only frequents this habitat. Prong is the Lepcha name for the bamboo *Arundinaria aristata*, Gamble., 10,000′ and upwards. Maling (Paharia) *A. racemosa* Munro., 5,000′-9,000′, 15′-20′ in height. Kalo Pokhari, Nepal side of the Frontier, 9,000′, ♀ 24-4-12; 9,500′, ♂ ♂ 7-5-12. On the Frontier, 10,000′. ♂ ♀ 22-5-12, all obtained in dense thickets of "maling" bamboo; they feed in a great measure on vegetable substances and the insects in the crevices of the unopened sheath of the bamboo. Karponang, 10,000′, ♂ ♀ ♀ 18-3-17, secured out of a large party of twenty to thirty birds in "prong" bamboo jungle.

Six specimens examined:
♂. Bill from feathers at base 7, av. 7; wing 56-57, av. 56·7.
♀ Bill 6·5-7, av. 6·8; wing 55-56, av. 55·5.
Soft parts:—Iris red-brown; bill horny-pink; culmen with a broad band dark-horny; tarsus brownish-plumbeous.

28. The Red-headed Suthora. Suthora ruficeps ruficeps (Blyth).

Recorded for Sikkim. I have failed to locate it, and I have no hesitation in stating it to be decidedly rare. Probably confined to a restricted area in the interior.

29. The Red-headed Parrot-billed Crow Tit. Psittiparus ruficeps ruficeps (Blyth).

Locally distributed and a *partial migrant*, occurring irregularly in "the rains" in the Rungbong Valley, evidently it extends by dispersal in an upward direction at the nesting period and recedes towards the plains during the "cold weather."

Nagri-Spur, at 3,800′, a small party observed on the 11-1-12, in dense secondary bamboo and reed-growth. Mangpu at 3,700′, a small party in scrub-growth. Gopaldhara, 4,000′, observed about a dozen birds mixed with *Actinodura*, *Mesia*, etc., keeping up a lively commotion on the 17-7-16.*4,200′, six birds noted hereabouts on the 4-4-17.*3,500′-3,600′, a pair seen in company with other small birds, Babblers etc., amongst the bamboos, 7-6-21.* Three located in the "siris" trees in the garden on the 18-5-20.* These records constitute the whole evidence available from personal observations.

Obtained at Namchi, 4,500′, 16-12-12. (G. E. Shaw). Recorded breeding in May at 2,000′, (Gammie).

30. The Grey-headed Parrot-billed Crow Tit. Psittiparus gularis gularis (Gray).

Evidently rare and locally distributed. Recorded, for Sikkim at 6,000′–8,000′, by Oates. The high limit evidently refers to Mandelli's mention of its nesting on the 17th May. Mangpu at 3,600′, ♂ 5-11-21 and at 3,600′, ♀ 18-12-20. (G. E. Shaw).

These are the only records that have come to my knowledge during ten years. Represented in the National Collection by specimens from this same locality (Gammie) and other specimens from Sikkim collected by Blanford, Mandelli, and others.

FAMILY—TIMALIIDÆ.

Sub family—TIMALIINÆ.

31. The Rufous-necked Laughing-Thrush. Dryonastes ruficollis (Jard. & Selby).

Recorded by Oates "probably not above 4,000′ and mostly at the foot of the hills." Resident in the Rungbong Valley up to an elevation of 4,550′, where it is only found in patches of rank grass, reeds and mixed light tree-growth along the bed of the river. Occurs up to an elevation of 4,100′ around Mangpu and at all intermediate elevations in the Tista Valley, and reported from near Rinchenpong at an elevation of 5,400′. (C. M. Inglis). Essentially a plains-Laughing-Thrush which has extended its distribution both in the valleys of the outer ranges and in the interior, wherever this more or less necessary habitat supplies the required seclusion and its wants. *The minor valleys of the outer hills ordinarily do not support a plains-fauna above an elevation of 2,500′, while strict, low-elevation species invariably occur in the Tista Valley for a distance of some fifty odd miles from where the river disgorges its waters into the plains, and in many cases reach a corresponding, higher altitude.* The dispersal of this species into the valleys of the interior provides an excellent case in point.

32. The Grey-sided Laughing-Thrush. Dryonastes cærulatus cærulatus (Hodgs.).

This Laughing-Thrush appears to have a better defined status in the lengthy, deep valleys than it has in the minor valleys to the west, although generally it is somewhat locally distributed. Occurs around Gopaldhara in the Rungbong Valley at elevations of from 4,500′-4,700′. Obtained above Mangpu at 5,600′, (G. E. Shaw) and at Rinchenpong at 5,400′, (C. M. Inglis). Gammie mentions it as breeding in the Tista Valley from 3,500′-5,000′.

33. The Himalayan White-crested Laughing-Thrush. Garrulax leucolophus leucolophus (Hardw.).

On the *Outer Ranges* at the junction of the Balasan and Rungbong Rivers, is not found above 2,500′ around Namsoo, and in the "kholas" on the Amboo-tia flat at 3,200′. *In the Interior* of Sikkim throughout the Tista Valley *reaches a limit of about 4,500′.* Oates records it up to 6,000′, so far I have failed to locate it at this elevation. Gammie refers to it breeding in the Tista Valley up to 3,500′ and doubts Hodgson's breeding limits of 5,000′ or 6,000′ as above quoted. (Hume's Nests and Eggs of Indian Birds. [Oates] Vol. I, p. 47).

34. The Black-gorgeted Laughing-Thrush. Garrulax pectoralis pectoralis (Gould).

Commonly found at *low limits* in the Great Rangit and Tista Valleys. Obtained as high as *5,600′* above Mangpu, (G. E. Shaw). Entirely absent from the Rungbong Valley, even at the lower reaches of the river around Namsoo, where there is ample undergrowth in the forest; no single occurrence has come to my notice. The erratic distribution of this Laughing-Thrush is another instance in proof of an extensive penetration in the deep valleys of the interior.

35. The Necklaced Laughing-Thrush. Garrulax moniliger moniliger (Hodgs.).

Occurs at *low limits* in the Great Rangit & Tista Valleys. Obtained up to an elevation of *3,900′*, (G. E. Shaw). Apparently it has no status in the minor valleys to the west at any altitude approaching 2,000′, as at Namsoo, where a certain, few "plains-species" are to be found.

36. The White-throated Laughing-Thrush. Garrulax albogularis albogularis (Gould).

Very locally distributed, yet found in large parties in favourable localities at *an elevation of not less than 6,000′.*

Mai ("Khola") Valley, East Nepal, 5 ♂ ♂, 3 ♀ ♀, 8,500′, 22-3-12. Observed sparingly along the Ridge above Pokharibong on the Nagri Spur at 6,000′.

A party of about eight individuals observed in forest below Semana Basti at about 6,700′, 6-5-23 at a time of the year when other species of Laughing-Thrushes of lower elevations are only to be found in pairs. Oates records this species at all elevations up to 8,000′ or 9,000′. This distribution is erroneous for the Sikkim Himalaya.

37. The White-spotted Laughing-Thrush. Ianthocincla ocellata ocellata (Vig.).

"Moonàli Bhiakoorah," (Paharia) so called owing to its spotted back resembling in some measure the Tragopan which is locally called the Moonál.

Occurs on the Singile La Ridge, Nepal-Sikkim Frontier, at elevations of from *9,000′-10,000′.* Odd birds are to be found at the extreme limits in *winter at 10,000′* on Tonglo, 26-1-12; specimens collected from January to August.

Soft parts: Iris stone-yellow; bill horny, a broad band on culmen shading into the colour of the lower mandible at the edge of the bill; tarsus fleshy, tinged above dusky.

38. The Rufous chinned Laughing-Thrush. Ianthocincla rufogularis rufogularis (Gould).

Recorded as found chiefly from 5,000′-8,000′. This distribution for Sikkim and the hills on the North frontier of Upper Assam is erroneous. Locally distributed at *"low elevations" in the foot-hills.* It occurs in the Tista Valley from 3,700′-3,900′, (G.E. Shaw), and in the Great Rangit Valley, Dentam at 4,500′. (C. M. Inglis). It thus has some status in the *deep valleys of the interior.*

39. The Sikkim Red-headed Laughing-Thrush. Trochalopterum erythrocephalum nigrimentum ~~(Oates)~~. Hodgs.

Generally distributed from *4,000′-7,000′ or even 8,000′,* and obtained on Sandakphu *during the winter at 10,500′,* 15-2-12, one of a pair.

Plentiful around the station of Darjeeling throughout the whole year, as this species in common with the rest of the Laughing Thrushes is strictly sedentary. It will be noticed, on the *Outer Ranges,* I record a *higher distribution* for this species *in comparison* with *T. subunicolor.*

40. The Nepal Crimson-winged Laughing-Thrush. Trochalopterum phœniceum phœniceum (Gould).

Occurs plentifully in the Rungbong Valley from *3,000′-6,000′,* and has been recorded at almost the plains-level from the Buxa Dooars. (C. M. Inglis).

Gopaldhara, 5,800′, ♂ ♀, 24-10-21,* in dense under-growth in forest, evidently occurs at the upper limits of its range during "the cold weather."

41. The Plain-coloured Laughing-Thrush. Trochalopterum subunicolor subunicolor ~~(Hodgs.)~~ Blyth.

Notwithstanding this species is well represented by Mandelli's specimens from the interior of Sikkim in the B.M. Collection, it appears to be extremely local and sparingly distributed. It occurs in the Mai Valley in East Nepal at *elevations of 6,000′-7,000′.* The elevation of 11,000′ as stated by Oates is in need of revision in modification for the Outer Ranges. I have failed to locate this Laughing-

Thrush in any other part of the country. Blanford obtained it at 9,000′ in the Lachung Valley and at 11,000′ on the Cho La Range, where *in the interior it occurred higher than its* congener *T. e. nigrimentum.*

42. The Black-faced Laughing-Thrush. Trochalopterum affinis affinis (Blyth).

Oates rightly records this species up to an altitude of 13,000′, which is no doubt a summer limit as they come *lower down in winter in the Interior to an appreciable extent which is not noticeable on the Outer Ranges.* This is the only instance of a descent to lower limits that I am aware of amongst the Laughing-Thrushes, and is easily accounted for by the nearness of the snow-line hereabouts. Blanford's remark" ranges above all other forms and is subalpine," is very appropriate.

Occurs in parties in the *winter at 10,000′ on the Single La Ridge.* Observed as low as *5,350′ at Chungthang,* in the latter days of *February* 1920: a striking difference in altitude at a similar period of the year.

Chungthang, 24—26-2-20, several in the vicinity of the few scattered dwellings comprising the village; at this time the maidan was occupied by numerous Blackbirds, Thrushes, Redstarts, &c., and these Laughing-Thrushes came well out into the open, always with an eye to a secluded retreat near-at-hand; all had disappeared on my return on the 11-3-20,* specimens obtained on the former occasion.

43. The Blue-winged Laughing-Thrush. Trochalopterum squamatum (Gould).

Generally distributed in suitable localities from *4,500′-7,000′ to the west* of Darjeeling and occurs in East Nepal at similar altitudes, but nowhere approaches the low limit of 2,000′ as stated by Oates. In the *Tista Valley* it has a distribution in elevation from about *3,000′-8,000′,* (G. E. Shaw). 3,500′ upwards, (Gammie).

The sexes differ as follows according to my sexed specimens. Male: Lores, forehead and ear-coverts grey; back and breast more olive than in the female; tail black. Female: Lores, forehead and ear-coverts rufous; back and breast tinged rufous; tail tinged olive; upper tail-coverts deep rufous in comparison with the male; this last character, however, does not always hold good; one of my specimens has a conspicuous white patch on the throat. There do not appear to be any specimens of *Trochalopterum lineatum lineatum* (Vig.) from Sikkim in the B.M. Coll., the species occurs in West Nepal though the exact limits of its distribution to the east is indefinite.

44. The Striated Laughing-Thrush. Grammatoptila striata striata (Vig.). "Bhiakoorah" Paharia. Used without distinction for all Laughing-Thrushes and even Scimitar-Babblers, sometimes with the addition of a vague prefix.

Commonly occurs on the *Outer Ranges from 3,500′-7,000′* or somewhat higher. In the *Interior of Sikkim to be found around 3,500′,* above Dikchu. Occurs from 4,500′-7,500′ above Mangpu and upwards to Senchal. (G. E. Shaw). Recorded by Oates for the Himalayas from 6,000′-9,000′ which is in need of correction for the Eastern Himalayas at all events.

45. The Bengal Babbler. Turdoides terricolor terricolor (Hodgs.).

A "plains"-Babbler, generally and commonly distributed in the Sikkim Terai and Bhotan Dooars. Recorded "appears to ascend the hills to about 5,000′". With the exception of the following record, neither Mr. G. E. Shaw nor myself have met with it at anything approaching this altitude. I have no hesitation in regarding this occurrence as merely accidental, as it is extremely unlikely

to be overlooked. Gopaldhara, 4,550′, 4-5-21,* a pair observed hereabouts; these birds rose at my feet to settle on an adjacent tree whence their vivacious movements, particularly a whirling oscillation of the tail, were very pronounced.

46. The Slaty-headed Scimitar-Babbler. Pomatorhinus schisticeps schisticeps (Hodgs.)

Evidently *confined to the lower foot-hills.* Obtained in the Tista Valley below Mangpu at 3,800′, (G. E. Shaw). Entirely absent from the minor valleys in the west of the Darjeeling district at anything approaching this elevation. Mandelli is mentioned as having obtained it breeding at Namtchu (Namchi) and Yendong. The first-named place is overlooking the Great Rangit Valley, the whereabouts of the last locality is unknown to me unless it refers to Tendong.

47. The Nepal Coral-billed Scimitar-Babbler. Pomatorhinus ferruginosus ferruginosus (Blyth.)

Sparingly distributed. Occurs at *elevations of from 4,000′-6,000′ in the Rungbong Valley.* So far Mr. G. E. Shaw has failed to obtain it in the Tista Valley where Gammie obtained it breeding at 5,000′. There is a likelihood of it being overlooked as it is anything but a common bird. Evidently less numerous in Sikkim than it was in the far Eastern Himalayas (Daphla & Miri Hills) at similar altitudes.

48. The Nepal Rufous-Scimitar-Babbler. Pomatorhinus ruficollis ruficollis (Hodgs.)

Generally distributed from *4,700′ in the Rungbong Valley* to as high as *10,000′ on the Singile La Ridge in winter,* at which last-mentioned elevation it has been observed in pairs in company with parties of small Babblers. Obtained at 9,500,′ ♀ 6-2-12, and around Mangpu, at 5,000′, (G. E. Shaw), also at Rinchenpong at 5,400′, (C. M. Inglis), Rishap (Rashab), 4,500′, (Gammie). Gopaldhara, 5,800′, ♂ ♀ 24-10-21, in forest undergrowth, a pair only. 5,500′, 18-5-23*, youngsters on the wing, accompanied by their parents, on the forest outskirts. In my experience there appears to be a marked absence of Scimitar-Babblers in the interior of Sikkim, despite a sufficiency of undergrowth; where there is a paucity of this vegetation, even in forested country, there is little chance of meeting with them. These birds are not gregarious as the Laughing-Thrushes and invariably occur in pairs.

Soft parts: Iris crimson-brown; bill, basal half of upper mandible black tapering along commisure, remaining portion yellowish-horny, deepest at gape; tarsus pale plumbeous-horny; soles dull plumbeous-yellow.

49. Harington's Rusty-cheeked Scimitar-Babbler. Pomatorhinus erythrogenys haringtoni (Stuart Baker).

Commonly occurs and is quite the most plentiful of all the members of this genus. Found in the *Rungbong and Mai Valleys from 3,500′-6,500′.* Obtained as low as *1,200′ in the Tista Valley.* (G. E. Shaw). An elevation of 10,000′, as stated by Oates, is far too high a limit for the Sikkim Himalaya. Breeds very early in comparison with some of the other Babblers. Young birds to the number of four in the nest, 27-4-12, at 7,000′ approx. Mai "Khola", East Nepal.

50. The Slender-billed Scimitar-Babbler. Xiphiramphus superciliaris Blyth.

Evidently *not previously recorded from Nepal.* Hodgson records it breeding from 3,000′-6,000′. I have failed to meet with it at anything approaching these limits. Gammie, obtained it on the Mahalderam Ridge at 7,000′ breeding. Kalo Pokhari, Singile La Ridge. Obtained both in Nepal and Sikkim, *April and*

May at elevations of from 8,000'-10,000'. It was found during these months in pairs in the dense "maling" bamboo thickets on the mountain-slopes. Its call is unmistakable, yet not easily described in syllables.

Soft parts: Iris pale stone-yellow; bill dusky-black, lightish at tip of lower mandible; tarsus and claws, plumbeous.

51. The Bengal Red-capped Babbler. Timalia pileata bengalensis (Godw.-Aust.).

Recorded for the lower hills along the border of Sikkim, &c. Obtained in *the plains* of the Darjeeling district (G. E. Shaw), and I have observed it in "low-lying" ground, a few miles out from the base of the hills in the Eastern Dooars. It is unlikely to be found in the valleys, unless it has worked its way along the beds of the main rivers, lavishly overgrown with reed and heavy grass-jungle. There is small chance of locating it anywhere else, and the foot-hills are out of the question as they are covered with forest.

52. The Rufous-bellied Babbler. Dumetia hyperythra (Franklin).

Probably this Babbler has a clearer defined status to the west of this area, though recorded for the Lower valleys in Sikkim. Its whereabouts is unknown to me. It is not represented from the Sikkim Himalaya in the B. M. Collection.

53. The White-headed Shrike-Babbler. Gampsorhynchus rufulus rufulus (Blyth).

Occurs in the Tista Valley at *low elevations* where I have observed it commonly between Melli and Tar Khola.

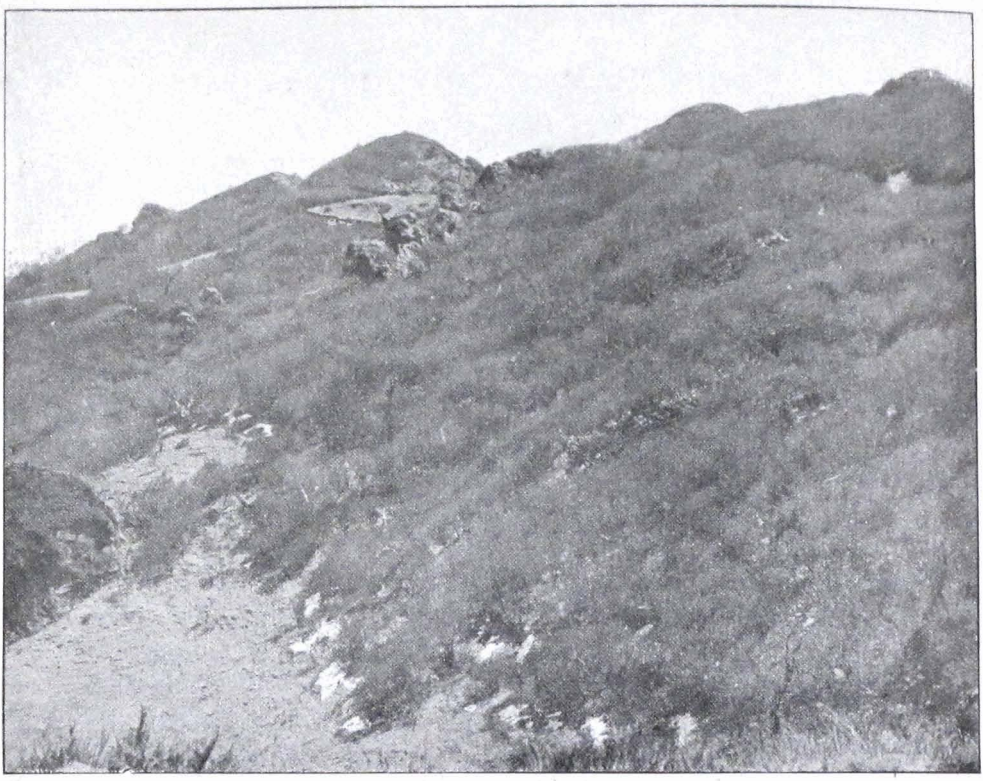
To my mind I associate this Babbler, as typical of a host of others, with steep, broken ground, thickly studded with bamboos and a diverse tangle of secondary undergrowth,—a different phase of verdure to that of the grander forested tracts which do not undergo a transformation of colour to the same extent, yet are similarly subject to a period of prolonged drought followed by months of an incessant deluge; when the whole aspect of the vegetation suddenly passes rapidly from varied tints of brown to vivid greens. Nowhere are these effects seen to better advantage than in this valley, when at times; it seems as if every living plant was endeavouring to extract the last ounce of moisture and nutriment out of the shallow soil, awaiting the never-failing monsoon, when all forms of life are bathed in drenching rain and steamy heat.

54. The Indian Yellow-eyed Babbler. Pyctorhis sinensis sinensis (Gmel.).

The exact status of this Babbler in the Sikkim Himalaya is very obscure. Recorded for every portion of the Empire and found in the hills up to 5,000'. I have signally failed to locate this Babbler and very much doubt if it occurs unless at the *plains-level.* Represented in the series of the B. M. Coll. by one specimen from Sikkim and three from Darjeeling without other data as to exact localities, etc.

55. Mandelli's Spotted Babbler. Pellorneum ruficeps mandellii (Blanf.).

Mainly confined to the *Terai of the foot-hills,* which supports a *plains-fauna.* Occurs around Namsoo up to 3,000', and below Mangpu in the Tista Valley up to an elevation of 3,800', (G. E. Shaw).



H. S. Photo.

DWARF RHODODENDRON.

Sandakphu, 11,923′. North face of the summit. March, 1912.
Haunts of *Lophophanes ater æmodius*, *L. rufonuchalis beavani*, *L. dichrous*, *Certhia familiaris nipalensis*, *C. stoliczkæ*, *Phœnicurus schisticeps*, *Troglodytes nipalensis*, *Montifringilla nemoricola*, &c., &c.

H. S. Photo.

MAI ("KHOLA") VALLEY, EAST NEPAL.

From Kalo Pokhari, May, 1912.
Forest of Oak, Chestnut, Magnolia, Rhododendrons, Maples, Laurels, &c., &c.
Haunts of *Ianthocincla ocellatum*, *Xiphirhynchus superciliaris*, *Lioparus chrysotis*, *Arborophila torqueola*, *Tragopan satyra*, &c., &c.

56. The Long-billed Wren-Babbler. Rimator malacoptilus (Blyth).

Rare. Gopaldhara, 5,600′, 1-2-21*. A pair in forest undergrowth with their usual fearlessness. Although they were under observation within a few paces I was unable to follow their movements for more than a brief interval as they slipped away like small rodents in the broken and steep ground. Recorded, "only at considerable elevations." What is inferred by this distribution is evidently incorrect as it has been more frequently met with at *moderate elevations.*

57. Abbott's Babbler. Malacocincla sepiaria abbotti (Blyth).

Obtained at *plains-levels* around 500′ elevation in the Darjeeling district (G. E. Shaw).

58. The Nepal Babbler. Alcippe nipalensis nipalensis (Hodgs.).

Commonly distributed from the *plains-level up to 6,000′.* Very partial to thick cover in general with numerous other small Babblers.

59. The Black-throated Babbler. Stachyris nigriceps nigriceps (Hodgs.) "Moostay", Paharia.

Commonly occurs from the *plains-level up to 6,000′* at all events. I have no record of it attaining 10,000′ in summer as stated by Oates. Breeds at all intermediate elevations. Equally plentiful, both in the interior and on the outer ranges.

60. The Nepal Golden-headed Babbler. Stachyris chrysæa chrysæa (Blyth).

Generally distributed and fairly numerous *at similar altitudes* as *S. nigriceps.* Commonly nests around Gopaldhara at 4,500′-5,500′. Apparently not much in evidence around Mangpu, yet it occurs in the upper reaches of the Tista Valley around Toong at 3,850′.

61. The Red-headed Babbler. Stachyridopsis ruficeps ruficeps (Blyth).

Found at *all moderate elevations upto 7,500′.* Tonglo, ♂ ♀ 25-5-12. More numerous below 6,000′. Obtained at elevations of from 6,200′-7,400′ on the eastern side of the district above Mangpu, (G. E. Shaw). Breeds commonly around Gopaldhara and in the Mai "Khola" in East Nepal.

62. Harington's Red-fronted Babbler. Stachyridopsis rufifrons ambigua (Harington).

This Babbler occupies a lower zonal distribution area than *S. ruficeps.* Obtained in the *Tista Valley,* March and April, at elevations of from *2,500′-2,600′.* (G. E. Shaw). A locality where numerous plains-species penetrate the hills which species are entirely absent or poorly represented at similar elevations to the West.

63. The Yellow-breasted Babbler. Mixornis rubricapilla rubricapilla (Tick.).

Probably does not occur beyond the *base of the foot-hills,* where it has been obtained at the plains-level. (G. E. Shaw).

64. The Dusky-green Babbler. Pseudominla cinerea (Blyth).

Extremely locally distributed. Occurs in the *Interior at elevations probably not exceeding 4,000′* in the hot, moist valleys. Toong, Tista Valley, 3,850′, 24-2-20. I found these birds in a mixed company of other small Babblers of which *Stachyris chrysæa* was noticeable in light tree-growth on this occasion, which was somewhat at variance to my experience in former years when they freely came under my observation in the Miri Hills on the Assam frontier; they were then exclusive in their habits and kept apart from the mixed assortment of birds so frequently to be met with, when on their rounds.

65. The Chestnut-headed Babbler. Pseudominla castaneiceps castaneiceps (Hodgs.).

Generally distributed at elevations of from *3,500′* in the Rungbong Valley up to *10,000′* on the Singile La Ridge according to season; so far not obtained below 5,900′ above Mangpu, (G. E. Shaw). Observed commonly between Shamdong and Singtam at *2,400′*, 15-3-20. Frequents the bottoms of the valleys in the winter months, gradually ascending with the advent of the warmer weather to its extreme limits; then found in company with Tits, Yuhinas &c.—a totally different assembly from its "cold-weather" associates; it breeds plentifully at 5,000′. Ghoom to Sookia Pokhari, 7,300′, ♂ 19-1-12. Kalo Pokhari, 10,000′, ♀ 17-4-12. Equally common in the Mai "Khola" in East Nepal, April and May 1912.

66. Hodgson's Fulvetta. Fulvetta vinipecta vinipecta (Hodgs.).

Recorded distribution "11,000′ or more." Mandelli obtained it breeding on Senchal where it commonly occurs nowadays.

Generally distributed from 7,000′-12,000′. Observed below Semana Basti, at *6,400′*, 8-2-18.* Occurs at all intermediate elevations, irrespective of season, as numbers frequent the summit level of Tonglo at *10,000′ in the winter*, January and February 1912. Numerous parties in scrub-growth around the village of Lachung at *9,000′ in February and March* 1920. Evidently breeds around Jalapahar and Katapahar, circum. 8,000′, as it commonly occurs there in "the rains." 17-4-21,* numerous and obtrusive. Ghoom, 7,300′, 19-1-12, large parties about, bitterly cold and misty weather. Sandakphu, 11,500′, 21-5-12. Nest composed of moss, bents and strips of bamboo leaves enclosing a cup-shaped hollow lined with hair, containing three eggs of the recorded type.

Soft parts: Iris pale greenish-yellow; bill upper mandible and terminal half of lower mandible dark horny, base of lower mandible pinkish-horny; tarsus and claws dull horny, somewhat lighter than bill in colour.

67. The Golden-breasted Tit-Babbler. Lioparus chrysotis (~~Hodgs~~. Blyth.

Widely distributed but far from numerous. Occurs mostly at *elevations* of from *6,500′-10,000′*, at a somewhat lower zonal area throughout the year according to season, than *Fulvetta vinipecta*. Partial to dense growth on steep ground. Kalo Pokhari, Mai "Khola", East Nepal, 8,000′-10,000′, March to May. Lachung Valley, Sikkim, 7,200′, 26-2-20, a small party intermingled with other small birds in forest. Sonada to Mangpu, 6,750′, 19-5-21*, in small parties hereabouts in ("gopi") bamboo thickets in forest.

Soft parts: Iris brown; bill deep plumbeous; base of membrane pinky-white; tarsus dark ochreous-fleshy.

Sub-family—SIBIINÆ.

68. The Long-tailed Sibia. Sibia picaoides picaoides (Hodgs.).

Found from the *base of the hills up to a little over 2,500′*. An elevation of 5,000′ as stated by Oates, is much too high a limit for Sikkim.

Namsoo, 2,000′, 23-1-17*. A large party observed frequenting the flowers of the "simal" (*Bombax*) cotton trees. It came under my observation beyond Singtam in the Tista Valley at 1,800′ in February and March 1920. Obtained in the lower limits of the Tista Valley below Mangpu at 2,500′. (G. E. Shaw).

69. The Black-headed Sibia. Leioptila capistrata capistrata (Vig.).

In the Rungbong Valley occurs as low as 3,400′, and is found at all elevations up to *8,300′*, (G. E. Shaw,) around which elevation it occurs on Senchal in the outer hills. In the Tista Valley observed at an extreme low elevation, near Rasab, at *1,700′* and *1,850′*, 15-3-20′*, frequenting "simal" (Bombax) trees when in flower, and around Dickchu at 3′000′ in February. Only recorded from 5,000′-8000′. On occasions familiar to a degree. Gopaldhara, 28-6-23*, a single bird came on to the verandah, searching the pots of geraniums in quest of spiders. This Sibia is a sprightly bird with a loud, pleasing whistle. It is quite a characteristic feature of the bird-life in the station of Darjeeling.

70. Blyth's Sibia. Leioptila annectens annectens (Blyth).

The type locality is evidently Darjeeling and is thus recorded for Sikkim at an elevation of 4,000′ and upwards. Apparently only locally distributed. I have failed to locate it anywhere in the vicinity of Gopaldhara at all elevations of from 3,450′ to over 6,000′, and it remains one of my desiderata. Information in respect to its status is lacking. Represented by mounted specimens in the Darjeeling Museum.

The B.M. Coll. contains 13 specimens. February, June-August, November, without precise data of locality and elevation.

71. The Nepal Bar-wing. Actinodura egertoni egertoni (Gould).

Commonly occurs in the Rungbong Valley at *elevations of from 4,000′-6,000′* and similarly in the Tista Valley up to an elevation of 5,500′. (G. E. Shaw). This Bar-wing is much more partial to secondary growth of scrub than it is to well-wooded tracts, being much less arboreal than the Sibias and in its habits shows in this respect some resemblance to the Laughing-Thrushes.

72. The Hoary Bar-wing. Ixops nipalensis nipalensis (~~Hodgs.~~). Gould.

More or less numerous at *elevations of from 7,000′-10,200′ on the Outer Ranges.* On one occasion observed near Sookia Pokhari. It frequents the tops of the trees in parties at high elevations. Although this Bar-wing belongs to a genus of tropical birds, it has *a distinct Palæarctic distribution.* 4,000′ at its lowest limit as recorded by Oates is entirely erroneous for Sikkim, Singile La Ridge, Nepal-Sikkim Frontier, slopes of Tonglo, circum. 8,500′ ♂ ♂ 20-1-12. Kalo Pokhari 10,000′, ♂ ♂ ♀ 7-2-12, 10,160′ ♀ 22-3-12., winter records.

73. Hume's Staphidia. Staphidia striata rufigenis (Hume).

Obtained in the *Tista Valley at elevations of from 2,000′-5,100′.* (G. E. Shaw)· It is *absent from the western parts of the district,* and has no status at similar elevations in the Rungbong Valley.

74. The Stripe-throated Siva. Siva strigula strigula (Hodgs.).

Plentifully distributed from *5,500'-10,200' on the Singile La Ridge.* Occurs around Singhik in the *interior of Sikkim at 4,700'*, both these low elevations are undoubtedly extreme " cold-weather " limits. On the Outer Ranges numerous at and below 7,000' in the winter yet nowhere reaches the 3,000' limit as recorded for the Himalayas by Oates. Ghoom to Sookia Pokhari, 7,300', 3 ♀ ♀ 19-1-12. Senchal, 8,000', ♀ 6-2-17. Mai " Khola", East Nepal, 10,000' and lower, 19th March to 8th May 1912, 3 ♂ ♂, 4 ♀ ♀. Blanford met with it on the Cho La Range at 10,000' and in the Lachung Valley at about 9,000' in the autumn of 1870, at which localities and elevations it is absent in the winter according to my observations.

75. Hodgson's Blue-winged Siva. Siva cyanouroptera cyanouroptera (Hodgs.).

Generally distributed on the *Outer Ranges at all elevations up to 5,500'.* It moves down the slopes of the hills to some slight extent during the cold weather while its upper limit is exceeded in the *Interior* even *in winter,* when I saw an odd pair in company with a party of *Minla ignotincta* at *5,800'* in Gangtok on the 21-2-20.* It is often to be seen around Gopaldhara at 4,700' in December and January, intermingled with Minlas and several *Pteruthius erythropterus,* or a pair of *P. melanotis.* Observed in parties on the Semana-Mirik Ridge at 6,000', 6-5-23.

76. The Stripe-throated Yuhina. Yuhina gularis gularis (Hodgs.).

The first under-mentioned occurrence most probably denotes a descent from the Senchal Ridge, when two specimens were obtained on one occasion at Mangpu, *3,800'*, 4-4-18 (G. E. Shaw), a remarkable record in altitude, up to *10,000'* on the *Singile La Ridge,* where it commonly occurs on Tonglo summit in *January and February,* and numerous at Kalo Pokhari at 10,160' in March. Found in parties which haunt the tops of the trees with lively twitterings. *This Yuhina ascends the highest on the Outer Ranges in comparison with the other two species, and has a decided Palœarctic status.* Blanford states "Less common than *Y. occipitalis* in the pine forests above Lachung, though still by no means rare. Common above 10,000' on the Cho La Range where I did not meet with *Y. occipitalis.*" (August.) I have failed to meet with it in these localities at similar elevations in the winter, and there is little doubt it occurs in the bottoms of the valleys in the interior at this period of the year, when it is certain to ascend to a much more appreciable extent than is possibly the case on the outer ranges.

77. The Slaty-headed Yuhina. Yuhina occipitalis occipitalis (Hodgs.).

This Yuhina belongs to an Oriental genus, but equally with the previous species has a definite *Palœarctic status.* Generally distributed from about *6,500'-10,200'* on the *Outer Ranges,* at which higher limit it occurs during mild spells of weather in the winter, but is apparently absent during the severe weather. *In the Interior* occurs, however, at *9,000' in the winter* in the bottoms of the valleys, where it appears to attain *a higher limit* than *Y. gularis,* as I observed several south of Lachung at 9,000' on the 26-2-20*. Singile La Ridge, Kalo Pokhari, 10,160', 16—19-3-12, several in evidence, having arrived from the valleys below, on to the ridge, with the advent of hot weather. This Yuhina and *Y. gularis* were partial to the rhododendron trees, and kept up a lively time when probing their bills into the flowers in search of insect food. Semana Basti, 6,500',

8-2-18*, plentiful hereabouts. Blanford states "Jerdon says rare near Darjeeling, is very common and abundant in the pine forests between 8,000'-10,000' in the Lachen and Lachung Valleys" (September & October).

78. The Black-chinned Yuhina. Yuhina nigrimentum nigrimentum (Hodgs.).

Strictly *confined to the hot, moist valleys*, and thus has a *tropical status*. Occurs in the Tista Valley in the interior up to an elevation of 2,300' in February and March. Obtained in the lower reaches of this valley at 1,200', (G. E. Shaw). Gammie obtained it breeding at Rungbee at about 3,500'. In former years it was obtained in the Miri Hills on the north frontier of Upper Assam at 4,000' in the cold season.

Dickchu to Singhik, 2,300', 23-2-20 and 13-2-20, in large parties, confined to this species, haunting the foliage of the evergreen trees.

The distribution "considerable elevations only" for the Eastern Himalayas as stated by Oates is entirely erroneous.

79. The Chestnut-headed Ixulus. Ixulus occipitalis (Blyth).

Gammie is mentioned having obtained it breeding at Rungbee at about 3,000', and it is thus recorded by Oates for Sikkim. It is probably restricted to the *base of the hills* or at *moderate elevations*, a similar distribution in altitude, as its status is to the North-East, in the foot-hills of Upper Assam.

80. The Yellow-naped Ixulus. Ixulus flavicollis flavicollis (Hodgs.).

Recorded at elevations of from 5,000'-8,000' for the Himalayas. It extends in its distribution from the *foot of the hills up to 7,500'*. Equally plentiful in the interior of Sikkim at a similar period of the year around Singhik at 4,600' as it is around Gopaldhara at 4,720'. Odd parties observed near Jainti, Eastern Dooars, at the plains-level in January 1922. Gopaldhara, 4,700,' ♂, 31-12-11. Semana basti, ♂, 20-1-12. Observed on the Semana—Mirik Ridge at 6,500', in parties, feeding on the Yellow Raspberries (*Rubus sp ?*) in early June, 1923.

Kalo Pokhari, Mai "Khola," East Nepal, ♀ 2-5-12. Blanford records it from (Lamteng) Lachen at 9,000' in September, which denotes a deep penetration in the interior along the defile of the Tista Valley.

81. The White-bellied Herpornis. Erpornis xantholeuca xantholeuca (Hodgs.).

Confined to the deep, hot valleys and has a *tropical status*. In the Tista Valley, it occurs up to an elevation of 3,300' in the outer hills. (G. E. Shaw.) Oates rightly remarks: "it does not appear to be found above 4,000' or 5,000." These limits leave a wide margin in altitudinal distribution, as there is no likelihood of any record being forthcoming from the upper extreme limit quoted, at all events in the Sikkim Himalaya.

Sub-family.—LIOTRICHINÆ.

82. The Indian Red-billed Liothrix. Liothrix lutea callipyga (Hodgs.).

"Jharjhari," Paharia, probably also used for *Mesia*.

It is unfortunate no two authorities agree as to the exact rendering in nomenclature of this species, which is sometimes referred to as *Liothrix luteus callipygus*. Hodgson appears to have named it *callipyga*.

Amongst the smaller songsters, the delightful notes of this cheery, vivacious bird at the breeding season are by no means without variety and compass. A resident, and commonly distributed at *all elevations from 3,400'-7,400'* and possibly higher as it is recorded " at 5,000'-8,000' or lower for the Himalayas."

It forages much on the ground in secondary-growth, whilst it may often be seen haunting creeper-festooned trees at some height from the ground, invariably in parties before and after the nesting season.

This bird in common with several others, *Mesia argentauris, Suya atrogularis,* &c., has accommodated itself to the cultivated tracts under "tea" of the Darjeeling District, notwithstanding it suffers considerable depletion of its eggs at the nesting season, as the Paharia youth spares nothing in the egg and bird line which comes his way. The benefit these numerous small insectivorous Babblers bestow is by no means fully appreciated or even realized.

83. The Nepal Cutia. Cutia nipalensis nipalensis (Hodgs.)

" Motum pho," Lepcha.

Locally distributed. Apparently found chiefly at an *elevation of 7,000' on the Outer Ranges.* Occurs as low as *5,000' in the Interior* of Sikkim. Ghoom, 7,000' 17-1-17 *, in parties. Singhik, 5,200', 12-3-20, a small party. Mai (" Khola ") valley, East Nepal, ♂ 16-4-12. Obtained at an elevation of 5,900', ♂ 28-6-19 and as low as 4,500', ♀ on one occasion, 23-5-20, above Mangpu. (G. E. Shaw.)

Soft parts. : Iris dull red-brown; bill horny-black, basal half of lower mandible bluish-horny tapering to a point; tarsus gamboge-yellow; claws light horny.

84. The Red-winged Shrike-Tit. Pteruthius erythropterus (Vig.).

Irregularly distributed from *4,000'-6,000'* and apparently locally migratory. Recorded by Oates in its distribution for the Himalayas 2,500', (Jerdon) 10,000', (Stolickza). I have no acquaintance with this Shrike-Tit occurring at these extreme limits. Noted as common at Gopaldhara at elevations of from 4,600'-5,000', September, October, November, December, February, and at the end of March over a period of ten years. Its appearances, however, being somewhat erratic. Strictly confined to well-forested country. Found around Singhik at 4,600' in February and March. Obtained at elevations of from 3,700', March, to 4,500', April, at Mangpu, (G. E. Shaw.) Gopaldhara, 5,700', 26-3-18 *, several noted in company with a host of various small birds. 5,500', 10-2-19 *, many noted under similar conditions. 5,000', 7-10-21*, observed an odd bird or so hereabouts.

Soft parts : Iris stone-grey; bill bluish-horny, upper mandible dark horny-blue; tarsus, pale fleshy.

85. The Chestnut-throated Shrike-Tit. Pteruthius melanotis melanotis (Hodg.).

This dainty Shrike-Tit is not common, yet occurs in pairs in the wooded portions of these hills where it is widely distributed at *moderate elevations.* Recorded for the " Himalayas at high elevations 7,000' or so." Obtained at elevations of from 2,700', January, to 6,200', March, in the Tista Valley. (G. E. Shaw.) In the Rungbong Valley occurs from 3,500'-6,000', and somewhat higher in " the rains," a pair observed at 6,200', 1-6-23*, on the Somana-Mink Ridge. Its actions are very slow compared with the agility displayed by *Minla ignotincta, Pseudominla castaniceps* with which and others pecies it often keeps company. Observed in the interior of Sikkim at Singhik at 4,600', and below Chungthang at about 5,000' in February and March. I have never observed more than one pair of this Shrike-Tit on any one occasion mixed up with other birds, whereas, *P. erythropterus* often occurs in small parties of the two sexes.

My experience of this bird in the Sikkim Himalaya further confirms my observations on the North Frontier of Assam in regard to its zonal distribution.

Soft parts: ♀ Iris brown; bill, upper mandible dark plumbeous-horny, lower mandible similar only lighter; tarsus fleshy; claws pale horny.

86. The Green Shrike-Tit. Pteruthius xanthochloris xanthochloris (Hodgs.)

Generally distributed both in the Interior and on the Outer Ranges.

This Shrike-Tit occurs at higher limits than the other two members of this genus and has a decided *Palæarctic status in its distribution area.*

During the *winter* it may be found at elevations of from *7,000'-9,500'* at which last elevation I obtained it at Lachung, ♂ 2-3-20, and at 9,600', at Karponang ♀ 24-3-17, which may be regarded as extreme high-winter limits, as pairs were only in evidence, although these elevations are likely to be exceeded in the summer. It frequents low trees during the winter, and with the approach of warmer weather when it undoubtedly ascends to some extent, occupying the tops of the highest trees. This last trait combined with its dull green plumage renders it inconspicuous amongst the dense foliage, and it is secured with difficulty. Soft parts: ♀. Iris brown; bill bluish-slaty.

87. The Rufous-bellied Shrike-Tit. Hilarocichla rufiventer (Blyth).

Sparingly distributed. Evidently *does not transcend the limits of 6,000'-8,000'* to any appreciable extent *on the Outer Ranges.* Occurs on Senchal at 8,000', Gopaldhara, 6,000', 5-11-19, two females secured out of a party frequenting the tops of lofty trees in forest.

Soft parts: ♀ Iris dark stone-grey; bill bluish-horny, upper mandible dusky; tarsus dark fleshy-horny; soles pale yellow.

88. The Common Iora. Ægithina tiphia tiphia (L.).

Commonly occurs from the *Plains-level* up to 4,740', at all events around Gopaldhara, and obtained in the Tista Valley, up to *an elevation of 5,600',* above Mangpu. (G.E. Shaw.) This latter record is no doubt an extreme limit for this Iora, as Oates rightly infers "it does not appear to ascend the hills higher than 3,000' being strictly a bird of the plains." My own impression is that it is extending its distribution under favourable conditions. It has obtained a higher limit in the Tista Valley, which is only one instance of many similar cases, which receive notice under each specific circumstance.

89. The Fire-tailed Myzornis. Myzornis pyrrhoura (Hodgs.)

Locally distributed. *On the Singile La Ridge occurs up to 10,160', in March and April,* both in Nepal and Sikkim, and in all probability not found below 7,500' or thereabouts. Apart from a doubtful observation below Ghoom at 7,500*. my records without exception refer to the Nepal-Sikkim Frontier at Kalo Pokhari, 5 ♂♂, 6 ♀♀, collected between the 19th of March and the 30th of April.

Jerdon appropriately names this bird a Flower-picker. It was this fact which first gave me the clue to its whereabouts, otherwise I expected to find a Creeper-like bird haunting the tree trunks as mentioned by Oates; whereas, it was an agreeable surprise to see it "*hovering with a rapid beating of the wings at the flowers*" of the Rhododendron trees. It is generally silent and unobtrusive even at or towards the nesting season when birds are at their liveliest. Its note is a feeble but distinct call. Blanford records it as common

on the *Cho La Range at 11,000′ in August* where it was obtained amongst brush wood, on mossy banks and once was shot on the ground. "Not seen in Upper Sikkim." I have also not met with it in the interior. It certainly occupies a lower zone during the winter and ascends to breed at these recorded limits.

Soft parts: Iris brown; bill black; tarsus ochreous horny tinged with green; claws dark horny.

90. The Gold-fronted Chloropsis. Chloropsis aurifrons aurifrons (Temm.).

Occurs at *low elevations* in the Tista Valley, and has a tropical habitat. Obtained up to 2,300′ in elevation. (G. E. Shaw.)

91. The Orange-bellied Chloropsis. Chloropsis hardwickii hardwickii (Jard. & Selby).

Resident at *all elevations up to 5,500′* in the Rungbong Valley, and occurs up to a similar altitude in the Tista Valley, 5,000′. (G.E. Shaw). It possibly reaches the limit of 6,000′ as recorded by Oates.

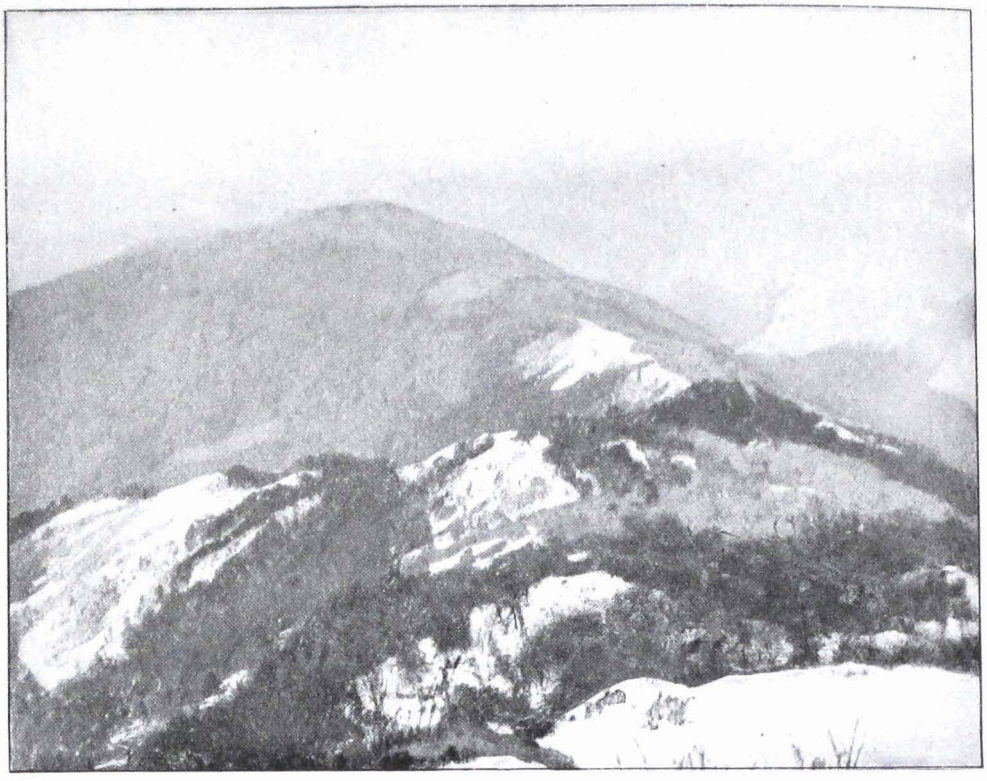
92. The Silver-eared Mesia. Mesia argentauris argentauris (Hodgs.).

The Mesia is more addicted to secondary scrub-growth than forest. It utilizes the "tea-bush" in common with Liothrix to a great extent at the nesting period. Recorded from 3,000′-7,000′. Obtained in the *Tista Valley as low as 1,500′*. (G. E. Shaw.) I have no information respecting its status at plains-levels as was the case in the foot-hills of the North frontier of Upper Assam. It is common at all elevations in the Rungbong Valley up to 5,500′, but here again it has been overlooked below 3,000′, if it actually does occur below this limit.

93. The Red-tailed Minla. Minla ignotincta (Hodgs.).

This species frequents all well-wooded tracts. During "the cold weather," it invariably is found in parties which intermingle with other tree-haunting species; as they methodically search the tree trunks and foliage, they are very Tit-like in this habit. It is generally distributed at *all elevations up to 8,500′* according to season, at which elevation it occurs on Senchal. Blanford records it from Lachen and Lachung at 9,000′, but not higher in September and October. It is commonly resident around Gopaldhara at 4,500′-6,000′, between which limits it breeds, and is equally plentiful in the interior of Sikkim. Gangtok, 5,800′, 21-2-20.* Around Jainti, Eastern Dooars, at the base of the hills, a party of this Minla came under my observation in early January, 1922; I did not meet with them at a later period. I have formerly recorded it from the Gorges of the rivers in Upper Assam at similar low-levels in "the cold weather."

(To be continued.)



H. S. Photo.

RIDGE IN NEPAL.
Below Kalo Pokhari. 15th April, 1912.

H. S. Photo.

KALO POKHARI.
Camp 10,160'. 15th April, 1912.

[From the JOURNAL OF THE BOMBAY NATURAL HISTORY SOCIETY, May 15, 1924.]

NOTES ON THE BIRDS OF THE SIKKIM HIMALAYAS.

By

HERBERT STEVENS, M.B.O.U.

Part III.

(*With 3 plates.*)

(*Continued from page 740 of this volume.*)

SUB-FAMILY—BRACHYPODINÆ.

94. The White-throated Bulbul. Criniger tephrogenys flaveolus (Gould).

Occurs at *low elevations* in the Tista Valley. Obtained up to 1,500′ (G. E. Shaw). Nowhere does it reach the limit or anything approaching " seldom above 5,000′ " as recorded by Oates. It is strictly a plains-Bulbul.

95. The Himalayan Black Bulbul. Microscelis psaroides psaroides (Vig.). "Kaki" Paharia.

Dr. Hartert has stated the reason for this change in the generic name *Hypsipetes* now *Microscelis* (Nov. Zool., vol. xxix, 1922, pp. 366-7). Numerous at *all elevations up to 10,000′ on the Outer Ranges.* Tonglo summit at 10,000′, 23-1-12*, a party of from twenty to thirty birds came to rest in a tree adjacent to the Rest House; they were very wild and only settled for a brief time. Observed around Singhik at 4,850′, 13-3-20*, in a party of six or thereabouts.

96. The Brown-eared Bulbul. Hemixus flavala flavala (Hodgs).

More or less locally distributed. Occurs in the Rungbong Valley up to *5,000′*. Obtained in the Tista Valley up to 3,800′, (G. E. Shaw).

97. The Rufous-bellied Bulbul. Hemixus macclellandi macclellandi. (Hodgs.).

Common from 3,400′-6,000′ in the Rungbong Valley, and obtained in the Tista Valley from 3,900′-4,500′. (G. E. Shaw).

98. The Striated Green Bulbul. Alcurus striatus. (Blyth).

Locally distributed and fairly numerous both in the *Interior and on the Outer Ranges at elevations of from 4,700′-6,000′.* Obtained above Mangpu at 5,300′. (G. E. Shaw). Temi to Namchi at 6,100′, 15-3-20*, much in evidence. Occurs commonly at Gopaldhara from 4,700′ upwards, being strictly confined to forest.

99. The Bengal Red-vented Bulbul. Molpastes hæmorrhous bengalensis (Blyth).

Commonly distributed at all elevations up to 4,500′ at all events, but it is very doubtful if it approaches an elevation of 7,000′ as recorded by Oates. This Bulbul and the next species consort together during the cold weather at the bottom of the Rungbong Valley and are then partial to the berries of the " Panisajh " trees.

100. The White-cheeked Bulbul. Molpastes leucogenys. (Gray).

"Jharali," Paharia, used for all Bulbuls without discrimination.

Commonly occurs from *low elevations at 1,200′* in the Tista Valley (G. E. Shaw), and probably lower, up to *6,000′ on the Outer Ranges*, both in East Nepal and Sikkim. Observed around Shamdong at 2,600′, in the interior of Sikkim during February and March.

101. The Bengal Red-whiskered Bulbul. Otocompsa emeria emeria (L.).

In all probability does not occur much above Birik in the Tista Valley at *an elevation of 600′*, where I have observed this Bulbul. *Molpastes leucogenys* evidently takes its place on or about Tista Bridge and upwards.

102. The Black-crested Yellow Bulbul. Otocompsa flaviventris flaviventris (Tick.).

Widely distributed from *low levels up to 5,000′*. Obtained up to 3,000′ only in the Tista Valley. (G. E. Shaw).

103. The White-tailed Nuthatch. Sitta himalayensis Jard. & Selby.

Generally distributed at somewhat lower levels in the Interior of Sikkim than on the Outer Ranges. Locally migratory to some extent, descending the slopes of the mountains in the winter and ascending from the valleys with the advent of the hot weather. Observed below Gangtok at *3,100′* in early *March*. Singhik, 4,800′, 24-2-20. Tonglo summit at *10,000′*, a pair seen on several occasions in *January* accompanying parties of Cole-Tits,—*L. rufonuchalis beavani* and *L. dichrous*. Mai "Khola," East Nepal, 8,500′, 12-4-12, several seen this day. Tonglo, 9,000′, 26-5-12, a pair, ♂ obtained; where they are also to be found during the S. W. monsoon. Gopaldhara, occasionally noted around the bungalow at 4,720′ at times during the "the rains" or "cold weather," never more than a pair of birds acting in concert with *Minla, Pseudominla*, &c., 5,800′, ♂ ♀ 7-10-21. Obtained at elevations of from 5,500′-7,500′ above Mangpu. (G. E. Shaw). Blanford met with it on the Cho La Range (August) at 11,000′, but met with no *Sitta* above 7,000′ in Northern Sikkim, which is also my experience ~~in the winter~~.

104. The Cinnamon-bellied Nuthatch. Sitta castaneiventris ~~castanei~~ventris Blyth.
Cinnamoventris

Resident and generally distributed. Found at *all elevations up to 4,800′* around Gopaldhara, and obtained up to *3,800′* in the Tista Valley, below Mangpu. (G. E. Shaw). 6,000′ as recorded by Jerdon and quoted by Oates is too great an extreme limit for Sikkim.

105. The Beautiful Nuthatch. Sitta formosa (Blyth).

The type locality is Darjiling and is thus recorded for Sikkim. Undoubtedly very rare and extremely locally distributed. I have failed to locate it. Evidently Macintosh was acquainted with it, as he quotes Senchal as being one of its haunts in his "Birds of Darjeeling." Represented in the Tring Museum by one specimen only, *ex.* Elwes Coll., but well represented in the National Collection by specimens obtained in almost every month of the year.

106. The Velvet-fronted Blue Nuthatch. Sitta frontalis frontalis (Swainson).

A Plains-Nuthatch. Obtained in the Tista Valley up to *an elevation of 2,500'*, (G. E. Shaw). Nowhere approaches to an elevation of 5,000' or higher as recorded by Oates for the Himalayas, at all events in Sikkim. This Nuthatch is distinguished from true *Sitta* by several striking structural characters and is placed in the genus *Callisitta* by Hellmayr ("Genera Avium," Wytsman.) It well might find its correct place in this last genus if numerous other genera are retained.

107. The Crow-billed Drongo. Dicrurus annectens annectens (Hodgs.).

Recorded for the lower levels of Nepal and Sikkim.

108. The Himalayan Black Drongo. Dicrurus macrocercus albirictus (Hodgs.).

Recorded for 5,000' or even higher in the Himalayas. I have no information respecting this Drongo. All my specimens of *Dicrurus* have proved to be the next species.

109. The Himalayan Grey-Drongo. Dicrurus leucophæus stevensi Stuart Baker.

Recorded for the Himalayas "found as high as 10,000' ". Generally distributed at moderate elevations to higher limits. The common Drongo in the Darjeeling District. Occurs around Gopaldhara at 5,000', as a breeding resident, also occurs plentifully in the Tista Valley at elevations of from 3,000'-3,750'. (G. E. Shaw). Thurbo, 4,500', 10-5-15*. Four King Crows observed mobbing a pair of Owls (*Glaucidium cuculoides*).

110. The White-bellied Drongo. Dicrurus cærulescens (L.).

Recorded for the Himalayas up to about an elevation of 6,000'. I have no information respecting this Drongo. If it has any status in these hills, it is not likely to be overlooked, being a well-marked species. The series in the B. M. Coll. contains no specimen from the Sikkim Himalaya.

111. The Bronzed Drongo. Chaptia ænea ænea (Vieill.).

Generally distributed. Occurs up to 5,000' at all events in the Rungbong Valley. Not obtained above 3,000' in the Tista Valley. (G. E. Shaw).
Probably occurs much higher, though Gammie found it breeding only at 2,000'.

112. The Hair-crested Drongo. Chibia hottentotta hottentotta (L.).

Sparingly distributed at the bottom of the Rungbong Valley from 3,500'-3,700', and when the "Falada" trees are in flower, comes up to the Bw. elevation of 4,720', 26-27-10-15*, a pair; 11-9-20*, a pair; 17-9-21*, several in evidence, many and even higher on occasions at 5,200', 1-2-21*, noted hereabouts. As many as forty birds seen in the "simal" (*Bombax*) trees at Namsoo at 3,000' on the 18-5-15*. Obtained up to an elevation of 1,900' in the Tista Valley. (G. E. Shaw). Young birds ready to leave the nest by the end of June, or the first week in July: a specific date being the 25-6-23, when two youngsters were brought in at Gopaldhara.

113. The Indian Lesser Racket-tailed Drongo. Bhringa remifer tectirostris Hodgs.

Confined to the hot, moist, deep valleys. Observed around Dikchu at 2,150′ in the interior of Sikkim, in February and March. 5,000′ as recorded by Oates is too great an extreme limit in general for Sikkim, though Gammie mentions it nesting at Rishap (Rashab) in the Tista Valley at 4,800′.

114. The Assam Racket-tailed Drongo. Dissemurus paradiseus grandis (Gould).

Extends up the Tista Valley to at least 1,000′ (G. E. Shaw), but probably not far into the interior. Absent around Dickchu at 2,150′, in February and March 1920.

115. The Nepal Tree-Creeper. Certhia familiaris nipalensis Blyth.

This Tree-Creeper is strictly sedentary, but on occasions descends to lower limits to some modified extent under stress of severe weather.

Recorded for 13,000′, Pine forests, in September, North Sikkim. (Blanford).

Generally distributed from 8,000′ to 12,000′. Observed below Sookia Pokhari at *6,500′*, ♂ ♀ 18-1-12.* Occurs on Tonglo and Sandakphu summits throughout the winter, when it is then partial to the dwarf birch trees on the bare mountain-slopes, generally in pairs, accompanying a foraging party of Cole-Tits: *Parus ater cæmodius, P. rufonuchalis beavani* and *P.d. dichrous.* Tonglo, 9,000′ to 10,074′, summit level, a series of three ♂ ♂, five ♀ ♀, collected in January 1912.

Karponang at 11,000′, in March 1917, only an occasional bird seen, and evidently far from common in the Pine forests during the winter.

Six specimens examined:

♂ Bill from feathers, at base 14; wing 68-69, av. 68·5.

♀ „ „ „ „ 11-12, av. 11·8; wing 65-66, av. 65·5.

Soft parts: Iris, brown; bill, black on upper mandible, white on lower mandible; tarsus, horny.

116. The Sikkim Tree-Creeper. Certhia discolor discolor Blyth. "Soolsooli," Paharia.

Commonly occurs in the *Rungbong Valley from 3,500′-6,000′* in the "cold weather," but seldom if ever observed in "the rains." Obtained in the Tista Valley around Mangpu at elevations of from 3,000′-4,500′. (G. E. Shaw). In the *interior observed at Shamdong at* 2,300′, 15-3-20. Apparently does not overlap with *C. familiaris nipalensis* in its zonal distribution. Gopaldhara, 5,800′, ♂ 5-2-21. 5,000′, ♀ 16-2-18. 4,720′, 16-7-21*, a pair came into the compound in company with *Parus monticolus, Zosterops, Phylloscopus,* &c., 5800′, a single bird observed in the forest 13-5-23, was most probably the pair to a breeding bird.

Eight specimens examined:

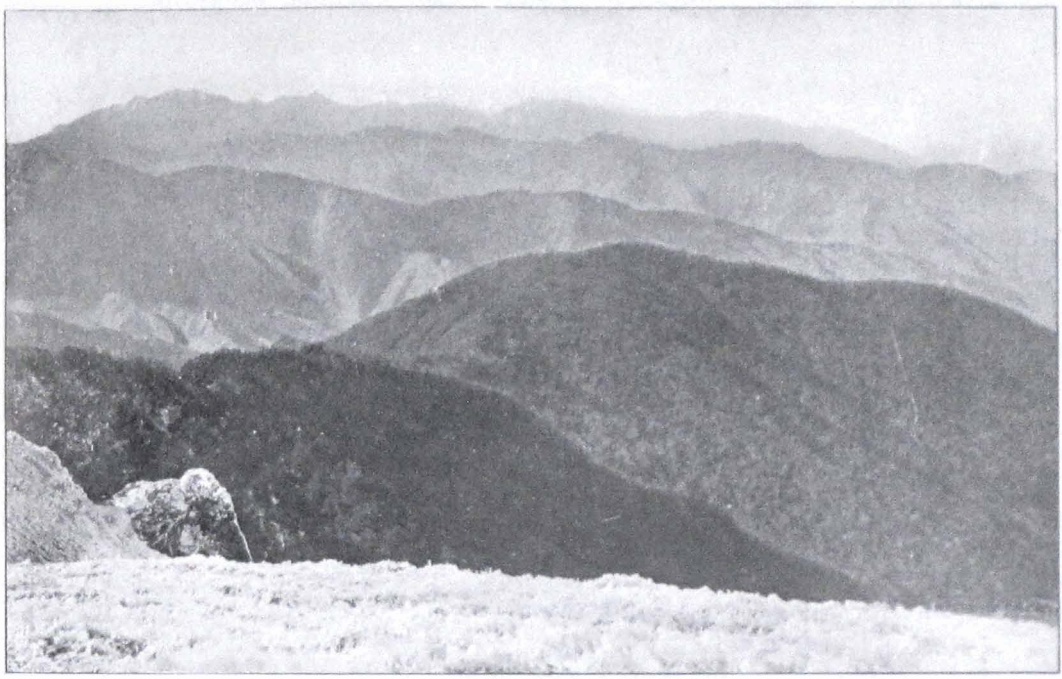
♂ Bill from feathers at base 14-15, av. 14·5; wing 67-70, av. 68·8.

♀ „ „ „ „ 12-13, „ 12.4; „ 64-67·5, „ 66-2.

Soft parts: Iris brown; bill upper mandible dark horny, lower mandible pale horny, dark at tip, gape inside pale fleshy; tarsus dark fleshy-horny.

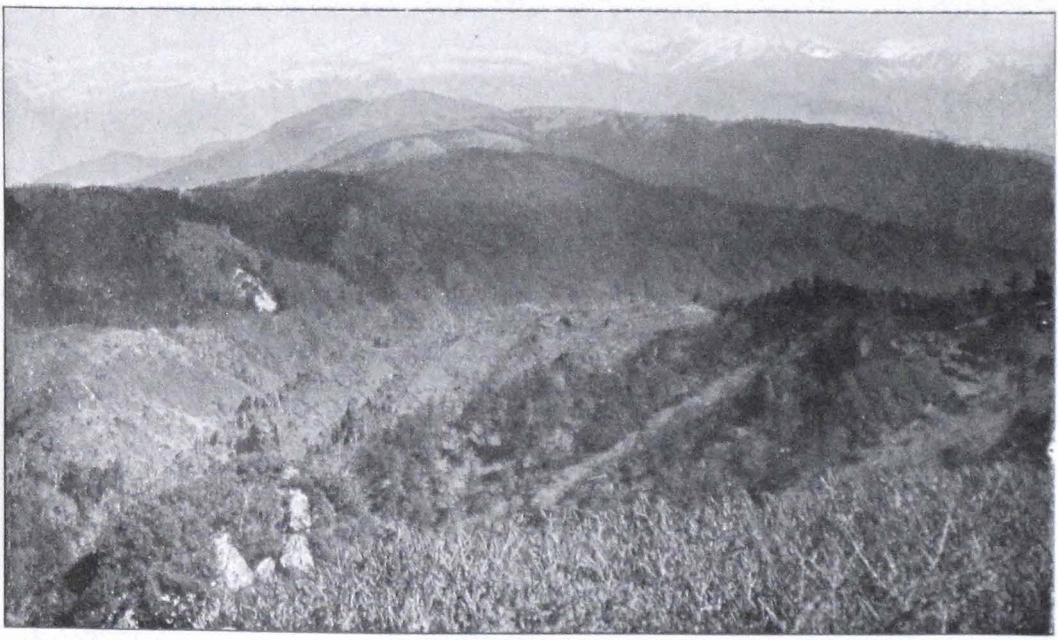
117. Stoliczka's Tree-Creeper. Certhia stoliczkæ Brooks.

Fairly common from *9,000′* to *10,000′ on the Singile La Ridge, January to May*; specimens secured both in Nepal and Sikkim. Obtained as low as *6,500′, on the Semana-Mirik Ridge,* ♀ 7-2-18. Ghoom to Sookia Pokhari, 7,100′, 13-12-13,



H. S. Photo.

THE RIDGES OF EAST NEPAL.
Looking west from Phalut, February, 1912.



H. S. Photo.

"THE SNOWS" AND PINE FORESTS.
Abies webbiana, Silver Firs of Hooker.
From Sandakphu, March, 1912.

several observed along the forest road. Tonglo, 10,000′, ♂ 27-1-12; ♀ 28-1-12; ♂ 9-2-12. Kalo Pokhari, 10,160′, ♂ ♀ 19-4-12; ♀ 21-3-12; ♂ 23-5-12. Observed around Lachung at 8,800′ in February and March.

Five specimens examined:

♂ Bill from feathers at base 12; wing, 74-76, av. 75.

♀ „ „ „ „ „ 12; „ 68-71, „ 69·5.

Soft parts: Iris brown; bill, upper mandible dark horny, lighter towards the tip, lower mandible pale horny, darkening towards the tip and edge in contact with upper mandible; tarsus, pale horny.

Certhia himalayana himalayana Vig., is stated by Dresser, Hartert, Stuart Baker and others to have an extensive distribution throughout the Himalayas—Kashmir to Kansu in Western China. Oates strictly confined this typical form to the N. W. Himalayas—Gilgit, Almora, &c. No trace of this Tree-Creeper occurring in the Sikkim Himalaya has come to my knowledge. It is not represented in the Tring Museum from Sikkim, and notwithstanding the fact that there is one specimen from Darjeeling collected by one of the Marshalls and also one specimen from Nepal.—*ex* Hodgson Coll. in the B. M. series, for which information I am indebted to Mr. N.B. Kinnear—there surely must be an error in the locality on the label of the Darjeeling ? skin. Col. C. H. T. Marshall refers to its breeding habits at Murree. (Hume's Nests and Eggs, Oates, Vol. I, page 220.) The Sikkim Himalaya holds three well-defined species with fairly distinct zonal distribution limits. It appears to have a discontinuous distribution in the Eastern Himalayas.

If my surmise is not correct, it is surprising such a paucity of specimens from this area exist in representative collections.

118. The Wall-Creeper. Tichodroma muraria (L.).

The Wall-Creeper may be found *during the winter at diverse altitudes* in suitable localities, though it is rare and of uncertain occurrence.

Obtained at Mangpu, 3,800′, 21-11-19. (G.E. Shaw). Jalapahar, 7,500′, ♀ 13-2-20. Sandakphu, Nepal side of the Frontier at 11,800′, 7-3-12,* a single bird observed this morning, foraging on the face of a huge boulder, rather wild and difficult of approach once it was aware of my presence. Hereabouts, these rocks seemed most suitable haunts for Wall-Creepers, yet this was the only occasion I met with it. Lachung, circum. 9,000′, odd birds observed on the rocky slopes of the valley during February and March 1920. One observed in the stony bed of the La chu at 8,800′, 10-3-10*, had assumed the black throat associated with the adult in summer plumage. Three observed above Bhotan Ghat in the Raidak Gorge in January 1922, two of which were secured.

Three specimens examined:

♂ Bill from feathers at base 25; wing 109. ♂. Bill 24, damaged in the other example. Wing 102 in both cases. Compared with two females from the North frontier of Assam. Bill 25; wing 102-103. prove these measurements to be fairly constant. The spots on the outer primaries and tail vary in size and number individually in the adult, and the ochreous spot on the inner primaries is sometimes retained at maturity.

♀ (Assam). 2nd-5th primary, two spots, all white and large, 6th primary, one upper white spot. ♀ 2nd-4th, similar, 5th, merely an indication of the upper white spot, 6th, tinged ochreous, 7th, ochreous, 8th, merely an indication of an ochreous spot.

♂ (Bhotan Dooars). 2nd-5th, two spots all white and small, another ♀ from the same locality somewhat similar.

♀ (Darjeeling). 2nd-5th spots white, all lower ones small, upper spots large, 6th, upper spot only; ochreous lower half, remainder white. 7th-9th, single spots only, entirely ochreous.

119. Hume's Wedge-billed Wren. Sphenocichla humei (Mand.).

Recorded for Sikkim. Undoubtedly rare, with a restricted distribution. Specimens in the Tring Museum labelled Namchi, probably came from Tendong above this place.

120. The Nepal Wren. Troglodytes troglodytes nipalensis Blyth.

Resident on the *Singile La Ridge at elevations of from 9,000'-12,000'*, numerous at this extreme limit in winter. *In the interior* of Sikkim at Lachung, occurs at an elevation of *8,800' in the valley during February and March.* Karponang, 10,000' and above, on the slopes of the mountains during March. Once obtained amongst the rocks on Jalapahar at *7,500'*, ♂ 14-2-20, which is food for speculation as the Senchal to Darjeeling Ridge is quite isolated from the main bulk of the higher ranges, and it would mean a lengthy flight if such was the case, to avoid the valleys for a sedentary resident. It frequents the rocky beds of mountain streams, fallen, decaying trees in the pine forests, equally at home amongst the snow in inhospitable depths of the forest or the precincts of the flimsy dwellings of the shepherds. In the village of Lachung, it was partial to the crevices of the stone walls which demarcated the plots of rudely cultivated land. Tonglo, 9,000'-10,000', 24th January to the 4th of February 1912, 3 ♂ ♂, 2 ♀ ♀ secured. Sandakphu to Saburkum 11,500', ♂ 16-2-12. Kalo Pokhari, 10,160', ♂ 4-3-12.

Karponang, 10,000', ♂ 17-3-17. Lachung, 8,800', ♀ 27-2-20, not observed in the winter beyond a three-mile limit above the village, along the path to Yumthang.

Eight specimens examined:

♂ Bill from feathers at base 10-11, av., 10·6; wing 51-53, av. 52·6.

♀ „ „ „ „ 10·5-11·5, av. 10·8; wing 50-53, av. 51·6.

The female average is brought up with the large dimensions of a Lachung specimen. Bill 11·5; wing, 53.

121. The Spotted Wren. Elachura formosa (Walden).

Recorded "high elevations in Sikkim." I anticipate this Wren will eventually be located along the foot-hills and probably in the bottoms of the valleys of the interior, at all events during the winter, with a similar habitat to *Pnœpyga pusilla.*

122. The Tailed Wren. Spelæornis caudata (Blyth).

Recorded for Sikkim at considerable altitudes. Obtained at Jore Pokhari, 7,400'. (C.M. Inglis). Represented in the B.M. Coll. by a fine series collected by Mandelli with nothing more definite in regard to the exact localities than "near Darjeeling."

123. The Slaty-bellied Shortwing. Tesia cyaniventer Hodgs.

Generally distributed in forested country with a sufficiency of undergrowth from the *plains-level up to 6,000'*, and apparently not resident around Gopaldhara at 4,700', as it has only been noticed hereabouts at the breeding season from the end of March or thereabouts and onwards.

Eleven specimens examined from the Eastern Himalayas.

♂ Bill from base 14-14·5, av. 14·3; wing 47·5-49, av. 48·9.

♀ „ „ „ 13-13·5, av. 13·3; wing 44-48, av. 46·3.

One specimen, collected in the Plains of Upper Assam at Rungagora in the Dibrugarh District, ♂ 10-1-04, has the crown concolorous with the back and the whole of the underparts from the chin to the vent pale slaty-blue. This phase ? has always puzzled me, as I do not consider it referable to the male juvenile stage of this species; the bill, tarsus and hind claw are stronger than in any of the other previously-measured specimens.

Bill from base 16; wing 49; tarsus 25; hind claw 7.

It is very near to *Tesia cyaniventris superciliaris*, La Touche, after comparison with the type.

"Very close to the female of typical *T. cyaniventris*, but with a much more pronounced and purer black eye-stripe and lores, and with a short, pure grey stripe just behind the eye, between the yellowish supercilium and the black eye-stripe. A bird from Manipur in the British Museum Collection is very similar, but lacks the post-orbital grey stripe and is paler below."

Ibis July 1923, pp. 369, 370. "On the Birds of South-East Yunnan, S. W. China." (S. D. La Touche, M. B. O. U.)

♂ Soft parts: (June.) Iris brown; bill, upper mandible blackish-horny, lower mandible and inside gape, reddish-orange; tarsus, dark olivaceous; claws horny.

124. The Chestnut-headed Shortwing. Tesia castaneocoronata castaneocoronata (Burton).

This Shortwing seems to me to be entitled to generic rank, but as Dr. Hartert has shown, (Novitates Zoologicæ, Vol. XVII, 1920, page 480) *Oligura* cannot stand. Apart from coloration which may have no significance in the definition of genera; the remarkable bill of *Tesia cyaniventer* appears to be a sound structural character for generic distinction and congeneric with this species is *Pseudoxenicus superciliaris* (Bp.). Type Locality, Java, whereas *Tesia castaneocoronata* has a totally different, slender and narrrow bill; which was one of the reasons given by Oates for keeping them generically separated. It is found at *all elevations from the foot of the hills in "the cold weather," up to 10,000′ or higher in summer.* Blanford records it from Northern Sikkim at elevations of from 7,000′-10,000′. Observed on the Singile La Ridge at Kalo Pokhari at 10,160′, in May. Mai ("Khola") Valley, East Nepal, 8,000′ upwards, ♂ 9-4-12, ♂ 7-5-12. Bhotan Ghat, Raidak River, Eastern Dooars, ♀ ♀ 22-24-1-22, others seen. Gopaldhara, Rungbong Valley, 3,550′, 22-3-11*, noted on several occasions afterwards, more in evidence than *T. cyaniventer*. It is more addicted to frequenting the ground than its former ally and hops about the rocks in like manner to a wren. 4,700′ ♂ 29-10-16, 7-4-16*. 4,800′, ♀ 1-11-18. 5,000′, ♀ 17-2-18. 5,900′, ♂ 17-2-18. Mangpu, 3,800′, 26-3-15*, in scrub-growth. Rashab, Tista Valley, 4,500′, 15-3-20*, in bamboo forest.

Eight specimens examined and compared with four Assam skins:

♂ Bill from feathers at base 9·5-10, av. 9·6; wing 47·5-50, av. 48·4.

♀ " " " " 10, av., 10; wing 46-48·5, av. 47·7.

These females show a tendency to have a slightly stronger bill, which is the reverse case in my specimens of *Tesia cyaniventer*.

125. The Scaly breasted Wren. Pnœpyga squamata (Gould).

Blanford records it from northern Sikkim at 9,000′. It occurs in limited numbers from *5,000′-10,000′ on the Outer Ranges* according to season. Obtained in the *Tista Valley at 3,000-5,900′*, (G.E. Shaw). Resembles a small rodent as it searches the ground in quest of food, most fearless, as on occasions it may come up to one's feet; neither is it easily dislodged from the crevices in which it takes shelter when approached, in this respect is similar to *Troglodytes nipalensis*.

Six specimens examined:
♂ Bill from feathers at base 10-11, av. 10·8; wing 58-63, av. 61·5.
♀ „ „ „ „ 10-11, av. 10·5; wing 59·5-62. av. 60·8.
The tertiaries in five adults are tipped with fulvous as in *P. pusilla*, a character of no consequence in discriminating between the two species; the difference in size being, however, quite sufficient for this purpose.

126. The Brown Wren. Pnœpyga pusilla Hodgs.

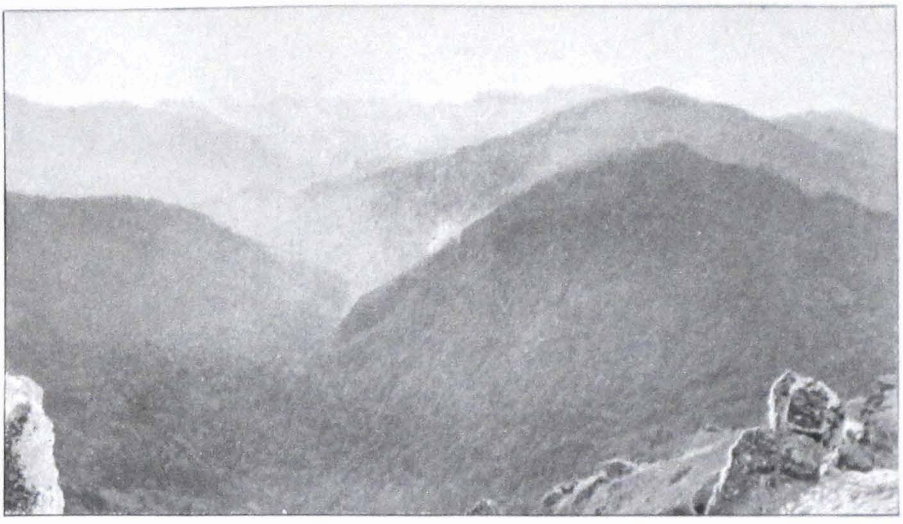
Sparingly distributed from the *base of the hills up to an elevation of 6,500′* or thereabouts; there is an overlapping to some extent in the breeding range of both this Wren and its near ally. Obtained on the Semana-Mirik Ridge at 6,250′, 18-2-18, and also on Tonglo (C. M. Inglis) at 10,000′, most likely a straggler, Gopaldhara, 4,700′, 28-2-21*. 5,500′, ♂ 14-4-21. Bhotan Ghat, Raidak River, Eastern Dooars, ♀ 20-1-22. Obtained at Mangpu at 3,600′, (G. E. Shaw).
Two specimens examined: ♂ Bill from feathers at base 11; wing 53.
♀ „ „ „ „ „ 9.5; wing 49.
In these two adults, "correctly" sexed, ♂ testes in advanced development; the usual distinguishing character in colour between the two sexes is reversed: the whole of the lower plumage in the male being fulvous, while the female is in the pale phase, which is regarded as the normal coloration of the male. All specimens, if sexed with absolute certainty, will eventually help to solve this interesting problem.

127. The Himalayan Goldcrest. Regulus regulus ~~himalayensis Jerd.~~ sikkimensis Meinl. Bom. B.O.C. v. XLVI. P. 97. April 1926.

Sparingly distributed on the *Singile La Ridge during the winter at 10,000′. In the interior* of Sikkim occurs at this period of the year at *9,000′ in the bed of the valleys*, and though by no means numerous, is apt to be overlooked, or its identity mistaken if intermingled with *Phylloscopi*. Tonglo, 10,000′, Nepal side of the Frontier, ♂ ♂ ♀, 25-1-12, the only occasion on which the Goldcrest was observed; these three birds were keeping up a lively commotion during a bright afternoon amongst the flowers of a stunted tree (*Daphne cannabina*). Lachung, 9,500′, ♂ ♂ ♀, 7-3-20, secured out of a party of eight to ten individuals accompanied with Cole-Tits: *Parus ater œmodius* and *P. rufonuchalis beavani*, in light mixed tree-growth, Larch predominating, below the main belt of the Pine forests.
Five specimens examined:
♂ Bill from feathers at base 7-7·5, av. 7·3; wing 56-58, av. 57.
♀ „ „ „ „ „ 7, av. 7; wing 54-55, av. 54·5.
Soft parts: Iris, brown; bill, black; tarsus, brownish-ochreous; toes and claws, paler ochreous.

128. The Fire-cap. Cephalopyrus flammiceps (Burton). B.O.C. Vol. XLV.

Evidently locally distributed and by no means numerous, if indeed not actually rare. Obtained on four occasions in the Tista Valley at elevations of from 3,400′-3,700′, 16-23-2-19; 3,850′, 23-2-18. (G. E. Shaw).
Rungpo, Tista Valley, 1,250′, 19-2-20*. A party of twelve to fifteen counted at rest on the naked branches of a shade! tree near the road-side on the Sanko-khola road. On their taking flight they were more like Munias or Finches. I observed them very carefully at close quarters under a powerful glass and could hardly have made any mistake. So far I have failed to meet with it around Gopaldhara, and it may only be confined to moderate elevations in the Tista Valley. It is represented from Sikkim in the B. M. Coll. by 3 ♂ ♂, February and March.
Acrocephalus agricola sub-sp. nov.
Acrocephalus stentorea sub-sp. nov.

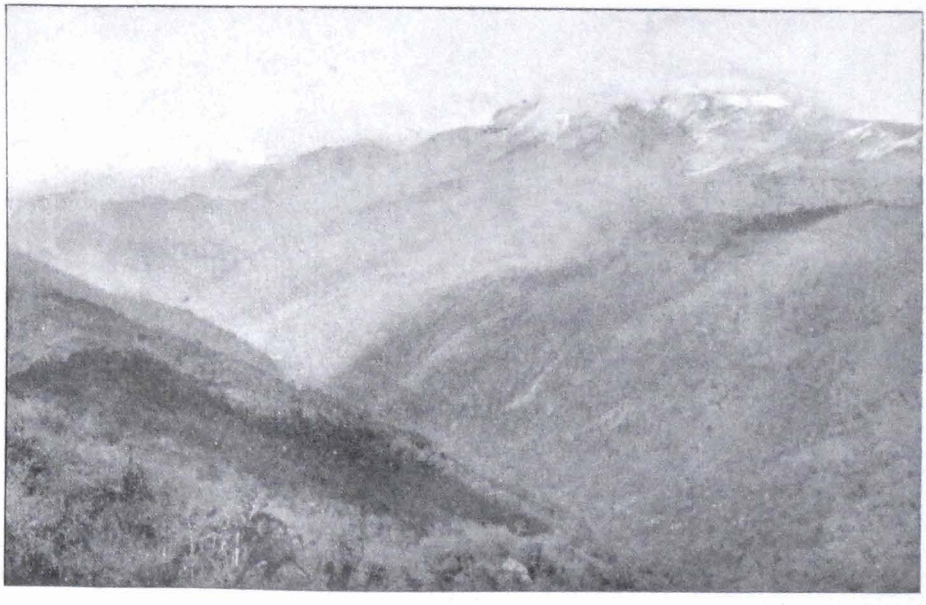


H. S. Photo.

VALLEY IN NEPAL, below Phalut. February, 1912.

H. S. Photo.

TONGLO, near the summit level of 10,074'. January, 1912.
Haunts of *Urocissa flavirostris*, *Nucifraga hemispila*, *Trochalopterum affinis*, *Ixops nipalensis*, *Yuhina gularis*, *Fulvetta vinipecta*, *Phœnicurus schisticeps*, *P. frontalis*, *Perissospiza icteroides affinis*, *Pyrrhula erythrocephala*, *Carpodacus rhodochroa*, *Callacanthis burtoni*, &c., &c.



H. S. Photo.

MAI ("KHOLA") VALLEY, East Nepal, from Kalo Pokhari.
Rhododendrons in bloom. April, 1912.

In my "Notes on the Birds of Upper Assam," B. N. H. S. Vol. XXIII, page 247, I recorded the first-mentioned Reed-Warbler under the typical form. The winter migrants to Assam have been considered to be the eastern race "*concinens*" (Swinh.). In recent years a breeding bird has been described from (1920-Kaghan) North-west India, *i.e.*, "*haringtoni*" Witherby.

I have made a further examination of my Assam skins and eggs, which has resulted in an interesting discovery that there are two races of *Acrocephalus* breeding on the "churs" of the Subansiri River in Upper Assam; the larger bird is a race of "*stentorea*" and the smaller bird is a race of "*agricola*." Specimens obtained in January at Gogaldhubie, ♂ 10-1-05, wing, 60. Boduti, ♂ 13-1-11, wing, 57·5. In both specimens 1st primary, 12, "narrow." These birds are paler on the underside compared with specimens from Hossamara obtained in April which have a decided rufous tinge on the underside, ♂ 11-4-15, wing, 53, ♂ 9-4-05, wing, 49·5. 1st primary, 11-12·5, "wider" than in the two former specimens; these latter can only be breeding birds, the difference in the wing formula is significant. I expressed my surprise when, having noted this Reed-Warbler as particularly numerous in April, I failed to meet with it in December of the same year. This is not remarkable but at the time was not rightly understood, as the birds were evidently absent from their breeding haunts in the winter. Undoubted *Acrocephalus* eggs have been laid aside during my long residence in the east and it is only recently that I have been able to verify my contention that breeding birds of two races of *Acrocephalus* did exist in the Plains of Upper Assam. Whilst my skins are deficient in number; seven clutches of eggs have been examined.

Dr. Hartert gives the wing measurement of "*concinens*," as somewhat shorter than typical "*agricola*" which is stated ♂ ♀ 55-60·5, "*haringtoni*" ♂ 56-58, ♀ 54-58.

The habits of *A. agricola* are said to be "very aquatic." I only found this to be the case with the bird obtained in the "cold weather."

Contradictory data in respect to the habitat of this species and also *A. dumetorum* which also occurred during the winter, puzzled me considerably. I found *A. stentorea* a terrible skulker but at the nesting time the birds might almost be said to breed in colonies as all my eggs came from a limited area.

My *cold-weather migrants* have the 2nd primary between the 6th and the 7th, which is the wing formula for *typical A. agricola*, whereas the 2nd is equal to the 10th in the breeding bird and in this character is nearest to *A. concinens*. Mr. E. C. Stuart Baker has described this race as *stevensi*†, and after comparing 60 eggs of *A. s. brunnescens*, av., 22·7×15·9, with the eggs of the "dark" breeding race of *stentorea* in Assam, which are darker, more brown and less green, 20 eggs average 19·6×15, has named this race *amyæ*, wing, 83, in honour of my wife. The type specimens of these two new *Acrocephali* have been presented to the British Museum.§

Soft parts in "*agricola agricola*," (January): Iris, olive-brown; bill, upper mandible and tip of lower mandible blackish-horny, remainder horny-white; tarsus, brownish-horny. "*agricola stevensi*," (April): Iris, olive-brown; bill, upper mandible blackish-horny, commisure line pale, lower mandible, horny, darker towards tip; tarsus, brownish-horny.

129. The Turkestan Grasshopper-Warbler. Locustella nævia straminea (Severtz.).

Recorded for Native Sikkim: a specimen having been procured in June which is an immature bird collected in 1876 and represents the Sikkim material in the National Collection.

† Represented in the B. M. Coll. by other specimens from the Bramaputra "churs" collected by Godwin-Austen.

§ Descriptions in the Bulletin B.O.C. Vol. xliii, No. cclxxi, pp. 16 & 17.

130. The Spotted Bush-Warbler. Tribura thoracica (Blyth).

Mandelli is mentioned in Hume's "Nests and Eggs" as having obtained it on three occasions, breeding in July at Yendong ? (Tendong) and Gammie on one occasion near Rungbee in June at 5,000′, a specimen in the B. M. Coll., is dated 15-6-75, female snared on the nest and probably refers to this record. There are other six specimens collected in every month from February to June and one in November and also a single specimen from the Bhotan Dooars, February, 1876, all of which are Mandelli's skins. This material has furnished Oates with its status as a nesting species and occurring up to 9,000′. It has in recent years been obtained on Phalut in the summer. (C. M. Inglis).

131. The Brown Bush-Warbler. Tribura luteoventris (Hodgs.)

Recorded under *Tribura mandellii* for Sikkim (February to May). Represented in the B. M. Coll. by Hodgson's specimens from Nepal and Mandelli's specimens from the Bhotan Dooars and Native Sikkim, from which last area there is one, dated June 1874. Mr. C. M. Inglis has obtained it on Phalut in the summer and this was apparently the species I saw at Lachung at 9,000′ on the 28-2-20*, unfortunately none were secured out of the small party, of which an odd bird or two were noted on this single occasion, as they were on the move in and about some scanty vegetation, and could have hardly been *Suyas* at this elevation in the winter, although they appeared to be a sedentary species to the valley.

132. The Indian Tailor-bird. Orthotomus sutorius sutorius (Forst.).

At the foot of the hills, this Tailor-bird frequents light, open forest, but does not penetrate the forest-depths. Resident up to 4,720′ in the Rungbong Valley, an odd pair or so frequent the compound of the Gopaldhara Bw. and may be seen either in winter or summer. Obtained around Mangpu at 3,600′, (G. E. Shaw) above the Tista Valley, where formerly Gammie obtained it. Gangtok at 5,800′ and lower, 21-2-20*, it was much in evidence to judge by its high-pitched note, yet not actually observed in the dense scrub-growth which it was frequenting. Gopaldhara, 4,500′, 28-5-23. Three fully-fledged youngsters almost ready to leave the nest.

133. The Black-necked Tailor-bird. Orthotomus atrogularis (Temm.)

Its distribution is stated as Lower Ranges of the Himalayas from the Rangit River in Sikkim to the Dhansiri Valley, Assam. It is somewhat remarkable that all the specimens I have procured at the base of these hills have all been *O. sutorius* and I have singularly failed to meet with it anywhere along the foot-hills of the Eastern Himalayas. The only locality in Upper Assam where it occurred was above Margherita to the east, and Mr. E. C. Stuart Baker informs me it had a habitat distinct from *O. sutorius* being confined to the forest and not found in the open surroundings.

As I could only find the Dhansiri Valley specimen in the B. M. Collection, I requested Mr. N. B. Kinnear for information and he reports that this species is not represented from west of Assam. In view of this fact it certainly seems as if the recorded distribution will have to be altered and this Himalayan portion of its range eliminated, notwithstanding Mandelli is said to have obtained its nest and eggs near the Great Rangit River.

134. Franklin's Wren-Warbler. Franklinia gracilis (Frankl.).

Recorded as "ascending the Himalayas to considerable elevations, and specimens as having been collected at Darjiling and in Native Sikkim." I have no record of this Wren-Warbler in these hills, which commonly occurs at plains-levels. Mr. G. E. Shaw has obtained a *Franklinia* in the Tista Valley at elevations of from 2,000′-4,000′ which he puts down as *F. rufescens* and I observed at Gitingy, 1,100′. 12-2-14*, a party of eight to ten birds on the maidan above the Mahanuddi, which I considered were also this same species. I doubt very much if this bird or any other member of this genus ever "abandons its accustomed haunts on the approach of winter" as these birds are strictly sedentary. It is more likely that all the specimens that Oates went through, came from the valleys in Sikkim.

This remark has no reference to its distribution in the North-West Himalayas. This genus appears to be in an unsatisfactory state, both in regard to the characters, habitat and distribution of each species. My notes can only serve to draw attention to the difficulties with a view to the ultimate clearing up of several knotty points which seem to me obscure.

In the Bhotan Dooars, January 1922, there occurred two species of *Franklinia* in small parties occupying distinct habitats. The bird I regard as *F. gracilis* was only to be found in the more open country, frequenting scrub-growth in the dried-up beds of the river channels, outside of the heavy forest, about two miles south of Bhotan Ghat on the Raidak River, 29-1-22, ♂ Bill from base 14, wing 46. 29-1-22, ♀ Bill from base 13·5; wing 44.

Soft parts: Iris, ochreous-brown; bill, blackish-horny; tarsus, ochreous-fleshly; claws, pale horny-black.

Coloration.—Upper surface dark rufous, the tail tipped with white; which character appears to be constant in this species, yet the bills in both these two specimens are stronger than any of the following birds from Assam which have been measured for comparison.

Upper Assam, Dibrugarh District, Margherita. (Base of the hills to the east). 23-11-03, ♀ Bill from base, 12; wing, 44. In coloration agrees with the two former specimens.

Rungagora, (Plains), 6-4-03, ♀ Bill from base 12; wing 42.

Rungagora, (Plains), 13-4-03, ♀ „ „ „ 11·5; wing 43.

North Lakhimpur, Derpai, (Base of the hills to the west), 21-3-05, ♀ Bill from base 12; wing 42.

Coloration.—Upper surface a drab ashy, which is evidently the normal breeding plumage.

Dejoo, 15-6-04, ♂ Bill from base 12; wing 48·5.

Dejoo, 3-7-04, ♂ „ „ „ 12·5; wing 48.

Dejoo, 16-7-04, ♂ „ „ „ 12·5; wing 48.

Dejoo, 4-8-04, ♀ „ „ „ 12; wing 45.

Coloration.—These four specimens are in worn breeding garb and show the well-defined ashy band on the breast.

Dejoo, 22-6-04, ♂ Juvenile, Bill from base 11; wing 43.

Dejoo, 12-8-04, ♀ „ „ „ „ 11·5; wing 44.

No use for comparison, being young birds which have not long left the nest.

Coloration.—Pale ashy-rufous on the upper surface, below, white on the throat to breast, pale rufous on the belly; "tips to tail white."

Dibrugarh District, Rungagora, 16-1-03, ♀, Bill from base 12; wing 42.

Rungagora, 16-1-03, ♀, Bill from base, 12; wing, 41.

North Lakhimpur, Dejoo, 28-11-10, ♀, Bill from base 12; wing 44.

Soft parts: Iris dark ochreous-yellow or dark straw-yellow.

Coloration.—These last three specimens have the upper surface tinged with rufous and to a less extent on the flanks; the tips to the tail are white. There is no dark head as is said to be present in *F. rufescens*, and though the tarsi are darker; the bills are not a defined black, as is said to be the case with *F. gracilis*. All the same I consider them to be in a stage of plumage which appears to be referable to this species.

135. Beavan's Wren-Warbler. Franklinia rufescens (Blyth).

Bhotan Ghat, Raidak River, Eastern Dooars, 26-1-22, ♂ ♂ Bill from base, 13·5-14; wing 45-45·5. Obtained out of a small party in light undergrowth, inside the fringe of the heavy forest at the base of the hills.

Soft parts: Iris pale brown; bill horny-black, edge of the lower mandible pale; tarsus fleshy-white; claws horny.

These specimens appear to be referable to *F. rufescens*. The crown is slightly darker than the back in one example, but with the exception of the fulvous tips to the tail approach in their bright rufous coloration the last three specimens of *F. gracilis*. Oates makes this species to have a smaller wing and a larger bill than *F. gracilis*. There is no appreciable difference in any of these characters as compared to the birds recorded under *F. gracilis* obtained three days later in a different habitat; apart from the head, the rest of the plumage shows a marked resemblance to *F. cinereocapilla*. Apparently *F. rufescens* is more of a hill-species, and appears to have a restricted range along the base of the hills, and *F. gracilis* while extending right up to the foot of the hills and possibly in the valleys shuns the well-wooded tracts. The exact distribution of the two species from correctly identified specimens is desirable.

136. Hodgson's Wren-Warbler. Franklinia cinereocapilla (Hodgs.)

This Wren-Warbler occurs sparingly at the bottom of the Rungbong Valley and below Gopaldhara at an elevation of from 3,500′-4,500′. One secured on the 20-12-11, and a pair observed at 3,550′ on the 4-7-16* in a thicket of reeds.

Blanford noted this species from Sikkim, yet Oates regarded his description as agreeing with *F. rufescens*. In my single specimen, I can detect no band behind the eye dark bluish-ashy, which colour is confined to the crown and nape, while the forehead is rufous, the supercilium is pale fulvous: broad in front of the eye, narrowing posteriorly over the ear-coverts which are dark fulvous; immediately in front of the eye is a dark spot on the lores. A minute description is very essential in the differentiation of the characters of the head in these *Franklinias*. The seasonal changes are difficult to follow, as the colour differences do not lend to easy description.

137. The Thick-billed Warbler. Phragomaticola æedon (Pall.).

Recorded for Sikkim, both British and Native. With the exception of two observations which are doubtful as no specimens were secured I have nothing on record respecting this Warbler which I knew as a cold-weather visitor to the Plains of Upper Assam. Gopaldhara, 4,720′, 28-9-16*, a bird came to my Kitson moth lamp at night which seemed to be this species. Turzum, 4,800′ 18-1-12,* seen in "the tea" yet not near enough for a certain identification. Represented in the B. M. Coll. by three September and October specimens collected in 1876.

138. Tickell's Willow-Warbler. Phylloscopus affinis (Tick.).

Recorded "breeds high elevations in the Himalayas."

Only occurs *sparingly on migration at moderate elevations*. My observations have been extremely limited in regard to this Willow-Warbler.

Gopaldhara, 4,720′, 9-4-17′, one obtained. Chungthang to Toong at 4,500′, approx. elevation, 12-3-20*, a few noted in the valley at one locality only. Blanford met with it in the Lachen and Lachung Valleys at 8,000′-9,000′, but none before the 26th September. Recorded up to 15,200′ in Tibet. (Walton).

139. The Smoky Willow-Warbler. Phylloscopus fuliginiventer (Hodgs.).

Recorded for Sikkim "14,000′, Blanford," and merely noted in the months of "February to June, Mandelli." I have failed to meet with this Willow-Warbler, which commonly occurred during "the cold weather" in the Plains of Upper Assam. Oates states this species to be resident and is evidently quoting Blanford in reference to the specimen obtained on Momay Samdong in rhododendron scrub.

140. The Dusky Willow-Warbler. Phylloscopus fuscatus fuscatus Blyth.

Recorded distribution "Found in Nepal"; probably in summer, and in Sikkim certainly at that season if we identify with this species the bird of which Jerdon found the nest at Darjiling in July. Hodgson's *Horornis fulviventris* is undoubtedly this species as proved by his types (No. 878) in the British Museum, and Jerdon identified his Darjiling specimen with *H. fulviventris*." It seems unaccountable that I have totally failed to locate a single specimen of this Willow-Warbler in these hills. I found it just as common in the Plains of the Eastern Dooars in "the cold weather," 1922, as it was at the same time of the year in the Plains of Upper Assam. They evidently either enter the plains to the east, or pass over the outlying hills during migration.

An examination of my material is detailed.

Upper Assam. (Plains).

Dibrugarh District.—

Rungagora.

♂ 25-1-03, wing 61·5; tail 46; 1st primary 20, (Dibru River), "very aquatic" noted on label.

♂ 15-10-03, wing 63; tail 45.5; 1st primary 20·5.

♂ 28-2-04, „ 59; „ 47; „ „ 21·5.

♂ no date, „ 63; „ 46; „ „ 22.

North Lakhimpur. Hessamara.

♂ 4-1-06, wing 63; tail 48; 1st primary 21.

Derpai.

♂ 14-3-06, wing 60; tail 48; 1st primary 21.

Dejoo.

♂ 15-3-10, „ 61; „ 48; „ „ 19·5.

Dibrugarh District—

Rungagora.

♀ 27-4-03, wing 59; tail 46; 1st primary 18

♀ 3-5-03, „ 58; „ 45; „ „ 18.

♀ 4-5-03, „ 56·5; „ 44; „ „ 18.

♀ 4-5-03, „ 56·5; „ —; „ „ 18.

Dejoo.

♀ 28-9-10, wing 56, tail 44; 1st primary 18.

Eastern Bengal. (Plains.)

Jalpaiguri District.—

Kumargram.

♂ 9-1-22, wing 63·5; tail 50; 1st primary 19.

♀ 9-1-22, „ 57; „ 45; „ „ 19.

These two latter specimens are more "dusky-olivaceous" than skins from Upper Assam with a "russet-olivaceous" tinge over the whole of the upper surface. Dr. Hartert gives the measurements of "*fuscata*": ♂ wing 60-66; ♀ 53-58, ♂ tail 53-58, ♀ 48-50; tarsus 20-22; culmen 12-13·5.

There appears to be more than one species amongst the above-noted cold-season? specimens, though it is impossible to discriminate. I could never understand why this bird should remain in the plains of Upper Assam into May. I have recorded *fuscata homeyeri* (Dyb.) up to as late as the 22nd of May. It is well known that the birds of this humid climate have the tendency to exhibit a dark phase of plumage, and I shrewdly suspect a breeding Warbler will eventually turn up in the Plains. Against this conjecture is the fact that birds which have to accomplish a long journey to the far north invariably are late starters.

What was Oates's reason for stating "*fuliginiventris*" to be a resident species? a somewhat similarly coloured bird to "*homeyeri*," both of which occurred in a similar habitat in Upper Assam. It is to be presumed, he had seen specimens from the plains at even later dates than what I have recorded, unless his remark has no connection with the birds obtained in "the cold weather" at low elevations and only refers to Blanford's single specimen from 14,000′, which would still be a contradiction.

141. The Grey-faced Willow-Warbler. Phylloscopus maculipennis (Blyth.).

Obtained on the Outer Ranges at Gopaldhara at as low an elevation of *3,700′* 27-2-19, up to an altitude of *10,160′*, at Kalo Pokhari, 28-4-12. In the interior obtained at an elevation of 4,600′, around Singhik, 23-2-20, and around Lachung, at 8,900′, in the first week of March 1920, at which time it *ranged the highest of all the Willow-Warblers.* Commonly occurs around Gopaldhara at 4,700′ and upwards, during December and January. Obtained on the Ghoom to Sookia Pokhari Ridge at 7,000′, 19-1-12. On Jalapahar at 7,500′, 14-2-20. Numerous in the station of Darjeeling during January and February. A series collected in the Mai "Khola" in East Nepal at 9,000′ and below, during April 1912.

Thirteen specimens examined:

♂ Wing 48-51, av., 50; ♀ 45-48, av., 46·8.

142. The Orange-barred Willow-Warbler. Phylloscopus pulcher Blyth.

Recorded as a "resident where found and procured up to 13,000′, Cho La Range (Blanford), in Sikkim." Obtained as low as *3,900′* at Thurbo on the 2-4-11, and at 4,720′, at Gopaldhara, 8-3-21 in the Rungbong Valley. The former record is evidently a late straggler, as a few birds were also obtained at *10,160′* around Kalo Pokhari on the 12-4-12; but it was more numerous in the Mai "Khola" in East Nepal at lower elevations, 7,000′-10,000′, March and April 1912. Plentiful around Gopaldhara at 4,720′, November to February. *It can by no means be regarded as a resident as it performs an altitudinal movement.*

Fourteen specimens examined:

♂ Wing 54-61, av. 57·4; ♀ 55-58, av. 56.

143. Pallas's Himalayan Willow-Warbler. Phylloscopus proregulus newtoni (Gätke).

Occurs commonly around Gopaldhara from 3,500′, 30-1-19, up to 5,800′, 5-4-21. Obtained at all intermediate elevations, December to March, also obtained at the foot of the hills at Bhotan Ghat, Raidak River, Eastern Dooars, in January

1922. Mangpu at elevations of from 3,500′-4,000′, (G. E. Shaw). This Willow-Warbler is *confined to moderate elevations only as a breeding species.* Blanford records obtaining two specimens in Upper Sikkim at the end of September and the beginning of October.

Ten specimens examined : ♂ Wing 50-53, av. 51·7 ; ♀ 46-50, av. 48 ; one ♀ 5-4-21, actually has a wing of 55 ; this abnormal specimen has not been included. (Assam) skins for comparison. Seven examined : average, ♂ wing 54; ♀ 50·5.

Soft parts : Iris hazel-brown ; bill, upper mandible dusky, lower mandible ochreous, dark at tip ; tarsus dusky-ochreous ; soles ochreous.

144. The Crowned Willow-Warbler. Phylloscopus inornatus inornatus (Blyth).

A series of four ♂♂, ♀♀ collected at Bhotan Ghat on the Raidak River Eastern Dooars, at the foot of the hills, 20—26-1-22.

Nurbong, below Tindharia at 2,240′, ♂ 22-2-14. Thurbo, 3,900′, ♂ 2-4-11. 4,300′, ♀ ♀23—25-3-11. Gopaldhara, 3,700′, ♀27-2-18. 4,000′, ♀7-2-19. 4,720′, 3 ♀ ♀19—23-12-11, ♂♂14-12-19, ♀9-3-18, ♂ ♂22-3-16. 4,650′, ♂8-2-19. 4,720′, ♀9-3-18, give the zonal distribution of this Willow-Warbler during January, February and March ; some of the late records in March and April refer to stragglers in partial moult, exhibiting a drab phase of plumage. This Warbler is absent around Gopaldhara during "the rains" and probably retires to breed in the vast regions north, as I have failed to meet with it at higher altitudes. Obtained around Mangpu at elevations of from 3,500′-4,000′. (G.E. Shaw).

Eighteen specimens examined : ♂wing, 56-60, av., 57.7; ♀ 51-57, av., 54.

The 1st primary varies in length and breadth measuring in 8♂ ♂, 11-15, av. 13·5, and in 11 ♀ ♀, 10-14·5, av. 11·8. There is also some individual variation in the depth of tone in coloration which seasonal change does not seem to account for ; also it may be remarked on the wing-bar across the greater coverts, the spots sometimes show as well-defined and deeper coloured blobs, seeming to indicate a sign of immaturity, as the lengthening of the inner feathers in growth causes this bar to assume a more oblique position. It is similarly the case with other members of the genus.

Soft parts : Iris hazel ; bill, upper mandible and tip of lower mandible dusky-yellow (dark olivaceous), deeper in yellow tone at base of lower mandible (pale olivaceous) ; tarsus and claws dark olivaceous (brownish-olivaceous) ; soles yellowish.

This Willow-Warbler is not recorded for Sikkim. My specimens are certainly this typical form. Until the type specimen of *P. inornatus mandellii* (Brooks.) has been compared and its correct status confirmed, it is quite impossible to define its distribution, even though it is recorded for Sikkim and the Khasi Hills. Judging from the original description ; the "buff" supercilium seems to be the only reliable character for differentiation. Brooks infers it is likely to be resident. The clearing up of this matter which at present is very obscure, is most desirable.

In working out several difficult groups of Warblers, Chats, &c., I have had the advantage of Mr. Arthur Goodson's experience and knowledge.

145. The Greenish Willow-Warbler. Phylloscopus nitidus viridanus Blyth.

Recorded as distributed throughout the whole length of the Himalayas—Hazara country to Sikkim. I have no personal information of its status in these this, having totally failed to locate it. Mr. G. E. Shaw has also failed with hills species and the two following species.

One ♂ from Kumargram in the Plains of the Jalpaiguri District, Eastern Bengal, collected on the 9-1-22 in open-cultivated country, is referable to this Willow-Warbler. This specimen is "in moult" ! Bill from feathers at base, 9; wing, 61.

Unfortunately this race is poorly represented in the B. M. Coll. from the Eastern Himalayas, and Sikkim appears to be east of its main distribution area; there is one specimen collected by Mandelli in May 1876 and one specimen labelled, Darjeeling, 15-1-79, *ex.* Coll. E. W. Oates, probably one of Mandelli's skins, also one specimen *ex.* Hume Coll., Nepal, no data, and one specimen, Nepal Valley, 23-4-77, collected by Scully. Osmaston has recorded this bird breeding in Skkim, Ibis, Vol. XIV, page 816.

146. The Large-billed Willow-Warbler. Phylloscopus magnirostris Blyth.

Recorded in summer "Himalayas:—Kashmir to Sikkim." I have no record of this Warbler in these hills; it must be of rare occurrence, and it is remarkable that "*Acanthopneuste*" should only be represented around Gopaldhara by "*trochiloides*." As the wing measurement overlaps in this species with "*lugubris*," correctly sexed specimens are essential, despite the different wing formula:—2nd primary between the 7th and 8th or between the 6th and 7th, taken in connection with the stronger bill ought to be sufficient for identification. Wing, ♂ ♀ 62-72. (Hartert). Mandelli's specimens in the B. M. Collection are few, but there is an undoubted specimen collected in August 1880, which might, however, have been obtained in the higher regions beyond the actual boundaries of Sikkim.

147. The Dull Green Willow-Warbler. Phylloscopus lugubris (Blyth).

Blanford found this Warbler at 12,000′-14,000′ on the Cho La Range and at 10,000′-13,000′ or 14,000′ in the Lachung Valley in the autumn.

As there are *two races or even species occurring in the Eastern Himalayas*, I have gone into some detail with a view to elucidating further evidence as to their identity and status. Singile La Ridge, Nepal-Sikkim Frontier, Kalo Pokhari, 10,160′, 21-4-12. This morning I came across a small party of these birds on arrival at their breeding haunts; they had ascended from the valley below, on the Sikkim side of the frontier. It is necessary to mention this fact, as this valley is densely wooded, and if these birds had not been wintering in the bottom of the valley, they must have entered the hills by way of the Tista and Great Rangit Valleys, as the stream which had its rise in the "pokhari" runs into the Lodhoma River, which again is a tributary of the Rammam River; all these waters flow into the Great Rangit River and find their outlet to the plains by the deep gorge of the Tista. I have never come across this Warbler wintering in the valleys or at moderate elevations, and it is somewhat curious such an apparent, roundabout route should be chosen when the Mai Valley offered free access from the south, except perhaps for a deficiency of forest at its upper limits where the land has been partially cleared; this might have been a deterrent to an easy ascent as these birds had certainly worked up with the forest. The most feasible explanation appears to be one more instance of penetration into these hills, but in this instance, that of a migratory species by a route which is well marked. All specimens obtained on this occasion were males, and it is evident this sex arrives ahead of the female; two other ♂ ♂ were obtained on the 27-4-12 at elevations of 9,000′ and 10,000′ respectively, making a total of five secured. I never met with it anywhere else along this ridge. The first and only female secured, being snared on the nest on the 22-5-12. Nest composed of moss and fine bents lined with a few feathers and the hair of some small

rodent, probably *Microtus sikkimensis*? common hereabouts. It contained three pure white eggs measuring 16·2×12·6, 16×12·7, 15·5×12·4 mm.

SERIES A.

Six specimens examined:

10,160′, ♂ 21-4-12. Bill from base 13, from feathers 9; wing 64; tail 49; 1st primary, 19; 2nd primary equals the 9th.

♂ Bill 12·5 and 8; wing 65; tail 49; 1st primary 18; 2nd between the 8th and 9th.

♂ Bill 13·5 and 9; wing 66; tail 49; 1st primary 19·5; 2nd equals the 10th.

9,000′, ♂ 27-4-12. Bill 13 and 9; wing 64; tail 49; 1st primary 17; 2nd equals the 10th.

10,000′, ♂ 27-4-12. Bill 14 and 9; wing 65; tail 49; 1st primary 18; 2nd equals the 9th. Average male wing measurement, nearly 64·9.

♀ 22-5-12. Bill from base, 12·5, from feathers 8·5; wing 58; tail 46; 1st primary 16; 2nd equals the 10th.

During a month's sojourn in the Eastern Dooars I found a Warbler, the exact counterpart of the former birds, differing remarkably in size. It was more plentiful in the open, cultivated country of the plains, frequenting the bamboo "baris" around the huts of the villagers, than it was in the heavy forest outskirts, in both of which localities I obtained specimens, but failed to make the most of my opportunity, as I merely put them down to "*lugubris*." The differences have only been brought out by comparison. This has necessitated an examination of my Assam material.

SERIES B.

Kumargram, (Plains) Jalpaiguri, Eastern Bengal.

(*a*) ♂ ad. 9-1-22. Bill from base 13, from feathers 9·5; wing 59; tail 45; 1st primary, 17; 2nd equals the 10th.

Bhotan Ghat, (Base of Hills) Eastern Dooars.

(*b*) ♀ ad. 22-1-22. Bill from base 12, from feathers 9; wing 55; tail 41; 1st primary 16; 2nd equals the 10th.

Gauhati, (Plains) Lower Assam.

(*c*) ♂ ad. 12-2-12. Bill from base 12·5, from feathers 8; wing 59; tail 42; 1st primary, 18; 2nd equals the 8th.

In all three examples the greater wing-coverts are faintly tipped with greenish-white. The crown in the female is dark and only matched in this character by one male of the A series. Notwithstanding, No. (*c*) has a different wing formula, it appears to be nearest to this race. This specimen and the following five detailed below were recorded in my "Notes on the Birds of Upper Assam" under *P. nitidus plumbeitarsus* Swinh., and my identification is confirmed by others, owing to the presence of two wing-bars, which are either greenish-white or greenish-yellow. *This character appears to be present in birds-of-the-year in this form of P. lugubris*, whereas the tips of the greater wing-coverts in "*plumbeitarsus*" are often of a more defined white; these specimens agree in the general dark coloration with "*lugubris*", even if the wing formula does not in some examples.

SERIES C.

Rungagora, (Plains) Upper Assam.

♂ 16-9-03. Bill from base 13, from feathers 9; wing 58; tail 42; 1st primary, 19; 2nd equals the 10th.

Silonibari, (Base of Hills) Upper Assam.

♀? 30-8-11. Bill from base 13; from feathers 8; wing 58; tail 43; 1st primary 17; 2nd equals the 9th.

Dejoo, (Base of Hills) Upper Assam.

♂ 12-9-10. Bill from base 14·5, from feathers 9·5 ; wing 61 ; tail 44 ; 1st primary 19 ; 2nd between 7th and 8th. ♂ 11-9-10. Bill from base 13·5, from feathers 8 ; wing 60 ; tail 47 ; 1st primary 18 ; 2nd equals the 9th. ♂ Bill from base 12·5. from feathers 9 ; wing 59 ; tail 42 ; 1st primary 19·5 ; 2nd equals the 9th.

The arrival of this Warbler at the foot of the Hills and in the Plains of Upper Assam at the end of August and in the second week of September before the termination of "the rains" may or may not have any significance in reference to a short journey from their breeding grounds, but the small birds in Series B, I venture to surmise will be found to be a form breeding somewhere in the foot-hills with probably only a limited extension into the plains at the cold weather, and this may be the solution of the status of the birds in Series C, as these measurements average less than the birds in Series A, which are typical "*lugubris*", but here again these measurements are in excess of Dr. Hartert's. Wing, 59-62, seldom only 57, frequently up to 64·5. My shortest and longest measurement is 55 and 66 respectively, when birds from the combined areas are taken into consideration.

P. nitidus plumbeitarsus is very close to *P. lugubris.* The only reliable characters are the "whitish underside", "very pale on the throat."; the under wing-coverts and axillaries are brighter, the breast is generally stippled with yellow as occurs in "*trochiloides*" and a "finer 1st primary." Whilst the wing formula, 2nd between the 7th and the 8th, is fairly constant, some examples of "*lugubris*" are similar in this respect, as well as having the double wing-bar, but a difference in some of the before-mentioned characters will suffice to eliminate "*lugubris*" when a series is compared. In general, "*lugubris*" is coloured a more "dusky-olivaceous below and above", and sometimes has a darker head. When "birds-of-the-year" from Upper Assam are concerned, the difficulties are apparent, which is not the case with typical birds from Sikkim. "*Plumbeitarsus*" also appears to be a slighter bird which would be more obvious in life. *As there is such an appreciable difference in the size of the sexes in all the species of Phylloscopus, it is most essential that the measurements of each sex be stated separately.*

Blanford speaks of his specimens from the far interior at high elevations as having distinct whitish tips to the wing-coverts. These specimens may well have been "birds-of-the-year."

148. Blyth's Crowned Willow-Warbler Phylloscopus trochiloides (Sundev.).

Recorded in summer as having been observed in the Himalayas from Kashmir to Sikkim and as "probably wintering in the lower valleys of these parts." A series of four ♂ ♂, three ♀ ♀, obtained at Bhotan Ghat, (Base of the Hills) Raidak River, Eastern Dooars, 20—24-1-22. Gopaldhara, Rungbong Valley, Darjeeling, 3,750′, ♂ ♂ 2-10-19, 5,500′, ♂ 4-11-20. 3,500′, ♂ ♀ 25-3-11. 6,000′-♂ 25-3-20. Mai "Khola", East Nepal, 8,500′, ♂ 27-4-12, give its zonal distribution fairly accurately during the "cold-weather" months and towards the breeding season, as there is little doubt that it *breeds at 6,000′ and upwards.* I have since found the nest containing a juvenile cuckoo, June 1923, at 6,300′, above Seeyok.

Thirteen specimens examined :

♂ Bill from feathers at base 9-10, av. 9·2 ; wing 56-60, av. 58·6.

♀ " " " " " 9-9·5, av. 9·1. wing 55-58 ; av. 56·3.

Soft parts : Iris hazel (hazel-brown) ; bill, upper mandible dusky-yellow, lower mandible yellow or pale yellow; tarsus pale yellowish-plumbeous (yellowish-green) ; soles paler yellowish-plumbeous (deeper yellowish-green).

All these specimens have the two outer tail feathers slightly margined on the inner web with white.

I have not obtained this Warbler in the Interior of Sikkim. It is evidently *confined to the Outer Ranges* during the breeding season, descending to lower limits during "the cold weather."

149. The Allied Flycatcher-Warbler. Cryptolopha affinis (Horsf. & Moore).

Observed plentifully in the *Tista Valley* where it has been obtained up to *an elevation of 5,800′*. (G. E. Shaw). I have failed to locate it in the Rungbong Valley at anything approaching this elevation. All my records refer to *C. poliogenys*. It is somewhat a difficult matter to discriminate between the two species, even when observed at close quarters under good conditions.

150. The Black-browed Flycatcher-Warbler. Cryptolopha burkii burkii (Burton).

Apparently this Flycatcher-Warbler has the widest zonal distribution in comparison with the other members of this genus. Common on the *Singile La Ridge at 10,000′ in April and May.* Obtained in Nepal and Sikkim. Numerous records from 3,400′and upwards in the Rungbong Valley, and obtained as low as 2,000′ in the Tista Valley. (G. E. Shaw). There is every likelihood that it occurs at much lower limits during the cold-season, yet it is strictly not migratory, and it was observed on numerous occasions in the Eastern Dooars in January 1922. Obtained at Bhotan Ghat on the Raidak River, ♀ 24-1-22. Blanford obtained one specimen at Lachung on the 28th September.

Eight specimens examined:

♂ Wing 58-60, av. 59·2. ♀ 53-56, av. 54.

These measurements average slightly larger than a series of five specimens from Assam. ♂ Wing, 57-58, av., 57·7. ♀ 52-53, av., 52·5.

This difference is not surprising and might almost be expected, as more frequently than not, specimens of all these small and other Warblers which have been obtained at the extreme upper limits of their zonal distribution, have a tendency to show a larger wing measurement than other specimens obtained at lower levels, in species which merely move to some slight extent according to season.

151. Brooks's Grey-headed Flycatcher-Warbler. Cryptolopha xanthoschistos jerdoni (Brooks).

Hodgson speaks of this form and the typical bird as breeding in Sikkim and Nepal up to 6,000′ or 7,000′. It occurs commonly at *all elevations up to 5,000′* and obtained above Mangpu at 5,300′ (G. E. Shaw). Generally distributed over the whole area, and apparently the most plentiful of all the Flycatcher-Warblers.

A series of three ♂ ♂, eight ♀ ♀ Sikkim skins measure:

♂ Bill from feathers at base 7·5-8·5, av. 8; wing 52-55, av. 53·6.

♀ „ „ „ „ „ 7·5-8·3, av. 7·6; wing 50-55; av. 51·7.

In comparison a series of six ♂ ♂, two ♀ ♀ Assam skins measure:

♂ Bill from feathers at base, 7·5-8, av. 7·8; wing 48·5-54, av. 50·6.

♀ „ „ „ „ „ 7·3-8, av. 7·6; wing 47-50, av. 48·5.

One Bhotan Dooars specimen ♀ Bill from feathers at base, 8; wing, 49.

Sikkim birds on the whole certainly show more ashy-grey colour on the forehead, crown and nape in comparison with Assam birds which are typical in having these parts coloured blackish-ashy. The measurements, however, prove the former to be this race.

152. The Grey-cheeked Flycatcher-Warbler. Cryptolopha poliogenys (Blyth).

Occurs in moderate numbers around Gopaldhara at 4,700′ in the Rungbong Valley, and observed sparingly around Kalo Pokhari at *10,160′ on the Singile La Ridge in April and May.*

153. The Chestnut-headed Flycatcher-Warbler. Cryptolopha castaneoceps (Hodgs.).

Generally distributed at *all elevations up to 6,500′* at all events.

Apparently more plentiful from about 4,500′-6,000′. Obtained above Mangpu at 6,300′, (G.E. Shaw). Mai "Khola", East Nepal, 26-4-12; Gopaldhara, 4,720′, 3-11-20; 5,000′, 1-11-18. Namsoo, 2,100′, 13-3-14. A party of about fifteen of these birds amongst which was intermingled a small assortment of *Abrornis albogularis* and possibly an odd pair of *C. cantator*. Bhotan Ghat, Raidak River, Eastern Dooars, 23-1-22; obtained and observed on other occasions. It more often than not keeps to the leafy branches of the lofty trees, and does not frequent the lighter, yet denser vegetation, to the same extent as the other members of the genus.

Semana-Mirik Ridge, 6,000′-6,500′, May, June 1923. I found six nests in all containing both eggs, in one instance a single egg of *Chalcococcyx maculatus* along with the three eggs, one of which was broken, slightly incubated and forsaken on the 22nd of May and in other two cases, single juvenile cuckoos of this species, females, the sole occupants. On the second occasion I visited one of the latter nests at dusk; I was struck by the chestnut head being so prominent as to lead me to believe the parent bird was in possession.

Whilst it would be, perhaps, rash to hazard a guess that the majority of the eggs laid by this Cuckoo in this *Cryptolopha's* nest will prove to produce females and that the eggs laid, for instance in the nest of *Æthopyga saturata* will turn out to be males; yet it would only be in keeping with what we might expect of nature's harmonizing methods.

It builds in the dark recess of an overhanging bank, constructing the usual compact cup-shaped nest of moss, like its congeners, with the entrance more often than not facing the bank and opposing its main means of ingress and egress. Although its habits in nidification allow of careful concealment; there is little doubt it suffers depletion of its numbers and eggs through the wiles of snakes, when the brooding parent bird completely disappears with its charge.

The full complement of pure white eggs, ~~steel~~ transparent, is three.

A small party seen on the 13-6-23* were probably composed of the parents and young.

Four specimens examined: wing, 48-50, average, 49, which similarly compares with Assam specimens. The measurements show no appreciable difference between the sexes, which a large series would possibly refute.

Soft parts: Iris brown; bill, upper mandible dark horny, lower mandible pale horny; tarsus dusky-horny.

154. Tickell's Flycatcher-Warbler. Cryptolopha cantator (Tick.).

Mandelli obtained numerous specimens of this species which are in the National Collection, but it appears to be locally distributed, and only occurs sparingly at *moderate elevations.* Obtained on one occasion at Gopaldhara 3,500′, in the bottom of the Rungbong Valley, 25-3-11, ♀ Bill from feathers at base 9; wing 51.

155. The Yellow-bellied Flycatcher-Warbler. Abrornis superciliaris superciliaris Tick.

Confined to *low elevations* only. Great Rangit Valley, 18-2-20.*
Obtained up to an elevation of 3,300′ in the Tista Valley. (G. E. Shaw).

156. The Black-faced Flycatcher-Warbler. Abrornis schisticeps schisticeps (Hodgs.).

Generally distributed but far from common and with a *restricted zonal distribution.* Obtained around Gopaldhara up to an elevation of *5,800′*, apparently not to be found below *5,000′*, also obtained above Singhik at 5,200′, in the interior of Sikkim, 12-3-20, one ♂ secured ; several noted in a mixed party of *Cryptolopha, Periorocotus,* and in forest, on lofty trees. Gopaldhara, 5,000′, 26-2-19, ♂ testes enlarged ; shot out of a large party of mixed species of small birds, in heavy forest. 5,500′, ♂ 14-11-20, noted as a difficult optical task to distinguish between this *Abrornis* and *Chelidorhynx hypoxanthum* ; both of which species were mixed up with *Minla, Ixulus flavicollis* and other small Warblers ; the open tail and short flights of *Chelidorhynx* were of course distinctive and it was only when this trait in this Flycatcher was observable the Flycatcher-Warbler could be identified with certainty.

Three specimens examined :

♂ Bill from feathers at base 6·5 ; wing 48.

Soft parts : Iris red-brown of a defined tint ; bill dark ochreous-horny (pale brownish-horny),—a somewhat unusual colour for the bill in comparison with its near allies; tarsus olivaceous-horny (dusky-olivaceous) ; claws, similar.

157. The White-throated Flycatcher-Warbler. Abrornis albogularis albogularis Hodgs.

Only found at *low elevations* probably not exceeding 2,500′ or thereabouts.
Observed in the Great Rangit and Tista Valleys, also in the Balasan Valley, Namsoo to Panighata.

158. The Broad-billed Flycatcher-Warbler. Tickellia hodgsoni (Moore).

Observed and obtained on numerous occasions in the Rungbong Valley from *3,800′, July, to 6,000′, March,* and there is no doubt *these limits are exceeded in an upward direction.* Gopaldhara, 3,800′, 19-7-21 ;* 5,900′, ♀ 17-2-18 ; 5,800′, ♂ 6-2-21 ; 6,000′, ♂ ♀ 25-3-20,* in scrub-growth, every indication of their being about to nest, 4,200′, ♂ ♀ 10-10-17.* 3,700′, 14-4-23,* a pair in evidence. 5,800′, 24-5-23,* a pair in company with a mixed assortment of small birds.

This Flycatcher-Warbler has very much the same habits as Horornis. It keeps to the dense undergrowth, and though its high-pitched note and bright coloration is apt to cause it to be more easily located ; it is only on rare occasions, it may be observed to advantage. Due to this trait in its habits I have been entirely misled; as I had been under the impression all the birds that had come under my observation were *Phyllergates coronatus.* On comparing my Assam skins of the latter, it was then only apparent; as there is no likelihood of this Tailor-bird, which could only possibly occur in the foot-hills, ever being located at similar elevations. Had I only examined the bills of the few obtained, apart from my disinclination to shoot what I rightly regarded as a none too plentiful and interesting bird, my mistake ought to have been apparent; instead of which my interest has always been centred on the tops of the trees, wondering if ever I should be fortunate enough to locate one of the few rare birds whose whereabouts had so far baffled me. Even the field-ornithologist, left to his own resources, has his difficulties.

Two specimens examined :
♂ Bill from feathers at base 8·5 ; wing 47·5. ♀ Bill 10 ; wing 46·5.

159. The Aberrant Warbler. Neornis flavolivacea flavolivacea Blyth.

Dr. Hartert considers this Warbler congeneric with the four species to follow which are all included in the genus *Horeites*.

In common with other near allies, probably only breeding at high altitudes and descending to the valleys in the winter. The distribution as given by Oates is conflicting. Himalayas, 6,000′-10,000′, "breeds 3,500′-6,000 " and is evidently a mistake. Obtained near Kalo Pokhari in East Nepal at *10,000′*, ♀ 7-5-12. Bill from feathers at base, 10 ; wing, 54.5. Gopaldhara, Rungbong Valley, Darjeeling, *3,500′*, ♂ 13-2-19. Bill from feathers at base 10 ; wing 57. Well represented in the B. M. Collection, May, June, August, October-December (Mandelli).

160. Hume's Bush-Warbler. Horornis acanthizoides brunnescens (Hume).

Obtained near Kalo Pokhari, in East Nepal at *10,000′*, ♀ 29-4-12. Bill from feathers at base, 9 ; wing 50. Above Karponang, in the interior of Sikkim also at *10,000′*, ♂ 24-3-17. Bill from feathers at base 8 ; wing 52. On the latter occasion procured in dense "prong" bamboo thickets, a habitat similarly frequented by *Conostoma œmodius*. Well represented by Mandelli's Sikkim specimens in the B. M. Collection, January, February, April, November, but most without any data as to exact localities.

161. The Strong-footed Bush-Warbler. Horornis fortipes fortipes. Hodgs.

Occurs commonly around Gopaldhara, descending to the bottom of the Rungbong Valley in winter. Obtained at an elevation of 3,600′ in the Tista Valley, (G.E.Shaw), and also at Chungthang at 5,500′, on the 26-2-20 ♂, in dense bamboo-growth. Gopaldhara, 3,700′. 18-4-23, in evidence in a favoured locality, with its high-pitched, long-drawn-out note and a subsequent, short trill; otherwise difficult to locate as the few odd birds rarely showed themselves for anything but a brief interval. There is some individual disparity in size as the following measurements show :—

Four specimens examined :
♂ Bill from feathers at base 8·5-11, av., 9·8 ; wing 50-57, av. 54.
♀ „ „ „ „ „ 9 ; wing, 49.
Seven Assam skins for comparison measure :—
♂ Bill from feathers at base 9·5-10, av. 9·8 ; wing 50-56, av. 52.
♀ „ „ „ „ „ 10, av. 10 ; wing 48-53, av. 50.

162. Blanford's Bush-Warbler. Horornis pallidipes (Blanf.).

Recorded as "breeding in Sikkim, Ging and Lebong near Darjeeling, May to June." Represented in the B. M. (Hume Collection) by 8 Sikkim skins, March-May, August, 1875-79, (Mandelli). 2 skins May, 1875, (Tweedale Collection.) and 4 skins from the Bhotan Dooars, January and April, 1876-77. (Mandelli).

163. The Large Bush Warbler. Horornis major (Moore).

Recorded for Sikkim. " breeding high altitudes (Lachung) in July." Represented in the B. M. Collection by 13 specimens, April-June, August, October, November 1872-76 (Mandelli). 1 specimen L. A. Waddell and a ♀ 23-10-70. Senchal 8,000′, (Blanford).

164. The Golden-headed Warbler. Phyllergates coronatus (Jerd. & Blyth).

Recorded for Sikkim. Probably confined to the base of the hills and the valleys of the interior at low elevations. There is a specimen dated February 1873, Mangpu and many others from Sikkim in the B.M. Collection.

165. The Rufous-capped Bush-Warbler. Horeites brunnifrons (Hodgs.).

A cold-season visitor to the Rungbong Valley descending to 3,600′ and possibly much lower, ascending to *10,000′ and over on the Singile La Ridge*, at and about which elevation it breeds. Obtained around Mangpu at elevations of 3,600′-3,900′ during the cold-weather, (G. E. Shaw). Gopaldhara, 4,000′, 28-1-19.* 6,000′, 26-12-20. Mai Valley, East Nepal, 8,000′ and upwards, ♀ 18-3-12. ♀ 28-3-12. ♂ 4-12, evidently on the upward migration, extending up the valley with the advent of warm weather. Kalo Pokhari, 10,160′, ♂ ♂ 12-4-12; ♂ 16-4-12; ♂ 25-4-12, ♂ 12-5-12; ♂ 22-5-12; males much in evidence. During the first weeks in April it utters a loud, sweet, if short song. Nests composed of grass and bents with an interior lining of feathers; clutch, usually four, on one occasion five eggs. Blanford records it from the Lachung Valley at 10,000′-12,000′ (September).

Nine specimens examined:

♂ Wing 45-49, av. 46·9; ♀ 44-47, av. 45·4.

The measurement of the bill varies little in either sex being 8-8·5.

Soft parts: Iris hazel; bill dark horny, basal half of lower mandible pale yellowish-horny, darkening towards the tip; tarsus pale brownish-horny.

166. The Brown Hill-Warbler. Suya crinigera crinigera Hodgs.

Recorded as occurring upto 6,000′ in the Himalayas. I have failed to obtain it on the Western side of the District of Darjeeling. It has some *status to the East*, where it has been obtained in the *Tista Valley* at elevations of from 2,800′-3,900′ around Mangpu by Mr. G. E. Shaw. This species is well represented in the B. M. Collection from the Sikkim Himalaya and a number have reference to the lower hills around the Tista River, where Gammie stated it bred up to 3,500′.

167. The Black-throated Hill-Warbler. Suya atrogularis Moore.

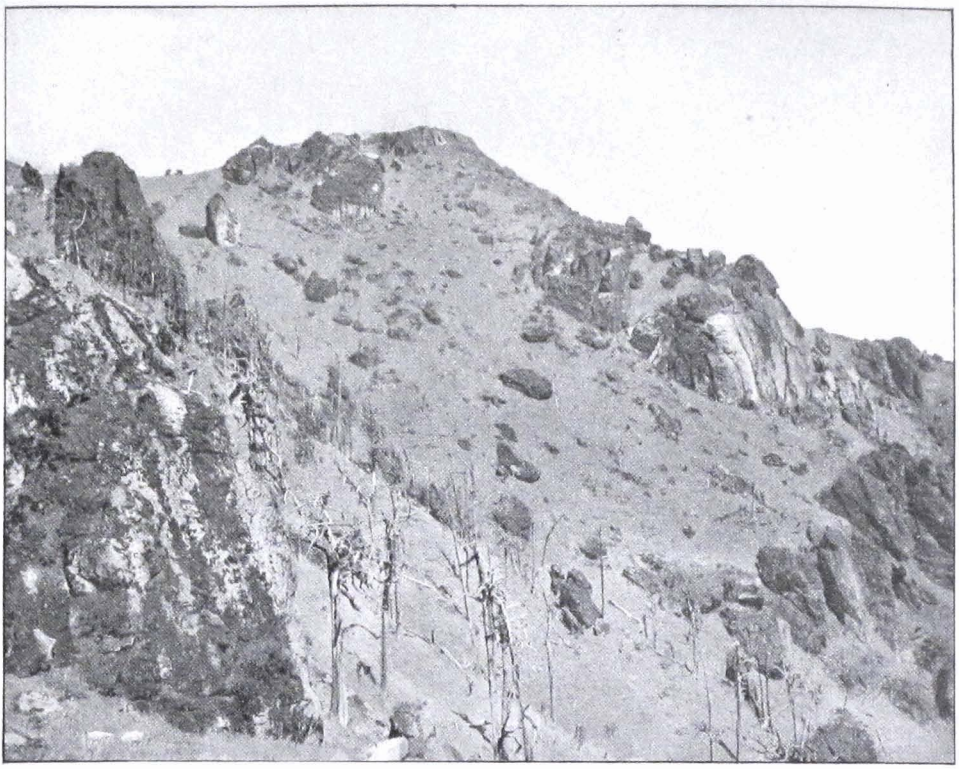
" Chiboorchay " Paharia.

Gammie is mentioned as having found this species breeding around Mangpu, but so far Mr. G. E. Shaw has not obtained it from this same locality. There may be some error in reference to its nidification in this area. I could find none of Gammie's specimens in the B. M. Collection. It occurs commonly both in *East Nepal*, in the Mai Valley up to 7,000′ and numerous as a resident, breeding species in the Rungbong Valley of the Sikkim Himalaya at elevations of from 3,400′-6,500′, at all events. I found the nest on the Semana-Mirik Ridge, containing the full complement of four eggs, at an elevation of about 6,700′, 6-5-23. Mr. C. M. Inglis has obtained it in summer at Jore Pokhari 7,400′ and at Rinchenpong 6,000′. Oates doubts Hodgson's specimens as having come from Nepal. I have no knowledge of its western limits beyond where it was obtained.

168. The Ashy Wren-Warbler. Prinia socialis socialis Sykes.

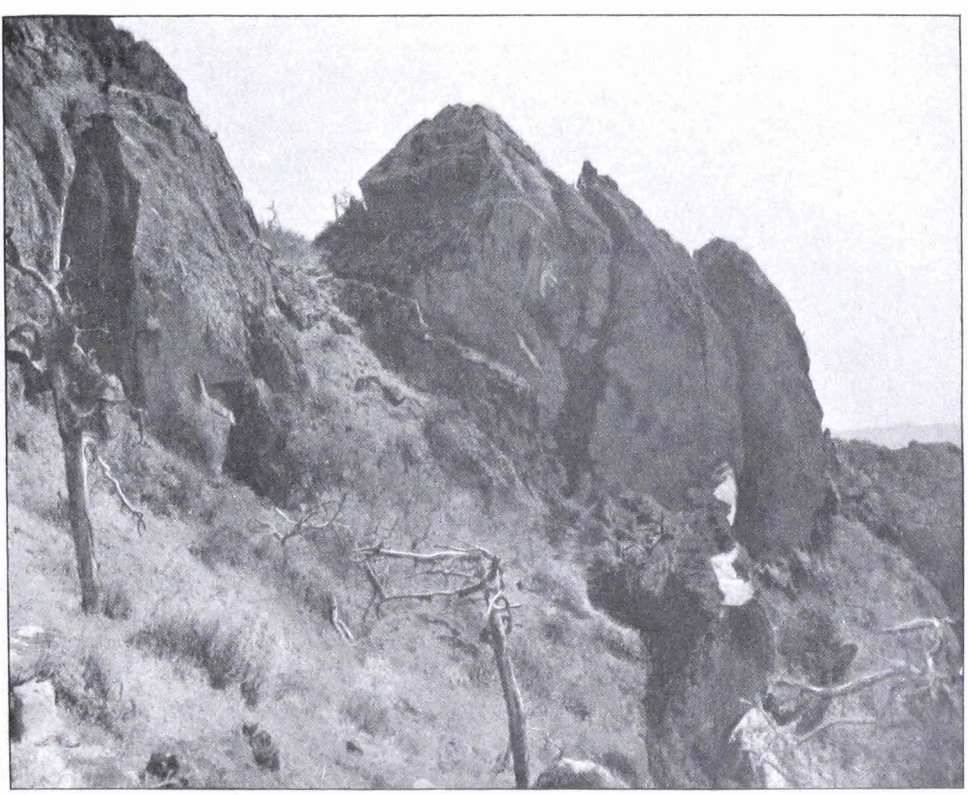
Recorded for the Lower Ranges of the Himalayas upto 4,000′. This species is well represented in the B. M. Collection by numerous specimens from the Bhotan Dooars collected by Mandelli, and others in the Seebohm Collection evidently Mandelli's skins also, with no definite data excepting the locality Sikkim. Its exact status in the valleys of the interior is obscure.

(*To be continued.*)



H. S. Photo.

SANDAKPHU SUMMIT.
11,923′, South Face.
Haunts of *Pyrrhocorax graculus*, *Loxia curvirostra himalayensis*, *Gypaëtus barbatus grandis*, &c. March, 1912.



H. S. Photo.

BOULDERS. South Face, Sandakphu.
Haunts of *Troglodytes nipalensis nipalensis*, *Läiscopus collaris nipalensis*, &c.
March, 1912.

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NOTES ON THE BIRDS OF THE SIKKIM HIMALAYAS.

By

HERBERT STEVENS, M. B. O. U.

Part IV.

(*With a plate.*)

(*Continued from page* 1030 *of Volume XXIX.*)

169. The Bay-backed Shrike. Lanius vittatus Val.

Recorded as ascending the Himalayas to 4,000′ or 5,000′.

I have no information in support of these distribution limits, which may refer to the North-West; should it actually occur in Sikkim, it can only be as a rare vagrant. It is not represented from the Sikkim Himalaya in the National Collection.

170. The Indian Black-headed Shrike. Lanius nigriceps nigriceps (Frankl). "Bhadraya" Paharia, used for all Shrikes.

Commonly occurs as a breeding species from elevations of 3,500′-6,000′.

171. The Grey-backed Shrike. Lanius schach tephronotus (Vig).

Generally distributed at higher elevations than *L. nigriceps*.

Observed at Chungthang in the interior of Sikkim at 5,350′ in March, and occurs commonly around Gopaldhara during "the cold weather," though not much in evidence at the nesting season, yet observed in May, 13-5-16*, a solitary bird also, 18-4-23. Blanford found it common in Lachung 8,000′-9,000′ in the beginning of September, three weeks later all had disappeared. Nesting in Tibet at 14,000′, (Bailey).

172. The Brown Shrike. Lanius cristatus cristatus L.

A cold-season migrant to the hills and valleys at moderate elevations on its descent to the plains. A few birds remaining in all probability, for brief periods in favourable localities. Obtained at an elevation of 1,600′ in the Tista Valley, (G. E. Shaw). Gopaldhara, 4,720′ and under. First arrivals noted 17-9-16,* 22-9-20*, 20-12-11* ; a male seen on several occasions hereabouts. All records refer to single birds.

173. The Brown-backed Pied Shrike. Hemipus picatus capitalis McClell.

This dainty, diminutive Shrike is beautifully adapted to an arboreal life. Occurs commonly at *all elevations up to 5,000′* or thereabouts; frequenting the foliage of secondary-growth and lofty trees and found in small parties at all times, excepting at the breeding season.

174. The Nepal Wood-Shrike. Tephrodornis pelvicus pelvicus (Hodgs).

Strictly *a plains-species*. Obtained up to an elevation of *3,300′* in the Tista Valley, (G.E. Shaw). Mandelli obtained it breeding at 3,000′, Ging near Darjeeling.

175. The Indian Scarlet Minivet. Pericrocotus speciosus speciosus (Lath).

Generally distributed up to *an elevation of 5,000′* or thereabouts. It does not congregate in parties during "the cold weather" to the same extent as *P. brevirostris*; as I have, more frequently than not, observed it in pairs in December. In the hills, abnormally coloured females are occasionally to be seen; which is similarly the case with *P. brevirostris*, when the yellow-coloured portions of the plumage are replaced in a varying degree by a beautiful tint of rich orange.

One such bird observed at Gopaldhara on the 13-4-16*. A description is given of two specimens as there is a differentiation in these characters from the normal. Gopaldhara, 4,720′, 31-12-11, ♀ ? On dissection I failed to satisfy myself as to its correct sex. Forehead, paling posteriorly up to the crown, orange; sides of the head and the whole lower plumage from the chin to the under tail-coverts paling from orange into deep yellow; abdomen silvery white, as in typical specimens:—this character which is apparent in well-prepared skins, has been missed by Oates. Rump orange, tinged green, deepening into the orange of the upper tail-coverts, greater wing-coverts with a spot of orange on the outer web and in a lesser degree on the inner web yellow, forming a wing-bar; two of the later secondaries with the cross band and the oval spot near the tips of the outer webs orange; outer pair only of the tail feathers yellow, remainder of the tail as in the normal bird, only the yellow is replaced by orange; other parts similarly coloured as in typical specimens.

Gopaldhara 4,700′, ♀ 27-2-19. Orange colour confined to forehead, sides of the head, chin to the throat, patchy only on breast, upper tail-coverts mixed orange and greenish-yellow; two of the secondaries with the cross band and one with the oval spot near the tip of the outer web orange; tail similarly deeply coloured as in the previous specimen.

176. The Assam Short-billed Minivet. Pericrocotus brevirostris affinis McClell. Male "Raja lall," Female "Rani chara", Paharia.

Recorded for the Himalayas up to 10,000′. It came as a surprise to find this Minivet at such extreme elevations during a severe winter; when the more congenial climate of the plains would have been in keeping with what was an every-day occurrence in Assam at a similar period of the year. Sandakphu to Saburkum, 19-2-12*. Observed on the Nepal-Sikkim Frontier at *11,000′*, in parties flitting about the tops of the gaunt, dead pines on the ridge. At this time the bare branches were wreathed in snow and the trunks were laden with an accumulation of icicles projecting out at right angles for some two to three feet in length,—the result of an interminable, piercing, westerly wind, while the ground was obliterated in heavy snow-drifts. The whole effect making a scene of exquisite grandeur yet withal of intense loneliness. The brilliant splashes of colour in these Minivets came as a welcome relief and as a reminder that some bird-life not only did exist, but that these Minivets were able to withstand such intense cold with little, appreciable discomfort. Sandakphu summit, *11,900′*, early March 1912, a few birds in evidence, very restless; every appearance of hot weather in the plains: the valleys being obscured in a haze.

Abnormally coloured females observed amongst a small party of normal Minivets at Gopaldhara at 4,700′, on the 13-5-16*, and at 3,800′, on the 22-1-18*. One, obtained out of a party of eight to ten individuals at 4,720′, on the 27-2-19, has the entire parts, which are coloured yellow in the normal female, replaced by orange, and, whereas the crown is merely tinged with yellow in normal examples, in this specimen it is a deep orange similar to the breast; the wing patches, upper tail-coverts and tail are more intense in colour showing this beautiful tint to greater perfection; the back is also more ashy than green.

At Gopaldhara this Minivet is to be found in parties before the end of June, which points to it being an early breeding species.

177. The Yellow-throated Minivet. Pericrocotus solaris Blyth.

Confined to *low elevations* in the Tista Valley. Obtained on one occasion at an elevation of *5,800'*, ♂ 30-3-18, above Mangpu, (G. E. Shaw). Blanford is recorded as having observed this Minivet at 10,000' in Sikkim. It is almost incredible such an authority should be mistaken in his identification, in which case this altitude is remarkable for this frequenter of the hot, moist valleys.

Dikchu, Tista Valley, 2,300', 23-2-20, a large party of both sexes disporting in the trees at close quarters, and very confiding as they settled within a stone's throw on the light vegetation along the road-side. There can be little doubt that Blanford's record refers to an upward dispersal through the Lachung Valley; his specimen was obtained out of a flock above Lachung.

178. The Rosy Minivet. Pericrocotus roseus roseus. (Vieill.).

Recorded as occurring in the Himalayas up to 5,000'. Entirely absent so far as my observations go to prove in the Sikkim-Himalaya. Represented in the National Collection by a single pair ♂ ♀ collected in January 1874 from the Sikkim Terai, so probably has some status at extreme low limits.

179. The Dark Grey Cuckoo-Shrike. Campophaga melanoschista melanoschista (Hodgs).

A summer migrant to the hills. Occurs in the Rungbong Valley up to 5,000' at all events and breeds around this elevation. Obtained up to 4,500' around Mangpu (G. E. Shaw), where I heard it calling for the first occasion in 1917 on the 29th of March. In the Rungbong Valley, my observations place its arrival at later intervals: one secured at 4,600', ♀ 30-3-11, several noted on the 7-4-16*, and a pair on the 6-5-15*. Obtained at Sookia Pokhari at 7,200' and Dentam at 4,500', (C. M. Inglis). Its call is a mournful, plaintive, whistling "phew", "phew", "phuit" as best described in syllables, and must not be confused with any of the Cuckoos. It occurs during the cold season at the foot of the hills. Bhotan Ghat, Raidak River, Eastern Dooars, where a ♀ was obtained on the 24-1-22 showing the ovaries active.

180. The Himalayan Large Cuckoo-Shrike. Graucalus macei nipalensis Hodgs.

Partial to open, forested tracts. An irregular migrant to the Rungbong Valley, occurring up to an elevation of 4,720' at Gopaldhara. Obtained in the Tista Valley up to 3,600', (G. E. Shaw), and found at the base of the hills during the cold-season. Sungma, 4,500', ♀ 5-9-17, (C. E. Brown). Gopaldhara, 4,500', ♂ ♀ 23-2-18, three birds altogether, the odd remaining bird, frequenting the vicinity of their old quarters for some brief period afterwards. 23-3-16*, a pair observed in "the garden". Three birds seen on the 17-7-14*.

181. The Ashy Swallow-Shrike. Artamus fuscus Vieill.

The Swallow-Shrike is a summer visitor to the hills, arriving in the Rungbong Valley during the latter days of March and first week in April; departing about the first week or later in October. Gammie speaks of it making its appearance in the Tista Valley (Mangpu) the last week in February, and leaving in the last week in October. A warmer atmosphere pervades throughout this deep valley, in evidence of which numerous plains-birds disperse in an upward direction, which are absent or poorly represented in the steeper minor valleys which have a closer affinity

in their fauna with higher limits. Reported from Dentam in the interior at 4,500′ by Mr. C. M. Inglis. In the Rungbong Valley, it appropriates the upper foliage of the lofty "rungbong" (Lepcha) palms, (*Caryota urens*), wherever, these are found as at Seeyok and Turzum, up to an elevation of 5,600′. Earliest arrivals: Gopaldhara, 23-3-16*, a pair noted; Thurbo, 4,300′, 18-4-11*, about half-a-dozen birds frequenting the sago palms, first noticed to-day, but their arrival had probably escaped my notice. Latest departures: 7-10-16*, at 4,700′. Numbers seen on the 18-9-17*. A single bird seen about, on the 23-9-17*, which finally disappeared on the 8-10-17*. 20-10-15*. 3,450′, 23-10-21*, two noted to-day in the bare branches of some "siris" trees; a score or more the following day hereabouts. During August, they move further afield, when I have observed them at the bottom of the valley at 3,500,′ 17-7-14*; three noted; 24-7-16, a party at rest on the single telegraph wire, edging up to one another with lively twitterings and partially extended wings. 26-7-15*, three noted. It takes full advantage of the swarms of termites which on occasions emerge from the ground, to fill the air around. Specific instances of these occurrences noted on the 25-4-18*, 15-5-15*, 16-5-18*. Seen to catch Butterflies, *Huphina* sp.? or *Appias* sp.? 31-8-17*.

3,400′, 9-7-21*, Swallow-Shrikes in some numbers, Drongos, a Hair-crested Drongo *C. hottentotta*, Bulbuls--(*Molpastes bengalensis* and *Otocompsa leucogenys*), *Campophaga melanoschista*, *Oriolus trailii*, *Cuculus canorus*, *C. micropterus*, and *C. intermedius* (a pair), *Dendrocitta himalayensis*, Swallows, and odd Swift and Jungle-Crow, all busy at work gorging on the termites; some were more adept at the game than others, but the Swallow-Shrikes appeared to make the most of their time and secure their quarry with the least exertion. Other such occasions mentioned previously when the white ants rise in myriads, yet I have never actually witnessed a diverse congregation of birds to partake of the feast as at this particular event.

182. The Burmese Black-naped Oriole. Oriolus ~~indicus~~ tenuirostris Blyth.

Recorded for the "Darjiling Terai, Bhutan and Buxa Dooars. Rare, but apparently a permanent resident." I have no information in respect to this Oriole.

183. The Indian Oriole. Oriolus oriolus kundoo Sykes.

Recorded for the Himalayas up to 9,000,′ which evidently refers to its status in the N. W. Himalayas. There is only a remote chance of meeting with it, notwithstanding its distribution in the plains is stated to be as far east as Manbhoom.

184. The Indian Black-headed Oriole. Oriolus xanthornus xanthornus (L.)=(O. luteolus (L.) Auct).

The correct nomenclature of this species is *Oriolus xanthornus xanthornus* (L). which takes precedence of "*luteolus*" and "*melanocephalus*" See Ibis. Vol. v., No. 1, January 1923, p. 74. (A review of the Genus *Oriolus*, Meinertzhagen.)

Recorded for the Himalayas, probably not above 4,000′. Entirely a plains Oriole. A reported occurrence of an Oriole seen below the Bannockburn Estate in the Great Rangit Valley by the late Mr. E. A. Wendicke most likely referred to this species. Neither Mr. G. E. Shaw nor myself have come across Golden Orioles in these hills. I found this bird common in the "open country" around Kumargram, some few miles out from the hills of the East Dooars.

185. The Maroon Oriole. Oriolus trailii. (Vig.)

Resident, irrespective of season and generally distributed, occurring chiefly in scattered pairs at all elevations from the base of the hills up to 7,500′ or thereabouts.

Eleven specimens examined: Six females in this series, inclusive of a breeding female obtained 13-3-11 along with the adult male, bear out my observations which have previously been remarked upon by Mr. A. M. Primrose, Journal B. N. H. S., Vol. XXI, page 676, that the adult female differs from the adult male in coloration, in its "less defined" gloss of its sombre plumage; dull black head, neck, chin and throat; maroon-brown back; dull maroon upper and under tail-coverts; outer portion only of the outer webs and two middle tail feathers entirely maroon-brown, remaining portion of tail dull maroon; brownish breast and pale underparts streaked with brown. Information is desirable as to the sex of birds having the forehead, chin to vent throughout streaked; the period required before the male reaches full maturity, and if any females actually do breed in similar garb to the adult males.

186. The Indian Grackle. Eulabes intermedia intermedia (Hay).

Confined to *low elevations*, in all probability not to be found much above *2,500′*. Observed below Tindharia and around Nurbong at 2,200′ and obtained in the Tista Valley up to 1,600′, (G. E. Shaw). Nurbong, 2,050′, 27-2-14, a party of ten Hill Mynahs; first heard calling on the 18-2-14; but located to-day in the trees surrounding the bungalow.

Sepoydoorah, 2,000′, 11-3-14, observed a party of ten birds hereabouts. Bhotan Dooars, Jainti to Newlands; numerous parties observed in heavy forest during January 1922.

187. The Spotted-winged Stare. Psaroglossa spiloptera (Vig).

Recorded as found up to 6,000′ in the Himalayas; which limit is *too great an extreme* for Sikkim. Obtained up to *3,800′ in the Tista Valley* at Mangpu, (G. E. Shaw). Sepoydoorah, 2,000′, 16-4-15*, a party observed at close quarters.

188. The Rose-coloured Starling. Pastor roseus (L).

Recorded as found in the lower ranges of the Himalayas as far east as Sikkim. It can only occur as a very rare straggler to this district; and I have no information in support of its claim for inclusion. Stragglers of common plains-birds, nevertheless, do at times go far beyond their more or less defined limits and this fact must not be lost sight of. In this case I fail to see why this Pastor which is a cold-weather migrant to the plains should ascend the hills even to moderate elevations; and as there is no defined migration route through Sikkim, it is fair to presume these birds have entered the plains at a more westerly point. I have searched through a large series in the B. M. Collection. It is represented by only one specimen from Nepal, (Hodgson), and none from Sikkim. Behar specimens in some numbers from whence mine have come. (C. M. Inglis).

189. Finsch's Starling. Sturnus vulgaris poltaratskyi Finsch.

Recorded as a winter visitor to the Himalayas as far east as Dibrugarh in Assam. I have no record of any true Starling occurring in these hills. Evidently they arrive by a south-easterly route in the North-West Himalayas and on their descent to the plains spread out in an easterly direction. I failed to obtain a specimen during my sojourn in the Dibrugarh district of Upper Assam. It is not represented from the Sikkim-Himalaya in the National Collection.

190. The Grey-headed Myna. Sturnia malabarica malabarica (Gm).

A plains Myna entering the hills in a similar manner to other low elevation species. Obtained in the Tista Valley at all elevations up to 3,860′, Mangpu, (G. E. Shaw). Entirely absent at anything approaching this elevation in the Rungbong Valley. Gammie speaks of it as occurring around Mangpu in the same places as *Artamus fuscus* frequents, where it breeds on the ridges at from 2,500′-4,000′.

191. The Common Myna. Acridotheres tristis tristis (L).

A common scavenger in the station of Darjeeling. To some extent locally migratory or merely a more or less general descent to lower limits is undertaken in the "cold weather" as I have noticed Mynas around Gopaldhara in December, 26-12-21, when all the breeding birds had long since left. There is a corresponding influx of their numbers into the hills during the breeding season, when it is a common occurrence to see them squabbling and hear the discord that takes place preparatory to nesting. The roof of the bungalow at Gopaldhara on many occasions being the scene of "a rough and tumble", when the rogues roll down, locked together by beak and claw, squawking all the time they are descending in rapid transit to the ground, to the accompaniment of the cautious element-instigators but non-active participants. Once harmony reigns, the worries of life are by no means ended, as the arrival of inquisitive rats bent on the pillage of their nests must cause them anxiety and loss. Through the experience gained at the expense of the crafty rat, their attentions have been confined to taking possession of the most secure, limited nesting-sites available. Notwithstanding their apparent unruly behaviour on arrival, which is only another instance of the keen struggle for survival which is not always so obvious, they are sure of a welcome, as any shortcomings are amply repaid by the useful work they perform in the compound, unfortunately they are by no means content to employ their energy at this useful if not so congenial pursuit, as on occasions marked and affectionate attention has been paid to the luscious caterpillars of some cherished Saturnid moth I was endeavouring to carefully nurse on the verandah, as if they had been put there for their special benefit.

192. The Bank Myna. Acridotheres ginginianus (Lath.)

Obtained in the *plains* of the Darjeeling district (G. E. Shaw).

193. The Indian Jungle Myna. Æthiopsar fuscus fuscus (Wagl.).

Recorded as resident and ascending the Himalayas up to about 8,000′.

Neither Mr. G. E. Shaw nor myself have been able to locate this Myna and apparently it is *absent or extremely rare* in Sikkim.

194. The Pied Myna. Sturnopastor contra contra (L).

Occurs commonly at Jalpaiguri and possibly may extend in its range to the foot of the hills.

195. The Himalayan Sooty Flycatcher. Hemichelidon sibirica cacabata (Penard).

Recorded as a permanent resident in the Himalayas, occurring as high as 13,000′ in summer. This Flycatcher is undoubtedly *migratory*, as it is *absent from moderate elevations during "the cold weather"*. No evidence is available, as to where their quarters are at this period of the year. Oates remarks "it appears to be entirely absent from the plains of India". It is much more plentiful on the downward movement at Gopaldhara in the second week of October, than it

is on arrival in the first week of April. Specific observations around 4,720′ have been noted during October 1911. 16-10-19*, 11-10-20*, 7-10-21*, plentiful and observed at higher elevations. On the 12-10-21*, during a dirty spell of weather, some birds were at the bottom of the valley at 3,500′. Whilst stragglers may ascend to extreme limits as recorded, the majority breed at elevations of from 6,000′-7,000′. Gopaldhara, 5,250′, ♂ 12-4-17. Mai "Khola", East Nepal, 26-4—22-5-12; eggs taken with the parent bird ♀, on latter date at an elevation of about 7,000′. Obtained around Mangpu at elevations of from 2,000′-4,500′, (G. E. Shaw) and on Tonglo, (C. M. Inglis). Blanford met with it in the Lachung Valley at 9,000′, in September. It keeps to the outermost, naked branches, and not the leafy boughs, from which it sallies out, to return again times innumerable, to its identical point of vantage.

Seven specimens examined: ♂ Wing, 73-75, av., 74; ♀ wing, 72-74, av., 73.

195. The Ferruginous Flycatcher. Hemichelidon cinereiceps Hodgs.

Recorded as a permanent resident in the Himalayas from about 4,000′-8,000. This Flycatcher has the same zonal distribution and is *similarly migratory as it's near ally*, though it is much more sparingly distributed. Mai "Khola", East Nepal, ♀ 9-4-12, ♀ 27-4-12, ♀ 8-5-12, upper reaches of the valley around 7,000′. Sookia Pokhari, 6,500′, 26-5-12*, observed hereabouts in forest. Gopaldhara, 5,300′, 17-9-21, a single bird in the forest. Obtained above Mangpu at 7,300′, (G. E. Shaw), and at Jore Pokhari at 7,400′, and Rinchenpong at 6,000′, (C. M. Inglis).

197. The Orange-gorgeted Flycatcher. Siphia strophiata Hodgs.

Recorded for the "Himalayas up to 12,000′ in summer, descending to the lower valleys in winter"; which is certainly the case, as odd birds no doubt, remain at the base of the hills; while the great majority undoubtedly migrate farther south and evidently pass over the plains. Commonly occurs in the Rungbong Valley, December to March, from 3,500′-4,700′, and around Kalo Pokhari, on the Singile La Ridge at 10,000′, in March and April: males at this time predominating. Obtained at as low an elevation of 1,200′ in the Tista Valley, (G. E. Shaw). Kalo Pokhari, 10,160′, 24-5-12, nest, a slight composition of moss, lined with bents, containing a single feather of a female Tragopan and three white eggs, situated twenty feet above the ground, in a crevice of a large branch of a tree on the slopes of the forested mountain-ridge: the eggs vary much in size. Blanford mentions it from the Lachen and Lachung valleys at the recorded limit in September.

Eleven specimens examined. The colour of the throat patch in the female varies in depth of colour, and sometimes is quite as deep orange-rufous as in the male; when this occurs, the chin and throat are also black. ♂ Wing, 71-77, av., 74; ♀ wing, 69-73, av., 71.

198. The Eastern Red-breasted Flycatcher. Siphia parva albicilla (Pall.).

Undoubtedly nests at no great distance above Gopaldhara, 4,720′. Much more in evidence in October, than it is in March during the latter part of the month, when on its upward migration. Gopaldhara, 4,720′, 21-9-16*, ♀ or immature ♂. 24-9-19* ♀. or immature. ♂ 26-9-17*, a few in evidence. 24-9-18, females or immature males in evidence. 3,750′, ♀♂ 28-10-19, one or two about. 4,450′, ♀ 12-10-19. 4,720,′ ♀ 12-10-19. 4,500′, ♀ 16-10-19, adult males extremely rare.

Absent during the cold-weather months, November to February, at Gopaldhara. Numerous along the level, forested ground at the base of the hills from Jaintí

to Kumargram in January 1922. Thurbo, 4,500′, ♀ 22-3-11, ♀ 28-3-20. Gopaldhara, ♀ 7-4-16. One adult male only, seen on the upward migration over a period of nine years.

Obtained at elevations of 3,800′, ♀ 10-11-19. 3,000′, ♂ 20-4-21, (G. E. Shaw). Sukna, 500′, ♂ 22-11-19, (C. M. Inglis).

Five specimens examined : all females. Wing, 67-69, av., 68·2.

Four filariæ taken out of the eye cavity of this specimen.

199. The Rusty-breasted Blue Flycatcher. Cyornis erythacus hodgsonii (Verr.).

Recorded for Sikkim during March and April. Occurs at *moderate elevations on migration*, both at its ascent and descent to and from its breeding habitat, but only sparingly distributed. Sookia Pokhari, 6,500′, ♂ 18-1-12*, observed in the bed of a mountain stream, a few paces from the track through the forest. Gopaldhara, 4,720′, ♂ 21-3-16, wing, 74. Mangam, near Ringim Gompa, 4,300′, interior of Sikkim, ♂ 23-2-20, wing, 74, procured in light trees near road-side. Bhotan Ghat, (Base of the hills) Raidak River, Eastern Dooars, ♀ 27-1-22, wing, 68. Obtained at elevations of 3,200′, ♀ 16-2-19. 3,600′, ♂ 21-2-20, around Mangpu above the Tista Valley, (G. E. Shaw).

200. The Rufous-breasted Blue Flycatcher. Cyornis hyperythrus (Blyth).

A summer migrant to elevations, probably *not exceeding 7,000′ on the Outer Ranges.* Plentiful at Gopaldhara around an elevation of 5,000′, where it breeds in forest. Males obtained at the time of arrival in 1921 at elevations of from 5.250′-5,500′, ♂ ♂ 5-4-21, testes developed, evidently about to nest; many others seen. 6.000′ 13-5-23,* several observed in forest Seeyok, 6,300, 22-5-23*, a pair, with their fully fledged young in the precincts of the forest. Specimens obtained in the Mai "Khola", East Nepal, 1st April to 22nd May 1912, at an elevation below 7,000′. Obtained at 2,000′, ♀ 18-3-20, in the Tista Valley, and at 6,500′, ♂ 29-6-19, above Mangpu, (G. E. Shaw), Gopaldhara, 5,200′, 7-10-21*. I saw a male on the ground making a somewhat fruitless attempt to demolish a large earth-worm; which it eventually flew away with, though this feat was by no means an easy undertaking.

Soft parts. : Iris hazel; bill black; tarsus pinkish-plumbeous.

201. The Slaty-blue Flycatcher. Cyornis tricolor tricolor (Hodgs.).

Occurs at *all elevations from 3,450′-10,000′* according to season *on the Outer Ranges*, and in all probability descends to the foot of the hills during "the cold weather." Obtained at elevations of from 3,600′-5,200′ around and above Mangpu, (G. E. Shaw). Kalo Pokhari, 10,000′, ♂ 7-5-12, observed also on other occasions in dense thickets of "maling" bamboo, rarely seen as it shuns observation in these haunts. Gopaldhara, 4,700′, ♂ ♀ 25-3-11, ♀ 31-3-11; 3,500′, ♂ 8-2-19; 4,250′, ♀ 4-2-19, Thurbo, 4,300′, ♀ 25-3-11.

202. The White-browed Blue Flycatcher. Cyornis superciliaris (Jerd).

Recorded for the "Himalayas, Kashmir to Sikkim, found up to 12,000′ in summer". I have failed to locate this Flycatcher. All specimens collected on the off-chance of being this species proving to be *C. astigma.* Represented in the B. M. Coll. ♂ March 1874. ♀ collected near Darjeeling by J. Gammie.

203. The Little Pied Flycatcher. Cyornis blythi (Reths.).

For this nomenclature see Novitates Zoologicæ, XXVIII, 1921, page 48.

[S]

Muscicapula melanoleuca Blyth.

This Flycatcher is absent around Gopaldhara at 4,720′ during the cold-weather months, November to January, and though it nests hereabouts, it is not much in evidence during the summer. It is much more plentiful at the foot of the hills in the Eastern Dooars during the winter, than it was in North Lakhimpur, Upper Assam, where I only met with it on one occasion in December 1907 during a period of seven years. Gopaldhara, 4,700′, 28—30-3-11* plentiful at this time; several secured. Nurbong, 2,000′, ♂ ♀ 28-2-14*, Gopaldhara, 4,720′, ♂ ♀ 5-3-16*; ♂ 12-3-18. ♂ 14-3-18; ♂ 8-3-18, two pairs noted to-day, 4,500′ 31-5-23,* a pair and fully fledged young located in the "siris" (*Albizzia* sp.) trees. 4,720′, ♀ 25-7-20, in moult. ♂ 25-7-20, juvenile, in spotted upper plumage. ♀ 2-10-19, a bird of the year. Bhotan Ghat, Eastern Dooars, ♀ 20-1-22, others seen on several occasions, as far out from the hills as Kumargram village, Gopaldhara, 4,720′, ♂ ♀ 24-9-19; 5,000′, ♂ 16-10-14*. Obtained at the foot of the hills around Sukna at 500′, (G. E. Shaw). Recorded up to *an elevation of 7,000′* in the Himalayas which is about correct for its upper limits in distribution for the Sikkim Himalaya.

204. The Little Blue and White Flycatcher. Cyornis astigma (Hodgs).

Obtained at Gopaldhara at 4,720′, ♂ 21-3-16; ♀ 22-3-16; ♀ 29-3-16; ♂ 9-4-19, the ♀ probably in the vicinity. ♂ ♀ 19-4-18, the male being secured. ♂ 30-9-19, a juvenile in process of change from the female phase into that of the adult male. ♂ 2-10-19, juvenile, in similar plumage to the previous example. Obtained around Mangpu at an elevation of 4,600′, ♂ 14-4-21, and 4,700′, ♀ 24-9-20, (G. E. Shaw).

This species has a similar *zonal distribution at the breeding season as C. blythi*, yet occurring with less frequency, and the above records constitute the sum total of its appearances which have come under my observation.

205. The Sapphire-headed Flycatcher. Cyornis sapphira (Tick).

Recorded as a permanent resident in Sikkim, which may be correct in so far as a few birds evidently stay in the warmer portions of the valleys. Its rarity accounts for the lack of information respecting its movements. Observed at Thurbo, 4,500′, ♂ 3-4-11*, and obtained at Gopaldhara, 4,720′, ♂ 19-4-18, also in the Mai "Khola" in East Nepal, 7,000′ approximate, ♂ 4-4-12. ♂ 11-4-12, Tista Valley below Mangpu at 2,400′, ♀ 29-1-20, (G. E. Shaw).

206. The Pale Blue Flycatcher. Cyornis unicolor unicolor Blyth.

Recorded for Sikkim,—Namchi, "breeding" (Mandelli). I anticipate it being discovered in the foot-hills. This species is well represented in the British Museum by 17 ♂ ♂ and 16 ♀ ♀ collected in every month of the year, but unfortunately without any indication of the elevations. I am indebted to Mr. Thomas Wells for all the trouble he has taken in searching through the series of this bird and many others in the National Collection, with the view to throwing light on the distribution areas of many species which at present are only imperfectly known.

207. The Blue-throated Flycatcher. Cyornis rubeculoides (Vig).

Recorded for the "Himalayas up to 6,000′ or 7,000". *These limits appear to be too high for Sikkim*, otherwise I could hardly have failed to meet with it at intermediate elevations. My impression is that it does not reach far beyond the foot-hills, with a similar distribution and at low elevations as was the case when it arrived on the north frontier of Upper Assam. Obtained at all elevations

from Sukna at 500′, to below Mangpu *at 3,760′, in the Tista Valley*; which supports a plains-fauna, and this fact lends its due weight to my contention. Mr. Shaw's records are as follows—500′ ♂ juv. 12-12-19. 2,700′, ♀ 28-6-20. 3,300′, ♂ 19-5-18. 3,500′, ♂ 11-4-18. 3,760′, ♂ ♀ 15-1-19. This last occurrence is of especial interest as it points to some birds remaining in suitable haunts at moderate elevations throughout the year.

208. The Large-billed Blue Flycatcher. Cyornis magnirostris Blyth.

Recorded as resident in Sikkim. Apparently as rare in Sikkim as it was in the Naga Hills on the north-eastern frontier of Upper Assam. I erroneously recorded this Flycatcher from the Miri Hills, Vol. XXIII, No. 2, Nov. 20, 1914, page 256, which record refers to *Ianthia hyperythra*. Represented in the B. M. Coll. by 10 ♂ ♂ and 5 ♀ ♀ collected in every month from April to October without locality and elevation data.

209. The Pigmy Blue Flycatcher. Nitidula hodgsoni (Moore).

Recorded as resident in Sikkim up to 7,000′ or higher. Decidedly rare. Obtained in the Mai ("Khola") Valley, East Nepal, ♂ 21-3-12, and in the Tista Valley at 1,500′, ♀ 30-1-20, (G. E. Shaw). There is every likelihood of this delicate, diminutive Flycatcher moving south with the advent of "the cold weather," and ascending into the hills to breed in the summer. I have recorded it from the foot of the Dafla hills in the third week in March where, however, it was only once met with. Our meagre records substantiate Oates' statement in that some birds are resident in the warmer portions of the valleys in the foot-hills, and as my single specimen was procured at a similar elevation of around 7,000′, it is fairly certain to ascend to some appreciable extent. Well represented by numerous specimens in the B. M. collected by Mandelli; several of which were obtained in Sikkim during the cold-weather months, at which period of the year he also got it from the Bhotan Dooars.

210. The Verditer Flycatcher. Stoparola melanops melanops (Vig).

Generally distributed up to 10,000′, (Tonglo) *during the summer* and commonly observed at all elevations according to season. The earliest observation on the upward movement noted at Gopaldhara, 4,720′, as that of a ♂ 5-3-16.* Singhik, 4,600′ in the interior of Sikkim, on the 13-3-20*. They congregate in small parties towards the breeding season. It commonly nests at 4,000′-5,000′, and up to its highest summer limit. During the third week in May the young are fully fledged.

Obtrusive habits combined with an unusual greenish-blue type in coloration cause it to be conspicuous everywhere.

211. Hodgson's White-gorgeted Flycatcher. Anthipes monileger monileger (Hodgs).

Recorded for "Sikkim up to about 7,000′ or so". (Lebong at 5,800′, breeding, Mandelli). Obtained in the Mai ("Khola") Valley, East Nepal, ♀ 8-4-12. Gopaldhara, 6,000′ a male presumably, 24-5-23, giving forth to the best of its vocal efforts, with a rapid quivering of the wings, from its stance amongst brush wood in the close forest. Apparently only locally distributed. Oates doubts Hodgson's specimens as having been obtained in *Nepal where it occurs*, though how far to the west is not known.

212. Brooks's Flycatcher. Anthipes poliogenys (Brooks).

Recorded by Hume from the *Sikkim Terai* as stated by Oates. I have no specimen from the foot-hills of Sikkim. One ♀ 27-1-22, from Bhotan Ghat,

Raidak River, Eastern Dooars, as the only specimen obtained, seems to point to it being none too plentiful. We found it a common bird in Upper Assam.

Oates makes no distinction between the sexes. My specimens are not sufficient satisfactorily to settle this point from an examination of skins. There is, more often than not, a general facies difference with a bird in the flesh as field-naturalists will bear out, even if there is not some slight colour difference apparent in many birds which are generally considered to have the sexes similarly coloured. On comparing the single skin from the Bhotan Dooars, this female has the forehead, crown, nape and ear-coverts more greyish-brown in comparison with skins from Assam, in which these characters are olive-brown; the rufous on the under parts is not as intense in colour; this difference I regard as sexual. Oates rightly draws attention in the discrimination of this female and "*Cyornis rubeculoides*" which closely resemble one another, to the large 1st primary of *A. poliogenys*, yet this is not so easy to follow as may be inferred from his remarks. *Cyornis rubeculoides* is a slighter bird, has the rufous tinge commencing from the chin, and of a brighter tint on the breast, even in comparison with males of *A. poliogenys*; the forehead, sides of the head and ear-coverts are more rufous than olive. I can detect no difference in the size and shape of the bill between the two species. Wherever possible it is advisable to collect the females, when the birds are in pairs towards the breeding season.

213. Layard's Flycatcher. Alseonax muttui (Layard).

Recorded "summers in Sikkim." I have so far failed to locate it. Amongst the British Museum material are three skins obtained by Mandelli in Native Sikkim, in August, September and November 1873-75.

ALSEONAX LATIROSTRIS (Raffl.) is recorded as having a wide range and occurring in the Himalayas as far west as Chamba. The B. M. Coll. contains no specimen from Sikkim, but it is interesting to know Mandelli obtained three specimens in the Bhotan Dooars in April, 1874-76, and there are other examples from Nepal, (Nepal Valley and Khatmandu) collected in April by Scully 1877. It has been recently recorded from the Dooars by Inglis from which locality O'Donel obtained specimens in July, Ibid, Vol. XXVI, 1920, page 993.

214. The Grey-headed Flycatcher. Culicicapa ceylonensis ceylonensis (Swains).

Recorded as resident in the Himalayas up to 8,000′. This is another common Flycatcher which occurs at *all elevations from plains-levels*, irrespective of season though the majority frequent the valleys in "the cold weather." Noted as particularly plentiful in the Rungbong Valley in February 1918, at elevations of from 3,400′-6,000′.

This species is strictly resident and moves little in comparison with even some of the other supposed sedentary Flycatchers.

215. The Large Niltava. Niltava grandis (Blyth).

In all probability occurs up to *an altitude of nearly 8,000′*. It breeds commonly above Gopaldhara at elevations of from 4,700′-6,000′. Confined to forest where it is resident throughout the whole year. Obtained as low as 2,500′ in the Tista Valley, (G. E. Shaw). During "the cold weather," they are partial to a purple berry,—name of tree unknown, which stains the stomach and vent. Often to be seen on the ground. The tail feathers when not worn, are pointed at the tips, in just as marked a degree as in *Ianthia*. This character also holds good in *Niltava sundara* and *Siphia strophiata*, and possibly has some significance as regards the correct relationship with the so called Bush-Robins, as the habits of these two species of *Niltava* are somewhat similar and a few of the Flycatchers spend a portion of their time on or about the ground, and in this habit differ from the true *Muscicapidæ*.

216. The Rufous-bellied Niltava. Niltava sundara Hodgs.

There is a possibility of this Niltava reaching the extreme limit of 8,000′ as recorded, though my records place its *zonal distribution at somewhat lower limits than N. grandis.* Obtained above Mangpu up to an elevation of 7,000′, (G. E. Shaw). Occurs commonly around Gopaldhara as a resident, breeding species. It is generally distributed, and notwithstanding its gaudy plumage, more often than not overlooked as it keeps to dense undergrowth in forest.

217. The Small Niltava. Niltava macgrigoriæ (Burton).

Oates records this Niltava as breeding in Nepal and Sikkim from April to June at elevations of from 3,000′-5,000′. Occurs commonly around Gopaldhara *during the breeding season up to 6,000′* or thereabouts. More plentiful at the bottom of the Rungbong Valley in "the cold weather" at 3,500′. Obtained up to 3,600′ around Mangpu, (G. E. Shaw). There is little doubt that it occurs at the foot of the hills.

218. The Indian Black-naped Flycatcher. Hypothymis azurea styani (Hartl).

Apparently *confined to the Lower Foot-hills.* Observed on one occasion on the Nagri Spur at an elevation of 4,300′, date and month overlooked, though it was probably, May. Obtained up to an elevation of 1,400′ in the Tista Valley. (G. E. Shaw).

219. The Yellow-bellied Flycatcher. Chelidorynx hypoxantha (Blyth).

Occurs up to *an elevation approaching 12,000′*, (Sandakphu) on the *Outer Ranges in summer* and found at all intervening heights from the plains at the base of the hills, both on the downward and upward migration. I found this pretty, little Flycatcher equally as plentiful at the base of the hills in the Eastern Dooars in January 1922, where it extended into the plains as far out as Kumargram, as it was in Upper Assam during "the cold weather." A single bird observed at the end of March 1917, at 10,500′ above Karponang, the first arrival. Kalo Pokhari, 10,000′. First week in April, 1912. Every morning a party of a dozen or thereabout, males and females in equal numbers are to be seen flitting about the trees on the ridge above my camp, almost oblivious to my presence in the fearless manner they approach me at close quarters. 26-4-12, ♀ obtained. This party left on the 4-5-12, for still higher ground. Tista Valley, February 1920, single birds everywhere obstrusive in the interior, at elevations of 2,000′ and upwards. Congregating in small parties near Singhik at 4,600′ on the evening of the 12-3-20. Nurbong, 2,200′, 22-2-14, an odd bird or two uttering a feeble "tsip," "tsip", towards evening, seeking the topmost branches of the trees, searching for food until sunset. Namsoo, 2,100′, 13-3-14*, in evidence hereabouts. Gopaldhara, 4,700′, ♂ 23-12-11. 6,200′, 24-7-17*. Lepcha Jagat, 7,150′, 21-8-19*, a single bird observed. I consider these two latter observations remarkable for the extraordinary low limits at this time of the year which may denote a lower breeding habitat unless they referred to unpaired birds. Since observed above Gopaldhara at 6,150′, 22-5-23 Blanford met with it on the Cho La Range in August at 12,000′, but did not notice it in the interior above 8,000′.

220. Baker's White-throated Fantail Flycatcher. Rhipidura albicollis stanleyi Stuart Baker. "Naklaychara", Paharia.

The local name signifies very appropriately the obstrusive antics of this sprightly little fop, which is the exact translation of the word without having to

resort to slang in current use. Strictly resident. Commonly breeds at *all elevations up to 6,000′*. Its nest is a masterpiece in avian construction, and needs no detailed description as it is referred to in the "Fauna" and other articles.

The White-browed Fantail Fly-catcher. Rhipidura aureola aureola. Less.

is recorded as ascending the Himalayas up to 4,000′ or 5,000′. I failed to locate this Fantail Flycatcher in Assam and the same thing has so far happened in Sikkim. I am more than curious to know its exact status. It is not represented in the National Collection from Sikkim.

The Indian Paradise Fly-catcher. Terpsiphone paradisi paradisi (L).

is recorded also for the Himalayas from Sikkim eastward. It probably only occurs at low elevations during "the rains". I have not met with this remarkable bird; the eastern form of which "*affinis*" was well known to me in Assam.

221? The Northern Indian Pied Bush-Chat. Saxicola caprata bicolor Sykes.

Recorded as "ascending the Himalayas up to 8,000,′ probably in summer only". I have no record in support of this assertion for the Sikkim Himalaya, and I very much doubt if it has any status whatsoever in these hills which appear to be too far east of its accepted distribution, and though it is recorded for Assam; I entirely failed to meet with it during my sojourn in Upper Assam. Specimens in my collection are from Tirhoot (C. M. Inglis.) and South Sylhet (C. B. Antram). Both of these localities represent the limits of its winter distribution to the east in the plains fairly accurately. This is a well-marked species and not likely to be overlooked. I have since had the opportunity of examining the B. M. series of this Chat which is not represented from Sikkim: the nearest localities being Nepal and the plains (Behar).

222. The Indian Bush-Chat. Saxicola torquata indica (Blyth).

223. The Japanese Bush-Chat. Saxicola torquata stejnegeri (Parrot).

Recorded for the Himalayas under *Pratincola maura* and as "breeding at all heights up to 5,000′." These Chats are an extremely difficult group. Oates has lumped several races or even good species in his treatment of *P. maura*. All our Indian birds appear to be relegated to three forms which are generally regarded as cold-weather migrants only to the plains. Distribution according to Stuart Baker. Measurements given by Hartert.

S. t. indica. Breeding Kashmir and N. W. Himalayas. ♂ wing, 67-72.
S. t. stejnegeri. Breeding East Siberia and Japan. ♂ wing, 67-70·5.
S. t. przewalskii. Breeding Turkestan and Tibet. ♂ wing, 72·5-75·5.

After an examination of all my available material from Assam and Sikkim. Unfortunately, all the skins "might be called" cold-weather examples and poorly represented from Sikkim: twelve and four respectively; there is no appreciable difference in size of 5 Assam and 2 Sikkim males, wing 71-73, av. 72·3, exclusive to a single ♂ obtained at the foot of the hills, 26-3-10, "in fat condition" preparatory to migrating, noted on the label, wing 75. This bird agrees with *S. t. przewalskii* as regards the wing measurement and possibly, is this form. Another ♂ 5-11-19, obtained at 6,000′ above Gopaldhara on the Semana-Mirik Ridge with wing, 66·5, is altogether a smaller bird with white under parts and can only be relegated to *S. t. indica*, yet in common with every other specimen there is no vestige of white at the base of the tail; "*indica*" is said to have the "tail-feathers with rather less than the basal quarter white."

Colour differences are very difficult to decide in this group, though these males have very rufous breasts and the females, creamy throats. Two of the above series were collected in the plains as late as the 11th and 16th of April in different years; when I have found *S. leucura* with testes and ovaries active, exactly two months earlier. Had these birds got to ascend to extreme heights I could well understand their late departure. I cannot conceive that the vast network of mountains and valleys in the Eastern Himalayas and far beyond, does not afford the necessary conditions for a breeding habitat, without having to undertake a lengthy journey to the breeding grounds of *S. t. stejnegeri* for instance. There is the alternative of an enormous breeding range, and our imperfect knowledge does not yet allow of any splitting of numerous races from well-defined breeding areas.

My impression is, a large proportion of these birds breed in the foot-hills at moderate elevations, while a few may remain in the plains to the north-east, apart from cold-weather migrants of other forms, and Oates rightly states "The Indian Bush-Chat breeds so abundantly at all moderate levels in the Himalayas that it is not improbable that the Himalayas form the northern limit of its range". This statement seems substantially correct. The difficulty exists none the less, when the true migrants are mixed up with the low-elevation breeding bird during "the cold-weather" as it is practically impossible to separate them by size or colour. Blanford records *S. t. indica* as common in the Lachung and Lachen valleys in September and the beginning of October apparently migrating, but did not meet with it on the Cho La Range; he remarks on it as first seen at Lachung on the 9th of September. Large numbers were seen on migration and specimens obtained at 17,000′ in September by Mr. A. F. R. Wollaston during the Mt. Everest Expedition and Mr. N. B. Kinnear refers to a specimen obtained at 12,000′ in nestling plumage in August. I have recorded *S. t. stejneri* from the base of the Dafla Hills as early as the 20-8-07*, and numerous records during this month on later dates over several years. Seen as late as the 25-4-10* in the plains of Upper Assam.

I have now satisfied myself beyond all doubt that the Chat which comes up to breed around Gopaldhara at elevations from about 4,500′ up to 5,500′ and apparently is to be found at somewhat higher limits possibly up to 7,000′ in East Nepal in *S. t. indica*. Every year a few birds are to be seen in the Rungbong Valley, when at 4,700′ the earliest arrivals have been noted 7-4-16* 4,000′ 10-4-11*; 4,500′ 22-4-23*; a pair. The adult breeding bird and eggs have been obtained while the juvenile in spotted plumage has been observed on the 11-7-23. I doubt if there is ever more than half-a-dozen pairs at Gopaldhara which might be regarded as a small colony as it appears to be very capricious in the choice of a breeding habitat, which is boulder-studded, steep ground, and roughly cultivated. When the maize grows up in the adjacent ground under better cultivation; the birds utilize the stalks which reach a height of some 12-15′ and have almost the dense close growth of a reed-bed; at this time they keep much to the ground when feeding, and seldom appear to perch on the extreme tops of the stalks. It is remarkable that this Chat should have been also recorded at such extreme heights.

224? The White-tailed Bush-Chat. Saxicola leucura (Blyth).

It is with some misgivings that this bird is introduced into the fauna of the Sikkim Himalaya as I now relegate all the birds which have been observed in the hills during the last ten years and which at the time were put down as this species, to be no other than *S. t. indica*. In the light of subsequent information, there can be little doubt *the majority* of the birds *remain in the plains* throughout the whole year and they breed at the plains-level much earlier than was suspected, before their breeding-grounds are

submerged with the rise in the rivers and before the S. W. Monsoon has exerted its full force. A series from Dhunsiri Mukh on the Brahmapootra obtained on the 14-2-11 are undoubtedly breeding birds and my remarks anent the advanced condition of the sexual organs on the labels, bears out this deduction; while specimens obtained at Hessamara on the Subansiri, where I obtained Chat's eggs, are in April, in well-worn breeding plumage.

225. Hodgson's Bush-Chat. Saxicola insignis (Blyth).

Recorded for the "Lower Hills of Sikkim, (Mandelli). Summer quarters not known, probably central hills of Nepal and Sikkim." All efforts to locate this Chat have been without avail. Some allowance must be taken into consideration for the secretiveness of all Chats at the breeding season in common with many birds which are obtrusive at other times.

226. The Dark Grey Bush-Chat. Oreicola ferrea ferrea (Gray).

This Bush-Chat has a somewhat, higher breeding distribution than the breeding birds of the two Saxicolas. It commonly occurs at that time of the year at *elevations of from 6,000'-8,000'* chiefly nesting in April and May. *Cuculus canorus* has a predilection for the nest of this bird, with the result that possibly it is victimized more than any other bird in these hills. I have never seen this Chat during the breeding season at any great distance from its haunts, which is usually ground under rough cultivation or scrub-growth, but on the 18-6-23* at Gopaldhara, a single bird had been in the habit of frequenting the compound at dusk for the last two or three evenings, for which unusual incident there was no accounting, 24-8-23* three birds seen to perch at intervals on the lofty "Utis" tree adjacent to the bungalow this evening but only to remain for brief periods. Blanford records it from Northern Sikkim in Autumn at 7,000'-9,000' but less common than about Darjiling.

227. The Slaty-backed Forktail. Enicurus schistaceus Hodgs.

Apparently mainly confined to *moderately low elevations* in the foot-hills. Obtained in the Tista Valley at elevations of from 1,200'-1,500'. (G. E. Shaw). Gopaldhara, 3,750', 29-5-23,* four fully fledged youngsters in nest, located in one of the "kholas."

228. The Eastern Spotted Forktail. Enicurus maculatus guttatus Gould.

Occurs in hill streams at *all elevations from 3,500' and probably somewhat lower up to 7,500' or thereabouts in winter.* Breeds commonly at elevations of from 4,000'-5,000' in the Rungbong Valley. Obtained between Ghoom and Sookia Pokhari at 7,200', ♀ 19-1-12, and equally plentiful in the Mai Valley at similar and lower limits in East Nepal. When taken by surprise, they utter a shrill note and invariably take refuge in the vegetation along the bank of the "khola", when a perceptible, whirling movement of the tail is apparent. On these occasions they settle on the branches of light growth and above the ground.

229. The Black-backed Forktail. Enicurus immaculatus Hodgs.

Only found at *low limits in the foot-hills.* Obtained in the Tista Valley at elevations of from 500'-1,500'. (G. E. Shaw).

230. The Assam Forktail. Enicurus leschenaulti indicus Hartert.

Only occurs at *low elevations*, where it has been obtained at the plains-levels of 500′. (G. E. Shaw).

231. The Little Forktail. Microcichla scouleri scouleri (Vig.).

Generally distributed at *all elevations up to 8,000′*, and possibly breeding at somewhat lower limits. I have failed to observe it up to an elevation of 11,000′ in summer, as recorded for the Himalayas. It commonly occurs in the Rungbong River in "the cold weather", and observed as numerous in the Tista River and streams between Dikchu and Singhik at a similar period of the year.

232. The White-capped Redstart. Chaimarrornis leucocephala (Vig.).

This sprightly and charming Redstart commands attention with its striking plumage and lively actions when during "the cold weather" it is to be found at all elevations from the foot of the hills upwards. During the summer *the majority breed around and below 7,000′ and evidently at much higher limits, the remaining few.* Recorded at about 20,000′ in summer, exact elevation evidently 17,500′ (Stolickza) which extreme height refers to the N. W. Himalayas. Blanford records it from the Cho La Range at 12,000′ (August) and from Northern Sikkim at 10,000′ (September). "In the middle of October in the Lachen Valley, all had descended below 10,000′."

233. The Plumbeous Redstart. Rhyacornis fuliginosa (Vig.).

This more sombre coloured Redstart is not less attractive by reason of its smaller size, as it has all the varied actions of its more conspicuous companion, the White-capped Redstart, and has a similar distribution. Recorded up to 13,000′, which is probably an extreme limit. My April to June records place its *breeding range on the Outer Ranges from 7,000′ downwards.* There is every likelihood, however, of it attaining much higher limits in the interior in summer; yet, I have no records to substantiate this supposition. Blanford records it from the Cho La Range 11,000′-12,000′ (August) also at the same season below 3,000′. In September and October not above 7,000′ in Northern Sikkim.

234. The Blue-fronted Redstart. Phœnicurus frontalis Vig.

Recorded "seldom below 5,000′, in summer 14,000′ or even higher at that season." This Redstart has been obtained around Mangpu above the Tista Valley at elevations of from *3,500′-5,000′ in the cold weather.* (G. E. Shaw). In the Rungbong Valley my observations almost coincide with its lowest limit reached at this period of the year. Whilst it is generally distributed around Mirik, 5,200′ and along the ridge upwards; a few birds may be seen every year during the cold weather months,—November and December,—around the Gopaldhara Bw. at 4,720′.

I found it fairly numerous on Tonglo at *10,000′ in the winter* of 1911-12, only males, however, at this extreme limit, although every opportunity was taken to keep a sharp look-out for the female and secure specimens. At all times there seemed to be a disparity of the sexes. 4 ♂ ♂ collected 23—29-1-12. Gopaldhara, 4,720′, ♀ 9-10-15, earliest arrival noted. 4,500′, a single ♀ 30-3-20, latest departure. Other records: Nigali, near Mirik, 5,300′, ♂ 23-3-11. Ghoom to

Sookia Pokhari, 7,000′, ♂ 19-1-12; 7,200′, ♀ 9-2-17. Chungthang, 5,350′, 24-2—11-3-20*. Sandakphu, 11,900,′ ♀ 8-3-12. Kalo Pokhari, 10,160′, ♂ 1-4-12 : ♀ 2-4-12. ♀ 10-4-12, in fat condition. Mr. Shaw's records are 3,500′, 9-2-19 ; 3,700′, 2-3-19 ; 4,000′, 19-12-12 ; 5,000′, 14-12-12, and refer to all males.

"In contrast to the last species (*R. rufiventris*) which abounds in the plains of India in winter, but crosses the snows to breed, this Redstart which rarely, if ever, visits the plains but which Jerdon found abundantly around Darjiling in winter, evidently breeds in the higher hills of Sikkim. I met with it on the Cho La Range and again abundantly in the Lachung and Lachen valleys at from 12,000′-14,000′ and at Yumthang on September 12th and 14th. I shot three birds in spotted plumage. I, several times at high elevations both on the Cho La Range and in Northern Sikkim saw another species of Ruticilla which was perhaps *R. caeruleocephala*." (Blanford).

235. The White-throated Redstart. Phœnicurus schisticeps (Gray).

This handsome Redstart occurs on the *Singile La Ridge of the Outer Ranges in winter, not below an elevation of 10,000′. In the Interior* it has been observed at Gangtok at as low *an elevation as 5,800′* ♂ 21-2-20*. Invariably found in pairs at this period. Tonglo, 10,074′, 3 ♂ ♂, 2 ♀ ♀ 23--26-1-12, Sandakphu, 11,929,′ 3 ♂ ♀, 28-2-12, ♀, 2-3-12, all procured on the bare mountain-tops. Lachung, 9,500′-10,000′, 4 ♂ ♂ 2 ♀ ♀ 1—4-3-20, numerous, males "in fat condition"; which certainly points to early nesting, the birds being congregated on the winter snow-line. Observed at Chungthang 5,350,′ 24—25-2-20*. None were visible on the 11-3-20, which was to be expected as they were already much above Lachung. Observations at Gangtok, 5,800,′ 21—22-2-20, when one or two were seen to be particularly tame, on the outskirts of "the station". Blanford strangely enough, makes no mention of meeting with it in the interior.

236. Hodgson's Redstart. Phœnicurus hodgsoni Moore.

Curiously, this Redstart rarely occurs at moderate elevations on migration. It is to be found sparingly in the Bhotan Dooras, where it is confined to the river-beds: a similar habitat it frequented in Upper Assam during the cold weather. Observed on one occasion at Gopaldhara at 3,440′ on the upward migration, exact date overlooked. Chungthang, 5,350′, ♂ 11-3-20, no female seen, but may have been in the neighbourhood. Bhotan Ghat, Raidak River, Eastern Dooars, ♂ 26-1-22, ♀ 19-1-22 one or two males scattered at wide intervals along the river-edge and an equal number of females; both sexes keeping apart; the females farther inside, away from the river and on the outskirts of the forest.

237. The Indian Redstart. Phœnicurus ochruros rufiventris. (Vieill).

Recorded as procured by Mandelli in June in Native Sikkim.

Found on the *Outer Ranges on migration.* My meagre records point to this Redstart as being of rare and accidental occurrence.

Gopaldhara, 4,500′, 31-9-21*, a pair observed at fairly close quarters; they had disappeared a few days afterwards, on their descent to the plains. 4,720′, ♀ 12-4-16, an interesting date on account of the late appearance, noted as "in fat condition"; undoubtedly a very late straggler on its upward journey to its breeding grounds. Seeyok, 5,200′, 30-10-20*, a glimpse obtained of a female which I identified as this Redstart.

"Not seen on the Cho La Range but abundant in the Lachen and Lachung valleys during the latter parts of our stay in them. The first specimen was shot

at Momay Samdong, 15,000′, on September 21st. In this case there could be no question that the birds migrated from beyond the passes, because none were seen before the date mentioned, even in the highest parts of the valleys at 15,000′-18,000′ whilst afterwards they were abundant everywhere and on one occasion in the middle of October we saw them at 4,000′ in the Tista Valley. It certainly, I should say, does not breed in Sikkim." (Blanford.) Large numbers observed on migration at 20,000′ during the Mount Everest Expedition. (A. F. R. Wollaston.)

238. Güldenstadt's Afghan Redstart. Phœnicurus erythrogastrus grandis (Gould).

Recorded "Himalayas, Kashmir to Sikkim, summer 10,000′-14,000′ or even higher in winter, descends to 5,000′." Whatever its winter extreme limit is in the N.-W. Himalayas; there is only a remote chance of meeting with it in Sikkim at this recorded low elevation and that would be in the far interior, where it might occur at Chungthang. Blanford met with it in the Lachen and Lachung valleys at 14,000′ in the autumn of 1870; his specimens are in the B. M. Coll., Donkia Pass, 16,500′, ♂ 20-9-70. Kangra Lama Pass, 14,000′, ♂ 5-10-70, and represented by four others of which a ♂ juv., July 1873 and ♂ ♀ October 1873, were collected by Mandelli. The Mount Everest Expedition obtained this Redstart at an elevation of 17,500′. I have not been fortunate to come across it anywhere in the interior in the winter and as far as its status is in Sikkim: it appears to be well above the snow-line even in winter.

(To be continued.)

[*From the* JOURNAL OF THE BOMBAY NATURAL HISTORY SOCIETY, *Jan.* 25, 1925.]

NOTES ON THE BIRDS OF THE SIKKIM HIMALAYAS,

By

HERBERT STEVENS, M.B.O.U.

PART V.

(*With a plate.*)

(*Continued from page 71 of this Volume.*)

239. Buturlin's Red-spotted Blue-Throat. Cyanosylvia suecica robusta (But.). ?

Obtained on one occasion only ♂ 13-2-19, at 3,500′, and observed ♀ 2-12-21* on both occasions in the bottom of the Rungbong Valley at Gopaldhara. The great majority of these Blue-Throats must clear the outer hills on their descent to the plains, and it is only stragglers, finding a congenial haunt, that remain. I noted it on a few occasions in grass-land near the Sankos River in the plains in January 1922. On comparing this single ♂ with my Assam skins I find six specimens to measure as follows: Sikkim, ♂ wing 70; Assam, 3 ♂ ♂ §, 73·5-75 av. 74·3; 2 ♀ ♀, 69·5-72·5, av. 71.

Dr. Hartert's measurement for *Luscinia s. pallidogularis*, 71-75.

Type locality Orenburg and probably the Turan.

L. s. discessa 69-74

„ „ Transcaspia.

L. s. robusta 75-80

„ „ Kolyma's Delta.

As this latter bird is generally considered to be the form found in the plains of Upper Assam during the winter and can hardly be the first two mentioned. I would draw attention to the short wing measurements of my specimens.

§ ♂, 1-5-03, has assumed the full blue throat; wing, only 73·5. All these specimens have a dark crown, similar to "robusta."

240. The Common Ruby-Throat. Calliope calliope (Pall.)

Blanford states this species was seen occasionally in the latter part of September, and more frequently in October, apparently coming from the north and migrating southward; one shot at Momay Samdong at 15,000′ on the 19th September. It occurs in limited numbers throughout "the cold weather" in suitable haunts on the Outer Ranges; these Ruby-Throats are most likely merely a sprinkling of the numbers which perform the downward journey without a break to their more distant quarters. Gopaldhara, 3,500′, ♂ 30-1-19*. 4,700′, ♀ 5-2-18*. Thurbo, 4,250′, ♂ 25-3-11, one of a pair. Turzum, ♂ 11-1-21, (O. Lindgren). Mangpu, 3,700′, ♀ 3-3-20. 3,800′, ♂ 5-11-20, (G. E. Shaw). Sukna, 550′, ♂ 30-11-19, (C. M. Inglis). Two specimens examined: ♀ Wing 75·5-79, av. 77·3, compared with Assam skins, 3 ♂ ♂ wing 73-75·5, av. 74·5.

241. The Eastern Ruby-Throat. Calliope pectoralis confusa (Hart).

Recorded for Sikkim, "breeds 10,000′ upwards". It may extend into the plains or even reach the base of the hills during "the cold weather," but I have no information as to this conjecture. It is sparingly distributed at this period of the year at moderate elevations in the Outer Hills, and its numbers are not so limited as seems apparent, as all Ruby-Throats are adept skulkers. Observed on a few occasions during November and December, one noted ♂ 9-11-21*, and one obtained at Gopaldhara, 3,500′, ♂ 18-3-21. A pair observed at 4,300′,

22-4-23* were probably this species. Blanford records it as common on the Cho La Range, less abundant in northern Sikkim, August to September a 12,000′, usually above the limit of the forest.

242. The Tibet Ruby-Throat. Calliope pectoralis tschebaiewi Prezew

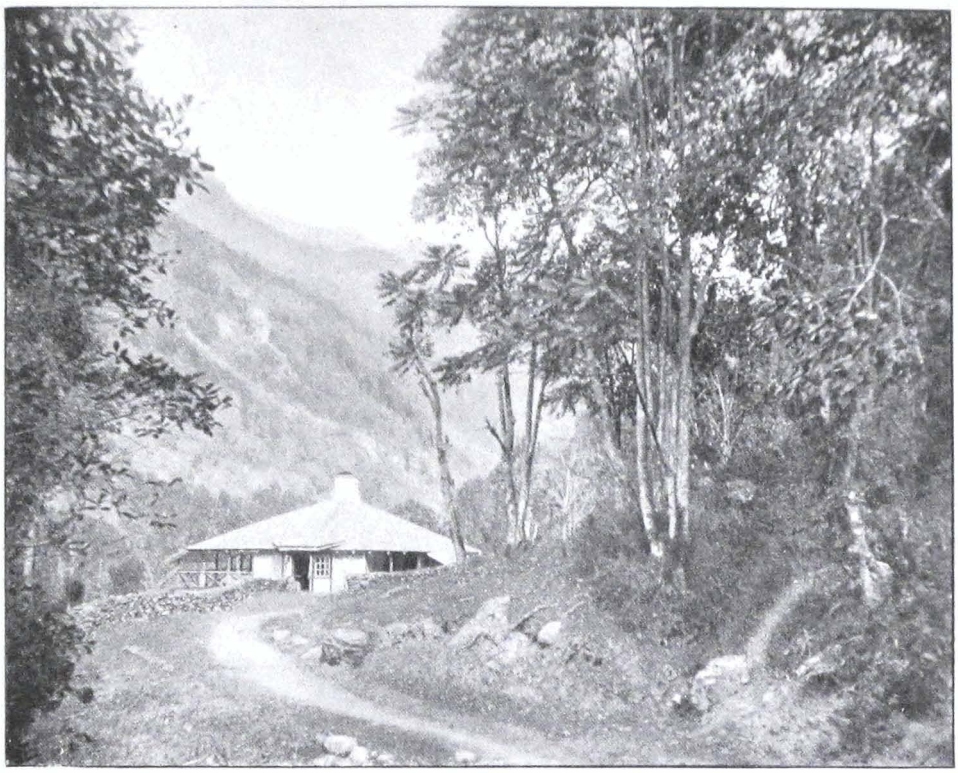
Recorded for Sikkim in its distribution. I am not aware of the reasons for regarding this bird as a sub-species of "*pectoralis*". Mandelli obtained it in March 1878 from Native Sikkim and both these Ruby-throats may well breed at high limits in Sikkim. It has recently been recorded from the Bhotan Dooars where, Mandelli also obtained specimens in "the cold weather." These birds may arrive in the plains by a more easterly route, as they were common in Upper Assam at this period of the year, being more numerous than *C. calliope*. As might be expected from my experience with its near ally, I have failed to discriminate the differences by observation, though I was well acquainted with it in former years. Sikkim appears to be the extent of its western distribution limits and probably *C. p. confusa* is the predominant bird in these hills.

243. The Golden Bush-Robin. Tarsiger chrysæus Hodgs.

Recorded as a constant resident at moderate heights on the Himalayas which is strictly not correct. Odd birds do rarely occur on the high ridges of the Outer Ranges in winter; these may be regarded as stragglers driven down from the extreme upper limit of their breeding range as this Bush-Robin is recorded as having bred at 12,500′ in Sikkim (Hartert), whilst *the majority move into the valleys* to again *ascend at the nesting season.* I have noted it on three or four occasions at Gopaldhara at elevations of from 4,000′-4,500′ during "the cold weather," the last instance being at 4,400′, ♂ 28-12-21*. In the Mai Valley, East Nepal, 7,000′–8,000′, 1 ♂ and 3 ♀ ♀ were obtained, 2—8-4-12. Darjeeling, south side of the station, at 7,500′, ♂ 14-2-20, flitting about the road-side, remarkably tame, as it was in no way concerned with the passers-by; particularly raw weather at this time and hunger no doubt accounted for its unusual tearlessness. At most times, it is dislodged with difficulty from the dense growth it frequents on the valley-slopes; its golden-yellow plumage is seen only for an instant as it makes a hurried movement across an open space into an equally dense retreat. Obtained below Mangpu at elevations of from 2,400′, 10-1-21, up to 3 800′, (G. E. Shaw).

244. The Red-flanked Bush-Robin. Ianthia rufilata (Hodgs.).

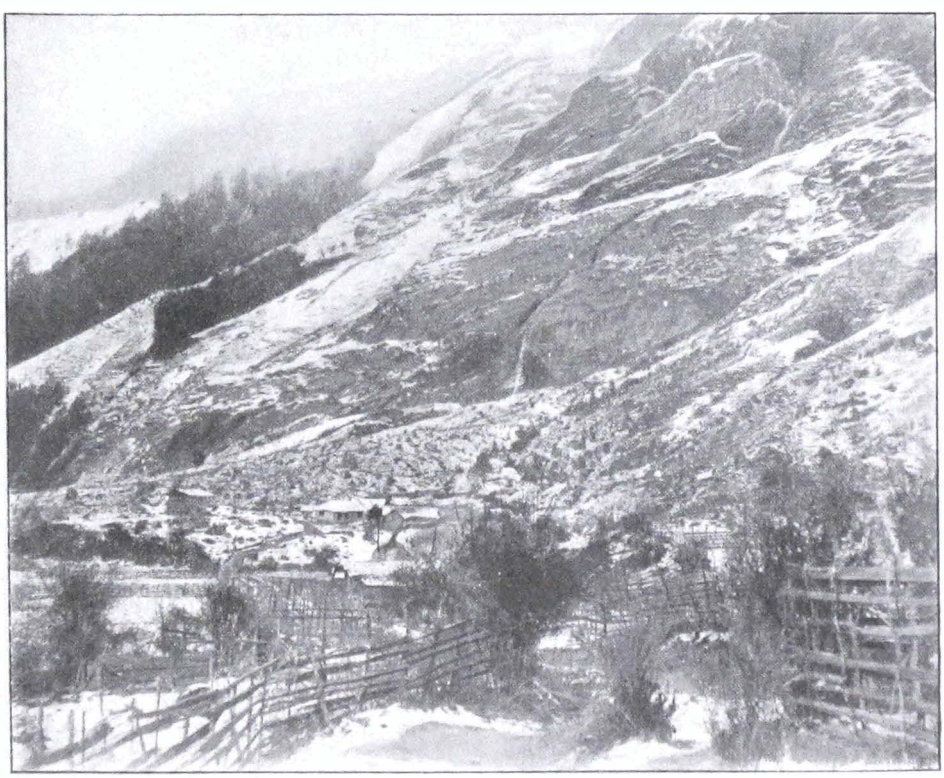
Widely distributed *during the winter at varying altitudes*; odd birds occurring at *10,000′* on the Outer Ranges simultaneously with the appearance of others at *3,500′* and a few on rare occasions may move down to the foot of the hills. I have no record to support this anticipation but was actually the case in Upper Assam when, it was obtained on a few occasions, on the North Frontier. I did not meet, however, with any birds in the Raidak Gorge in the Bhotan Dooars, in January 1922. The majority remain at elevations of from 7,000′-5,000′, at this period of the year, and the following summary of records throughout these months is given, yet this Bush-Robin being by far the commonest in comparison with the other two species; this list by no means exhausts the innumerable times it has come under my observation. Gopaldhara, 4,720′. During December and January, an odd bird or two always frequent the compound. I noticed one secluded corner was a favourite abode, to be occupied regularly each successive year by evidently the same bird; as I remarked on its appearance on a subsequent visit that it had assumed the full adult garb. Others, invariably immature birds are to be seen on the outskirts of the forest. Obtained above the Tista Valley at 3,650′, at Mangpu and upwards to Senchal,



H. S. Photo.

DIKCHU DAK BW.

2,150′. Tista Valley. 23rd February, 1920. Tropical vegetation.
Haunts of *Melanochlora sultanea sultanea*, *Yuhina nigrimentum nigrimentum*, *Pericrocotus solaris*, &c., &c.



H. S. Photo.

LACHUNG DAK BW.

8,800′. 8th March, 1920.
Surroundings, the haunts of *Fulvetta vinipecta vinipecta*, *Troglodytes troglodytes nipalensis*, *Perissopiza carnipes carnipes*, *Carpodacus edwarsii saturatus*, &c., &c.

(G. E. Shaw). Semana basti, 6,000′, adult ♂ 20-1-12*. Mirik, 5,200′, December and January, 1911-12, adult males somewhat rare. Ghoom to Sookia Pokhari, 7,200′, adult ♂ 19-1-12, noted as numerous hereabouts, 13-12-13* when several adult males were seen. Ghoom to Sonada, 7,300′, adult ♂ 8-2-17. 7,200′, adult ♂ 9-2-17.

Above Turzum, 6,000′, adult ♂ 20-2-19.* Sonada to Senchal, 8,000′, 24-3-15.* Lachung, 8,800.′ adult ♂ 1-3-20. Karponang, 9,500′, ♀ 19-3-17. Tonglo, 10,000′, ♂ 22-1-12, observed a female or immature male also in company with a male *Phœnicurus frontalis*; another specimen secured but subsequently lost (January). Kalo Pokhari, East Nepal, 10,160′, ♀ 20-3-12, ♂ 1-4-12 ♂ 6-4-12; ♀ 8-4-12, numbers seen on other occasions. The male evidently takes more than one year to acquire the blue plumage of the adult; some males in female dress are breeding birds: a parallel case to *Heteroxenicus cruralis* and *H. nipalensis*. The bluish-grey supercilium seems to be confined to the female yet present to a less extent in the male when in the female phase of plumage. All such examples require care in preparation and carefully sexing. Eleven specimens examined:

♂ Wing 79-86·5, av. 81·3; ♀ wing 78-81, av. 79·5; whereas immature (?) males average 80, adult males run somewhat larger: the wing of a Lachung (interior of Sikkim) specimen measures 86·5.

Oates remarks that "males from Sikkim are very bright; those from other parts have the upper plumage a greenish-blue."

My four males are equally divided as regards this depth of coloration and the deep coloured birds are matched by a specimen from the Miri Hills, Assam. It is significant that *all these examples have a longer wing measurement than the greenish-blue birds* and is possibly a matter of age co-related with vigour: *the bases of the eyebrow feathers are white* giving the latter birds a distinguishing supercilium. Blanford records it from the Cho La Range at 12,000′ (August).

245. The White-browed Bush-Robin. Ianthia indica indica (Vieill.).

The least common of the three species of Ianthia. Observed and obtained on the following occasions. Sookia Pokhari, *6,800′*, 13-2-20*, two or three at scattered intervals along the road-side; this *elevation is the lowest* at which it has been met with. Senchal, 7,750′, ♀ 7-2-17, secured in dense undergrowth in forest. Mai "Khola", East Nepal, 8,000′-9,000′, ♀ ♀ 23-3-12. Tonglo, 10,000′, Sikkim side of the Frontier, ♀ 30-1-12, procured in a similar habitat and adjacent to where a ♂ I. rufilata was obtained. ♂ 5-2-12, a female seen on the 9-2-12*, in company with the male, but the growth was too dense to allow of my seeing the latter. Karponang, 10,500′, in evidence towards the end of March, 1917.

Five specimens examined: ♂ Wing 83-84·5, av. 83·8; 2 ♀ ♀ wing 77-79.

246. The Rufous-bellied Bush-Robin. Ianthia hyperythra Blyth.

This handsome Bush-Robin has been observed and obtained on the following occasions. Nurbong, 1,085′, ♂ 21-2-14*, observed at close quarters, having some out into the open after a heavy shower. Toong (interior of Sikkim), 1,300′, ♂ 24-2-20. Gopaldhara, 5,000′, ♂ 5-5-17*.

Sookia Pokhari, below, at 6,800′, ♂ 20-2-19*, another ♂ and possibly two ♀ ♀ in the same locality. Ghoom, near the Pussimbing turning, at 7,300′, ♂ 17-1-17, this bird was very tame and was observed later on during the first week in March, in the same identical place.

Karponang, 9,800,′ ♂ 17-3-17, and seen ♂ 24-3-17*. Sandakphu, 11,800′, Nepal side of the mountain, ♂ 2-3-12, single bird only, secured amongst some dwarf rhododendron in a rocky gully on the bare slopes, no females obtained.

Five specimens examined:
♂ Wing 78-83·5, av. 80·3, for comparison (Assam) skins. ♂ wing 76·2; ♀♀ wing, 75-77·5.

247. The Blue-headed Robin. Adelura cæruleocephala (Vig.).

Its generally accepted place is now in the genus *Phœnicurus*; the reasons for treating this species as a Redstart are not quite obvious.

Recorded "Himalayas 10,000′ upwards in summer, much lower levels in winter." Obtained on one occasion only at a high altitude in winter. *Apparently not previously recorded for Sikkim.*

Saburkum, Nepal-Sikkim Frontier, at *11,500′*, ♂ 19-2-12. At first sight I mistook this bird for a Chat, notwithstanding, the lonely recesses of the pine forest, with the ground in places heavily covered with snow seemed a most unlikely place to meet with any *Saxicolas*; secured in lonely company with a Wren (*Troglodytes nipalensis*).

248. Hodgson's Grandala. Grandala cœlicolor Hodgs.

Recorded for extreme elevations of not below 15,000′, Sikkim. "Observed 17,000′" (Blanford). Occurs in the Lachung Valley above the village at *10,000′, and upwards in winter*, when they congregate in huge parties moving about the rocky slopes of the valley, and observed to come down to about *9,000′* under stress of severe weather, at early morn, after a heavy fall of snow. Near Phalut summit, 11,700′, 16-2-12*, an immense flock of these birds presumably, heavy mist at the time coming on, and I was making every effort to reach shelter before darkness set in, having been out in the snow the whole previous night.

In their "habits" they distinctly have close relationship with the Starling.

The young male is identical in plumage with the adult female; the upper tail-coverts first showing signs of acquiring what will later be cobalt-blue when the complete change has been effected.

Oates makes no mention of the gloss in the plumage of the adult male; the only Indian birds I know of which is similarly favoured, is the male of *Oriolus traillii*.

Eight specimens examined: ♂ Wing 140 in first stage,—148 in adults, av. 144·2; ♀ Wing 135.

Soft parts; Iris hazel; bill black; gape yellow; tarsus black.

249. The White-tailed Blue Robin. Notodela leucura (Hodgs.).

Occurs sparingly around Gopaldhara from 4,700′, ♂ 5-11-18, up to 5,000′ during "the cold weather"; these being probably birds which have moved down from higher extremes; its numbers being augmented during the nesting season by birds which have ascended in the summer. A juvenile in spotted plumage obtained at 5,000′, 25-6-23. Observed at 6,500′, ♀ 6-5-23.* Three secured 12—14-4-21 4,750′-5,000′. Mai "Khola East" Nepal, 8-4-12*, observed in dense forest in the upper reaches of the valley at *8,000′*, approx. elevation. Obtained in the hills above Mangpu at an elevation of 6,200′. (G. E. Shaw). Recorded breeding at Rishap, 4,000′. (Gammie). Lebong, 5,500′. (Mandelli).

250. The Blue-fronted Callene. Callene frontalis (Blyth).

Recorded only for Sikkim. Apparently rare with a restricted distribution. Represented by 13 ♂♂, January—May and 2 ♀♀, August and December. 1873-78. (B. M. Coll.). Inglis obtained it at Jore Pokhari, ♂ 7-7-04.

This species bears a strong superficial resemblance to *Notodela leucura*, and might easily be mistaken for it by the field-naturalist: the prominent white

markings on the tail of the latter species when expanded, could be the only reliable distinguishing clue to make note of, to settle the difficulty.

251. The Indian Magpie-Robin. Copsychus saularis saularis (L.).

This songster is a summer visitor only to the hills on the western side of the district, and penetrates the deep valleys of the interior to a corresponding elevation. I have never obtained their eggs from *an elevation of above 5,500′*, which appears to be *the limit reached* by a few birds. Odd birds may be seen in and about the compound of many of the tea-planters' bungalows, which are separated widely apart on the hill-sides of the Rungbong Valley.

Nurbong 2,000′, ♀ 3-3-14*. ♂ 6-3-14*. Gopaldhara, 3,440′, ♂ ♀ 30-3-18*. 4,720′, 18-5-18, a single bird. 19-6-23*, a male in evidence. 29-6-15*, a male singly lustily at 6. a. m. in the bungalow compound; heavy rain last two days, having previously been seen on the first occasion, ♂ 12-4-15*, noted again 25-4-15*, and possibly 1-5-15*. Sceyok, 5,200′, ♂ 22-3-16.* Observed below Gangtok at 5,000′, 20-2-20.*

252. The Indian Shama. Kittacincla macroura tricolor (Vieill.).

Evidently *confined to the base of the Lower Foot-hills*, and has some status in the Tista Valley. Obtained up to an elevation of *3,800′*, below Mangpu (G.E. Shaw). Commonly occurs in the densely wooded country at the base of the hills in the Eastern Dooars, and almost equally as plentiful in the spare growth in the vicinity of habitations in the more open, cultivated country, where it is more accustomed to the presence of the villagers and in consequence less shy. Females are rarely seen strangely enough; they appear to be still more shy than the males.

Bhotan Ghat, Raidak River ♂ 20-1-22, this specimen has the tail 198 in length, whereas a Gauhati, Assam, ♂ also adult, measures only 142 and none of the seven Assam skins with which it has been compared approach in tail measurement anything like this Dooars example.

253. The Himalayan Blue Chat. Larvivora brunnea Hodgs.

Breeds sparingly around Gopaldhara at all elevations *from 5,000′ upwards*. The nest is a shallow cup containing a few feathers; in the vicinity of Gopaldhara, the feathers of the Kalij Pheasant and the Red-throated Partridge are used: eggs, pale blue unspotted and usually four. Only once have I seen the male and female together during "the cold weather". 4,600′, 10-1-19.* Three ♀ ♀ were secured in the Mai Valley in Nepal, 30th April to 22nd May, where also I obtained eggs. ♀ Wing 71-71·5, av., 71·3.

254. Gould's Shortwing. Heteroxenicus stellatus. (Gould).

Decidedly rare. Blanford is recorded as having obtained one specimen at an elevation of 12,000′-13,000′ (Yumthang), and there are two or three specimens in the Tring Museum from somewhat higher limits. I have only managed to secure a solitary specimen, but this record is interesting as it proves this Shortwing does occur at much lower elevations. Notwithstanding, its breeding habitat is undoubtedly at extreme heights; some birds may breed at much lower levels, as is the case with the other Shortwings which have a breeding zonal distribution covering a difference in altitude of 5,000 feet on the Outer Ranges. Mai ("Khola") Valley, East Nepal, 7,000′ approx. elevation, ♂ 8-4-12 For some unknown reason this specimen is minus many of its wing feathers, which are in course of being replaced: Right wing, first four primaries not quite half grown, 5th-9th, intact, secondaries half grown. Left wing, 1st-4th primaries intact, 5th-9th, not quite half grown, six secondaries intact, remainder missing, showing

no sign of fresh growth. This bird, so seriously handicapped must have been almost incapable of flight; although there is every likelihood of this species making as much use of its legs, if we are to judge from the habits of the other species of this genus as they are skulkers with a partiality for keeping to the ground and could work their way up the mountain-slopes without any great effort from their wings.

255. The Rusty-bellied Shortwing. Heteroxenicus hyperythrus. (Jerd. & Blyth).

I have little information respecting this rare Shortwing which occurred in the Plains of Upper Assam "during the cold season." Observed at Tonglo, 9,700′, ♂ 27-1-12,* in dense "maling" bamboo-growth. No specimens secured, however, as it was with difficulty I could force my way through the thickets and impossible to use a gun unless at close quarters, when the effect would certainly have been to the detriment of the specimen. Mr. G. E. Shaw has secured it at Mangpu at 3,800′ in "the cold weather."

256. The Nepal Shortwing. Heteroxenicus nipalensis (Hodgs.).

Occurs around Gopaldhara sparingly at the nesting season at 4,700′ and *upwards*. I have noted one specimen, ♂ 20-7-16*, singing lustily a few feet above the ground and judged to be a male. I obtained two males in the Mai Valley in Nepal at about 7,000′ approx. elevation, 3—8-4-12. These birds are both in the normal dark slaty-blue plumage. My experience thus agrees with others in Sikkim where the blue phase of coloration is more generally met with: whereas it was the reverse in Assam, all the males obtained being in the typical female phase. ♂ Wing 60-61, av. 60·5. Assam skins for comparison. 4 ♂ ♂ wing 59-62-5, av. 61·9. 6 ♀ ♀ wing 55-59, av. 57·8.

257. The White-browed Shortwing. Heteroxenicus cruralis (Blyth).

Comparatively numerous yet far from common on the Outer Ranges and is migratory to some extent according to season. Obtained above Mangpu at 5,000′-5,300′ in elevation. (G. E. Shaw).

There is some confusion in respect to the coloration of the adults.

The males of this Shortwing in many cases breed at the extreme upper limit of its distribution in the female phase of coloration. The white supercilium is present in the male only and not as stated by Oates "Common to both sexes, although absent in the young."

The following specimens have been examined:

Gopaldhara, Rungbong Valley, 4,700′, ♂ 26-12-11, wing 68, in similar plumage to the female, supercilium present, others seen in the dense brushwood about this time. 5,000′, ♂ 15-4-21. wing, 71-5. in slaty-blue plumage, testes enlarged, breeding. 26-6-17*, observed in the forest, uttering a single loud note. All eggs taken at Gopaldhara have been pure white.

Mai Valley, East Nepal, 9,500′, ♂ 8-4-12, wing 68. ♀ wing 64·5, both in similar plumage, female without the supercilium.

Kalo Pokhari, 10,150′, ♂ 12-5-12, wing 68·5, in female phase of plumage 10,160′, ♂ 16-5-12, in slaty-blue plumage; female seen but not secured, being too near to shoot. Others seen on various occasions; males mostly in female garb. All these breeding males April to May, also have the supercilium as defined as in the slaty-blue specimens. On comparing skins from N. E. Assam, I find these are typical "cruralis"; 2 ♀ ♀ in my collection are more rufous than olive in comparison with skins from Sikkim and Nepal; the average wing measurement is larger 68-68·5, though neither of these measurements reach the measurement of the largest Sikkim male, the wings of which are 65·5-71·5., av. 68-3.

258. Hodgson's Shortwing. Hodgsonius phœnicuroides (Gray).

My observations are extremely meagre in respect to this Shortwing. Obtained on one occasion only at Gopaldhara at 4,600′, ♂ 5-12-18, wing 72, in a female phase ? of plumage, and on the few occasions I have observed this bird, all have been similarly coloured, so it may be a parallel case to some of the members of the near genus *Heteroxenicus*. This specimen was shot in rank growth near the ground; at times, it appeared on the top of the vegetation and uttered a single "tsip" when its tail was raised almost perpendicularly; the eye was very prominent. Another seen, 10-3-19*, at a slightly lower altitude. 3,500′, 7-11-21*. 3,450′, 15-10-14.* 3,500′, 24-9-20.* Nurbong, 2,000′, 3-2-14*. These latter three records are not substantiated but most likely refer to this species as I only got a hurried glimpse, yet sufficient to make a mental note of the main characters. Obtained at Mangpu, 3,800′, ♀ 19-2-20 (G. E. Shaw). Obtained by O'Donel in the Bhotan Dooars, 500′, ♂ 15-2 23, ♀ 8-2-23.*

Soft parts: Iris brown; bill plumbeous-olive, upper mandible darker than lower; tarsus plumbeous-olive; soles paler.

259. The White-collared Ouzel. Planesticus albocinctus (Royle).

"*Charchar*," Paharia, applied to all Blackbirds, Rock Thrushes, etc.

Recorded for the Himalayas, "in summer found up to 13,000′, Cho La Range, August, (Blandford), in winter down to 7,000′." Observed and obtained at elevations of from around 5,000′ up to 10,000′ I have no record for a lower limit in these hills. On the North frontier of Assam it was secured on a single occasion at the base of the Dafla Hills.

Mirik, 5,200′, 14-1-16 *, one female observed, and large parties of other species of Ouzels, amongst which was *P. atrogularis* identified with certainty. Chungathang, 5,350′, 24—26-2-20, several in evidence, scattered about the maidan. Gangtok, 5,800′, early March 1917, numbers observed.

In the beautiful grounds of the Residency, their presence was an additional charm to the velvety lawns. Lachung, 8,800′, a single pair noted during the first weeks in March, 1920. Karponang. 9,500′, ♂ 21-3-17, this bird being the fore-runner of the numbers which would arrive before many days elapsed. Blandford records it from Lachung at 8,000′ in September. Seven specimens examined; ♂ Wing 140-141, av. 140-5. ♀ wing 132-139, av. 136.

Soft parts; Iris brown (of a definite colour, not hazel); bill ochreous-yellow dusky at tip; orbits ochreous-yellow; tarsus dark ochreous-yellow.

260. The Grey-headed Ouzel. Planesticus castaneus castaneus (Gould).

Evidently one of the least plentiful of the members of this genus. Obtained on one occasion only at Kalo Pokhari, Singile la Ridge, 10,000′, ♀ 3-5-12, wing, 133. This female is in slightly abraded plumage. Its condition, taken in connection with the circumstances under which it was obtained, indicated breeding hereabouts in the dense vegetation below the Ridge, on the Sikkim side of the Frontier. The following day there was an appreciable increase in the number of birds to arrive from below: *Ianthocincla ocellata*, *Tesia castaneo-coronata*, *Petrophila erythrogaster*, *Urocissa flavirostris*, which last had been absent for some time. Adversely to these additions, and contrary to my accustomed meeting with the party of *Chelidorhynx hypoxanthum*, which had haunted the ridge until this morning, it was apparent, they had ascended to even higher limits. In my "Notes on the Birds of Upper Assam", I recorded a ♂ wing, 142, obtained on the 4-3-05 at Dejoo, N. Lakhimpur, under the typical form. This record refers to a cold-weather migrant of the eastern race.

This is probably the first occasion *Planesticus castaneus gouldi* (Verr.) has been obtained within strict Indian limits. Lord Rothschild showed me specimens of a light and dark-backed form amongst a collection from N.W. Yunnan; which may eventually require separation, the bulk of the breeding birds being the dark-backed form, while some are the light-backed form; these last agree with Chinese (Chihli) birds to which my single bird is referable. For this information consult Novitates Zoologicæ, Vol. XXX, 1923, No. 1, pp. 42, 43.

261. The Dusky Ouzel. Planesticus eunomus (Temm.). (**P. fuscatus** (Pallas) auct.).

Recorded as obtained in Nepal by Hodgson. Likely to occur as a rare migrant; though I have no knowledge of any record for the Sikkim Himalaya and it is not represented from this portion of the Himalayas in the B. M. Collection.

262. The Red-throated Ouzel. Planesticus ruficollis (Pall.).

Observed and obtained at elevations of from about 3,000′ upto 10,000′. Cedars Balasan Valley, 3,200′, ♂ ♀ 5-4-17,* beautiful adult birds. Gopaldhara, Rungbong Valley, 4,720′, ♂ ♀ 7-4-15*. Above Mangpu at 5,000′ (G. E. Shaw). Chungthang, 5,350,′ 24—26-2-20, plentiful on the maidan; on the 11-3-20 had diminished in numbers. Semana basti, 6,000′, 8-2-17*, many in evidence. Kalo Pokhari, 10,160′, 1-4-12, several seen amongst the snow. Six specimens examined: ♂ Wing, 140-144, av., 142. ♀ wing, 130-136·5, av., 133·6.

263. The Black-throated Ouzel. Planesticus atrogularis (Temm.).

Undoubtedly the most plentiful and widely spread of all the Ouzels. In common with several of the other species, delights in open, bare tracts in winter where they have the necessary scope, and being at this time generally shy can more easily avoid one's approach. Gopaldhara and Mirik, late December 1911 and early January 1912, specimens obtained 1—12-1-12. Gopaldhara, 4,720′, ♀ 8-4-18. Temi, 5,000′, 16-3-20,* numbers of Blackbirds sp? sp? but this bird identified, distributed over the bare surrounding waste. Seeyok, 5,200′, 22-3-16,* two birds noted. Kalo Pokhari, 10,000′, ♀ 18-4-12, numbers seen on various occasions previously to this date, adult males being rarely represented. Obtained at Mangpu from 3,860′-5,000′. (G. E. Shaw).

Ten specimens examined from various parts of N. E. India:

♂ Wing 131-139, av. 134·5. ♀ wing 127-134, av. 130·8.

These five females are quite distinct in coloration from the females of *P. ruficollis*. There are no rufous marks on the tail and throat; in one specimen only is there a rufous tinge on the flanks, which is not to be found in any of my specimens of *P. ruficollis*: the red coloration on the throat in these skins being distinctly terminated on the upper breast in a defined band.

I have not followed the generally accepted treatment of regarding *atrogularis* a form of *P. ruficollis* as I consider both to be well-marked species.

264. The Grey-winged Ouzel. Planesticus boulboul (Lath.).

This Ouzel exerts its vocal powers at the breeding season, when it deservedly takes a leading place amongst a none too plentiful company of competitors. Recorded upto 8,000′ from the base of the hills. During the cold-season stragglers descend to the Terai, whilst *not extending over the plains* as several of the other Ouzels do, being much more sedentary in their habits, notwithstanding there is a change in its distribution according to season, as there is a marked increase in its numbers around Gopaldhara, where it commonly breeds at elevations of from 4,500′-6,500′, and it is equally numerous in the Mai Valley

in Nepal at elevations up to 9,000′ in March and April. Gopaldhara, 5,000′, 8-3-16.* A large congregation of thirty to forty birds, both sexes in about equal numbers, preparatory to nesting. Ten specimens examined: ♂ Wing 140-151, av. 144·8. ♀ wing 131-141, av. 135·8.

265. Tickell's Ouzel. Planesticus unicolor (Tick.).

Recorded for the Himalayas to Sikkim, "in summer up to about 7,000′". My impression is this Ouzel breeds in the regions far beyond or at extreme high elevations only, whatever its breeding habitat is in the N. W. Himalayas. It is decidedly uncommon, and I have only met with it on the Semana Mirik Ridge above Gopaldhara at 6,000′, when females were obtained; two on the 4-11-19 and two on the 9-11-19. Obtained as low as 600′ at the base of the hills. (G. E. Shaw).

Four specimens examined: ♀ Wing 116-123, av. 119·8.

Soft parts: Iris brown; bill olivaceous-horny, culmen and edges lighter lower mandible lighter than the upper mandible; tarsus ochreous-horny, darker at the front.

266. The Dark Ouzel. Planesticus obscurus obscurus (Gmel.).

Recorded for Sikkim. So far not obtained by either Mr. G. E. Shaw or myself. Not represented in the National collection from the Sikkim Himalayas which appear to be west of its main southerly migration route, though there is a single specimen, reputed locality Nepal, without further data, *ex* Hodgson Coll.

267. The Pied Ground-Thrush. Geocichla wardi (Jerd.).

Recorded as "summers in the Himalayas (Sikkim) up to 6,000′ or 7,000′".

The only occurrence of this rare Thrush which has come to my notice is that of an adult ♀ 24-4-20, obtained above Mangpu at 3,800′. (G. E. Shaw).

Represented in the Tring Museum, ♂ 17-6-75, *ex.* Elwes Coll. and in the B.M. Coll., ♂ March, 1879, ♀ April 1876.

268. The Orange-headed Ground-Thrush. Geocichla citrina citrina (Lath.).

Recorded as found in summer throughout the Himalayas up to 5,000′ or 6,000′. This Thrush comes up the Rungbong Valley to breed and is sparingly distributed in the interior of Sikkim. The *majority* no doubt *nesting* in the densely forested tracts at the *base of the hills*. Obtained at elevations of 3,400′-3,900′ around Mangpu. (G. E. Shaw).

Gopaldhara, 3,800′, 25-4-16*, a pair of this Thrush foraging amongst dead leaves and decaying vegetation, somewhat shy, yet they allowed me to obtain a satisfactory observation. ♂ 4-7-16,* seen on this occasion, a short distance below, on the path. 4,720′, 21-7-23,* warm with drizzling rain, a male in evidence this morning, its vocal efforts by no means to be despised, but the occasional sustained production more often than not gives way to a medley of notes with no apparent connection to its main effort.

Between Pakyong and Rungpo at 3,200′, approx. elevation, ♂ 27-3-17, procured in a narrow fissure of a coppice on the hill-side.

I have two males only for comparison (Sikkim) ♂ Wing 123. (Assam) ♂ wing 113. ♀ wing 114, all adults. A series from these two areas is desirable for further information.

269. The Blue-headed Rock-Thrush. Petrophila erythrogaster. (Vig.).

During the *breeding season* occurs commonly in the Rungbong Valley from 5,000′ upwards, and at this time is *plentiful at 10,000′* on the Singile La Ridge (April-May). Stragglers descend to the *base of the hills* in the *cold-weather*.

Observed at the bottom of the Rungbong Valley at 3,500′ in January, and obtained as low as 2,200′ in the Tista Valley. (G. E. Shaw). Bhotan Ghat, Raidak River, 30-1-22, when I observed a male taking toll of an odd white butterfly *Appais* sp. ? on the outskirts of the forest. Lepcha Jagat, near Ghoom, 7,200′, 28-5-16*, a female at work, building her nest near the road-side. Semana basti—Mirik ridge, 6,500′, 24-5-23,* a female complacently sitting on her eggs; nest in bank at road-side; standing a poor chance of survival, as events later proved. The majority of the birds breed at 7,000′ upwards in the Mai "Khola" in East Nepal. Eight specimens examined: ♂ Wing 122-127, av. 124·2. ♀ wing 118-122, av. 119·7.

270. The Blue-headed Rock-Thrush. Petrophila cinclorhyncha Vig.

This Rock-Thrush arrives at Gopaldhara in late March or early April, and nests sparingly in the Rungbong Valley. It has a *similar breeding distribution to P. erythrogaster on the Outer Ranges* generally. Its occurrences are always worthy of note and its vivid colours lend itself to easy observation; the female is not so easily located, but the birds are at this time invariably in pairs.

Obtained below Mangpu, 3,000′ (G. E. Shaw). Gopaldhara, 4,720′, ♂ early April 1914; ♂ 1-4-17; 4,500′, 2♂♂ 1♀ 8-4-17; ♂ 8-4-18; ♂ 19-4-19; 4,650′, 13-8-21*, a juvenile female, observed at close quarters, evidently had recently left the nest. Avongrove, Balasan Valley, 3,500′♂ ♀, 24-3-15.*

Kalo Pokhari, 9,000′, approx. elevation, ♀ 5-4-12, ♂ 10-4-12, 10,160′, 15-4-12,* a pair in evidence.

I have never seen it in "the cold weather" when it appears to be entirely absent from the hills.

Three examined: ♂♂ Wing 103-104; ♀ wing 100.

271. The Eastern Blue Rock-Thrush. Petrophila solitaria pandoo (Sykes).

Occurs in the Tista Valley during the *cold-season*, where I have seen it above Tista Bridge at 750′ and it has been obtained at elevations of from 1,100′-3,500′ in this valley. (G.E. Shaw). It appears to be *only found at low elevations* at this period of the year and I have no information respecting its distribution in the summer, if it is then to be found in these hills. This Rock-Thrush was obtained by the first Mount Everest Expedition at 12,500′ and occurs up to 13,500′ in Garwhal (Kinnear, Ibis, July 1922, pp. 507-8).

272. The Small-billed Mountain-Thrush. Oreocincla dauma dauma (Lath.).

Apparently *breeds* around an elevation of *8,000′ and upwards*, descending to lower elevations after the nesting season and occurs at this time in the bottoms of the valleys in the interior. Observed and obtained on the following occasions; Gopaldhara, 4,720′, 27-4-16*. single, 19—20-4-18.* Single, 18-4-23*, ♂ 12-4-17; ♀ 7-4-19, killed by dashing up against the glass-panes of the verandah; not the first occasion I have known of this accident happening to this species. Sungma, 4,500′, ♂ 18-4-17. (C.E. Brown). Gopaldhara, 4,700′, 26-9-20*, single, first arrival. 5,500′, ♂ 21-12-11; 5,800′, ♀ 23-11-20; 5,500′, ♂ 21-12-11; 4,720′, ♂ 7-2-18; 5,700′, 9-2-19; 5,500′, ♀ 11-2-19; 5,800′, ♀ 27-2-19.

Penlong La, 6,300′ to Dikchu, 2,150′, 22-2-20*, single birds about the rocks on the road-side and very tame. Chungthang, 5,350′, 24—25-2-20, numerous and loath to leave their feeding grounds. Obtained from an elevation of 1,000′ upwards in the Tista Valley to Mangpu, 3,850′, ♀, 26-3-15, (G.E. Shaw). Kalo Pokhari, 10,000′, ♀ 9-4-12.

Seven specimens examined: Wing, 142-146, av., 143·9. These measurement overlap in each sex, males being slightly larger.

273. The Plain-backed Mountain Thrush. Oreocincla mollissima mollissima (Blyth).

This Thrush is a cold-weather visitor to Gopaldhara, and as it arrives later than *O. dauma*; it is to be presumed its *upper breeding limits* somewhat *exceed* those of *O. dauma* and this conjecture has been substantiated by observation, when I found *O. mollissima* in the interior of Sikkim at Karponang ascending with the imminent hot weather, 9,600′, 25-3-17,* a single bird; obtained previously, on a raw, wet afternoon at 8,000′, ♂ 16-3-17. The majority of the birds spend the winter at 5,000′ and upwards. Tonglo, near the summit on the Nepal side of the Frontier at 10,050′. In early February 1912, for two or three days only during a "brief" mild spell of weather, odd birds were in evidence. Mai "Khola", East Nepal, 7,000′-8,000′ ♀ 28-3-12; ♂ 9-4-12. Ghoom to Sookia, Pokhari, 7,200′, ♂ 19-1-12, numbers of others observed. 7,000′ ♂ 9-12-17. Semana Basti, 6,500′, ♂ 7-2-18.

Gopaldhara, 5,000′-6,000′, ♀ 4-1-12, others seen. 4,500′, 13-10-21, first arrival, dirty weather for the three previous days. 4,720′, ♂ 13-4-17, a pair observed the previous day.

Eight specimens examined: ♂ Wing 139-146, av. 143·7. ♀ wing 140-141, av. 140·5.

One other specimen of the suppressed "dixoni" obtained at 6,000′, 4-1-12; wing, 133, is evidently an immature bird. I can detect no difference in the tail measurement. I regard the fulvous tips to the median and greater wing-coverts as a sign of immaturity; a more definite character for differentiation is the absence of the bars on the breast; it thus exhibits a larger patch of white, and in this respect on the underside resembles *O. dauma*.

274. The Himalayan Whistling Thrush. Myiophoneus horsfieldi temminckii Vig. "Kholchara", Paharia.

This handsome and sprightly Thrush is undoubtedly one of our finest songsters. It is a gratifying experience to have this bird take up its quarters adjacent to one's home, as it is then its rich notes can be heard to advantage, as it pours out at sunrise its pleasing trill. One welcomed bird took possession of the precincts of the Gopaldhara Bw. During each successive cold weather, daily, we were duly warned of its arrival, as the various stages it took in its hops to gain a commanding point of vantage on the corrugated-iron roof were quite audible, when we had not long to wait for the forthcoming melody. In January 1921, it became very tame and would make an early visit to the plant-pots on the verandah; as the warm weather appeared we lost its company, its visits becoming of less frequency until its disappearance. In another instance the fates were not so kind, as it was with regret we found our friendly visitor one morning helpless, evidently having dashed in its flight when disturbed, against one of the side walls, from the effects of this injury it never recovered. A few remain at extreme limits in winter up to 9,000′, Tonglo, Mechi Valley in Nepal, 5-2-12. Lachung, 8,800′, a pair or so about 27-2—10-3-20, and this no doubt is the case for lower limits, stragglers being found at the foot of the hills in winter. The *majority*, however, *breed at moderate elevations*, as low as 3,440′ and upwards in the Rungbong Valley. They cling in true conservative custom to a favourite haunt at the nesting period, occupying the same secluded rock, overgrown with vegetation, for preference, which unfortunately, they readily betray to the astute paharia urchin.

275. The Large Brown Thrush. Zoothera monticola Vig.

Generally distributed on the Outer Ranges. Obtained at Gopaldhara, 5,000′, ♂ 26-3-15, wing, 135, and on Tonglo at *9,700′*, ♂ 15-2-12, wing, 145, one of a pair, secured in swampy ground in dense forest-undergrowth. During the early part of the South-west monsoon in June, I have observed scattered birds feeding on the side of the Sookia Pokhari to Ghoom road at an elevation of 7,200′. Obtained in the Tista Valley at *2,500′* in October 1912. (G.E. Shaw). It escapes observation due to its partiality for dense matted undergrowth in heavy forest. Blanford obtained one specimen at 10,000′ in the Lachung Valley (September).

276. The Lesser Brown Thrush. Zoothera marginata Blyth.

Apparently comes up to breed around Gopaldhara when it is found up to an altitude of *5,000′* or thereabouts. Recorded as a permanent resident throughout its range. This statement does not hold good for this part of the district as it is *absent during "the cold weather"*. Gopaldhara, 4,700′, 19-7-21*, a pair observed at close quarters 5,000′, ♀ 5-6-21, caught on nest, containing three eggs.

Soft parts: Iris hazel; tarsus olivaceous-plumbeous.

277. The Purple Thrush. Cochoa purpurea Hodgs.

Recorded without doubt as a permanent resident up to 8,000′ at least. I have no hesitation in stating this information to be misleading as apart from its rarity; there is little likelihood of meeting with it in "the cold weather" when collecting is not as restricted as it is in "the rains", and though odd birds might remain in the bottoms of the deep valleys, only systematic searching during April to May onwards will reveal its status, when it is certain to visit its breeding grounds in common with numerous other species of Ground-Thrushes. Once obtained above Mangpu at an elevation of 5,000′, ♂ 13-5-20. (G.E. Shaw). Blanford obtained one specimen on the Cho La Range, Kaphu ? (Kapup) at 10,000′, 28-8-70. Represented in the Tring Museum, ♂ ♀ June, *ex* Elwes Coll.

In the B.M. series there are seven adults, April-August, three juveniles, August and September and a single immature male, January 1876.

278. The Green Thrush. Cochoa viridis Hodgs.

This brilliant Thrush is represented in the Tring Museum from Yunnan, (Forrest) and Amoy, December 1867, (Swinhoe) though only recorded for the Himalayas, Kumaun to Sikkim up to 11,000′. I have no first-hand information respecting this rare species. Its correct status which will only be defined by a laborious search over a wide extent of country, at present remains somewhat a mystery. It is represented from the Sikkim Himalaya by two specimens from Gokh, Rammam Valley, 2,500′-3,000′, 24-7-70, Tring and British Museums, and five others, of which one is a juvenile, same locality and date, April, June, July, B.M. Coll.

279. The White-breasted Asiatic Dipper. Cinclus cinclus cashmeriensis Gould.

Recorded for Sikkim from 9,000′-14,000′, and under *C. sordidus* at 15,000′ at which elevation Blanford appears to have met with this Dipper in Sikkim. These two birds are now generally recognized to be one and the same species. Mr. N. B. Kinnear in his article "On the Birds of the First Mt. Everest Expedition", Ibis., 1922, page 507, supports Dr. Hartert in his treatment in sinking "*sordidus*" which is merely a dark phase. It was obtained at elevations of from 12,000′-17,000′. (A.F.R. Wollaston.)

280. The Brown Dipper. Cinclus pallasii tenuirostris Bonap.

This Dipper frequents every river of importance, where it can procure sufficient sustenance, and only on occasions forsakes its accustomed haunts for the minor streams which add their quota with varying speed and volume from every conceivable gully in the vast conglomeration of mountain ranges. It plays only a secondary part, however, to the Forktails, which regard these retreats as their own preserves. There is no more fascinating bird to watch in spite of its shyness, as it dips under the water to return shaking itself free from moisture and curtesying from its point of vantage.

Mai "Khola", East Nepal, 7,500′, approx. elevation, ♂ 14-5-12, adult, wing 101, testes minute, plumage showing little sign of wear, partial moult on back, evidently nesting season completed. ♂ ♂ 21-5-12, youngsters ready to leave the nest in the first stage of plumage. It breeds at a much later period in its higher limits than it does in the gorges of the rivers on the North Frontier of Assam, where it accommodates itself to local conditions as previously recorded in my "Notes on the Birds of Upper Assam." In comparing immature birds in various stages of plumage and dates on which eggs have been taken in Assam, there is a *difference of five months apparent between the nesting period at these levels.* I have no information as to whether it is double-brooded or not in the hills ; in the latter event there must be a heavy percentage of deaths through some unknown cause, as they breed in secluded and generally inaccessible places, and it is remarkable that it is not more in evidence, instead of the few scattered birds that invariably attract notice.

281. The Eastern Alpine Hedge-Sparrow. Laiscopus collaris nipalensis (Blyth).

The winter distribution of this Accentor is especially interesting. It *never descends below 9,000′ on the Singile La Ridge* and at about 9,500′ in the mountains to the north-east of Gangtok. In the *Lachung Valley* it occurs at *8,500′ and on occasions 2,000′ lower.* When one considers to what extreme heights it attains in the summer ; the extraordinary low limit reached in this valley is remarkable, but as an elevation of *6,500′* hereabouts sharply defines the delineation between the two zoological regions, both in respect to animal-life and the vegetation ; it is appropriate that this typical high-elevation species should share, with other strictly sedentary Palæarctic species, the distinction in descending to this low limit, notwithstanding the fact that its breeding habitat is likely to be only at high altitudes. A summary of my observations and records during the winter is as follows : Sandakphu to Phalut, 11,600′. ♀ 16-2-12 ; one of a pair. Sandakphu 11,800′, ♂ 7-3-12 ; 9,000′, ♂ 14-3-12. Observed on a few other occasions, invariably in pairs amongst the huge boulders on the exposed southern face of the mountain. In this locality they seek shelter and obtain the necessary protection under stress of severe weather. At times seen on the bare open patches of ground on the "dharas" or ridges and found foraging when the ground was heavily covered with snow. Very wild and generaly difficult of approach unless taken by surprise. Karponang, 10,000′, ♂ ♂ ♀ ♀, 17—22-3-17 ; all obtained when frequenting rocky, boulder-studded ground. A single bird to be seen every morning during our stay, in and about the drains of the detached cook house at Karponang Dak Bw. at 9,500′ ; unobtrusively attending to its wants with the confidence of a town-sparrow. Lachung, 8,500′, ♂ 5-3-20. A few birds at scattered intervals along the pleasant, wooded path which followed the gentle undulations of the open valley ; they had got accustomed to the daily passing to and fro of the few villagers, being in no way perturbed at my presence. Near Kedom at 7,500′, 11-3-20, a single bird seen, and between Kedom and Chungthang at 6,500′ on the same day, another

bird ; both of which, were to all appearance, lethargic with the heat in this, the narrow portion of the valley. The almost sudden change from the rigorous cold which I had recently experienced to the delightful warmth which became more marked with the rapid descent was just to my liking. Blanford never met with this bird below 14,000′ in the Lachung Valley but not in the Lachen Valley (September).

I have an aversion to calling this bird a Hedge-Sparrow. It somehow seems inappropriate to link it with the little, sombre bird of rural England. Similarity in form, movement, and not least the ability to withstand a rigorous climate are traits in common ; yet its chosen home is the inhospitable, vast mountain-tracts of the Himalayas, whose rocks and boulders do not coincide with English hedgerows. We are apt to overlook the significance of our trivial and common-place names. Changes in the scientific names of some of our familiar birds have taken place in recent years rendering the employment of the trivial name almost a necessity, and the importance of these names may come more into prominence until we have obtained uniformity ! ! This bird has been singularly unfortunate with its share of generic changes. Five specimens examined : ♂ Wing 98-102, av. 101. ♀ wing 92-96, av. 94. Soft parts : Iris bright brown,—" a defined brown, not hazel"; bill black, excepting base of lower mandible to the extent of two-thirds ending in a point at edge of bill deep yellow ; tarsus cinnamon-ochreous ; claws black ; soles greenish-ochreous.

The following records have no direct connection with this paper but being of remarkable interest are thus inserted. A pair observed at 21,000′ and the Mount Everest Expedition obtained it along with the Redstart (*Phœnicurus ochrurus rufiventris*) at 18,500′, on the 20th July and 20th September 1921 respectively, the greatest elevation from which specimens were brought back. Kinnear, N. B., Ibis. July 1922, pp. 508-510.

282. The Altai Hedge-Sparrow. Laiscopus himalayanus (Blyth).

The only locality where I have obtained this bird is above Karponang at an elevation of *9,800′-10,000′ during March* and although I only secured one ♀, 17-3-17; numbers were to be seen in their accustomed haunts, dodging in and about the crevices under rocks, occasionally a bunch of them would rise up for a brief interval and just as quickly settle a short distance away.

283. The Maroon-backed Hedge-Sparrow. Prunella immaculatus (Hodgs.).

Sparingly distributed and of irregular occurrence at elevations of from *7,000′—8,000′ during the winter.* Ghoom to Sookia Pokhari, 7,200′, ♂ ♀ 19-1-12, secured out of a party, located on the trees adjacent to the road-side, when the road was clear they would recommence feeding on the ground. Senchal, 8,000′, ♂ ♀ 6—7-2-17.

Four specimens examined : ♂ ♂ Wing 85-87. ♀ ♀ wing, 74-78.

284. The Robin Hedge Sparrow. Prunella rubeculoides (Hodgs.).

Obtained by the Mount Everest Expedition at 17,000′.

Recorded for Sikkim above 14,000′, (Blanford) and June and October specimens from Sikkim examined by Oates. There is little doubt that this Accentor occurs only at *extreme high limits.* I have no information respecting its status in the winter with the exception of a doubtful observation of a single bird on Sandakphu summit at 11,800′ on the 15-2-12.* My inability to secure it, was due to a series of misfortunes : a heavy mist, snow-covered ground, and biting cold impeding my movements and sight. I was yet to undergo further trials :

a night by the road-side, two days without food at Phalut, an additional day to reach the Sandakphu rest-house, which we had overshot in the darkness, having covered 39 miles and more on foot since the last square meal in the meantime, as the pack-pony drivers with my camp kit and provisions lost heart at the snow-drifts on the track, choosing to leave my trusty servant and myself to our own resources. Blanford speaks of this bird replacing *Laiscopus nipalensis* in the Lachen Valley where he found it above 14,000′ together with *Fringillauda brandti hæmatopyga, Otocorys alpestris elwesi* and other birds belonging evidently to the Tibetan fauna.

285. The Brown Hedge Sparrow. Prunella fulvescens fulvescens (Severtz.).

Obtained by the Mount Everest Expedition at 13,500′.

Recorded for Sikkim in winter only ; Mandelli having procured this species in the country north of Sikkim ; so it is safe to presume this Accentor is also confined to *extreme high limits.*

286. The Rufous-breasted Hedge-Sparrow. Prunella strophiatus strophiatus (Hodgs.).

Blanford records it from Yumthang 12,000′ (September) and it was obtained by the Mount Everest Expedition at 15,500′.

Sparingly distributed *during the winter* at elevations of from *7,500′-9,000′*, Outer Ranges, Jalapahar, 7,500′, ♀, 13-2-20, several about amongst the rocks, when it was observed to be an adept skulker and to remain very silent, Interior, Lachung, 8,800′, ♂ 28-2-20, ♀ 1-3-20, where it was apparently far from numerous.

Five specimens examined : ♂ Wing 68-71, av. 69·5. ♀ wing 65-67, av. 66·5. Soft parts : Iris bright brown ; bill horny-black, base of upper mandible, ochreous ; tarsus ochreous-pinkish ; claws dusky-horny.

287. The Fairy Blue-bird. Irena puella puella (Lath.).

Probably not found far above the base of the hills. Obtained at *plains-levels* in the Darjeeling District. (G. E. Shaw).

Recorded up to 4,000′ which may be safely regarded as too great an extreme for the Sikkim Himalaya.

288. Hodgson's Munia. Uroloncha acuticauda acuticauda (Hodgs.).

Occurs in the Rungbong Valley up to about 6,000′, and around Mangpu at 3,850′ above the Tista Valley (G. E. Shaw). In this last locality Gammie remarks on it breeding during a period from the middle of June to the middle of August at 2,000′-4,000′.

289. The Spotted Munia. Uroloncha punctulata punctulata (L.).

Breeds plentifully at Gopaldhara up to 5,000′, and at a similar elevation, 4,800′ around Mangpu. (G. E. Shaw).

290. The Allied Grosbeak. Perissospiza ~~icteroides~~ affinis (Blyth).

This fine Grosbeak occurs sparingly on the Singile La Ridge *during the winter* and evidently does not descend to a lower limit than about *9,000′* on either side of the Nepal-Sikkim Frontier.

Tonglo, (Nepal) 9,500′, ♂ 30-1-12, bill 24, wing 126, one of a small party, an adult bird : some of the primaries not fully grown. Tonglo, (Sikkim) 9,900′, ♀ 12-2-12, bill 23, wing 132, one of six birds or thereabouts, frequenting the tops of the high trees.

Soft parts in the female: Iris brown; bill greenish-blue (sea green); tarsus fleshy; claws horny.

291. The White-winged Grosbeak. Perissospiza carnipes carnipes (Hodgs.).

Apparently *replaces P. icteroides affinis in the Interior* of Sikkim. Fairly numerous around Lachung at elevations of 8,500′ to 9,000′ during February and March 1920, mostly in scattered pairs. 8,500′, ♀ 9-3-20; 8,800′, ♂ 9-3-20, in the female phase of plumage, one of a pair of similarly coloured birds; the female being in distress and averse to leave its companion, giving every indication this male was paired for nesting. 9,000′, ♂ ♂ 1—6-3-20. Karponang, 9,600′, ♂ ♀ 23-3-17. 10,500′, ♂ ♀ ♀ 19-3-17, obtained near the snow-line.

There is little likelihood of this Grosbeak being found at the recorded low elevations "occasionally descends to 5,000′," "generally above 8,000,′" as it has a *definite Palæarctic status*; so far *not obtained below 8,500′ in the interior*. Nine specimens examined: In seven out of this series the bills are smeared with a black, resinous matter—the viscous juice of some favourite berry. ♂ ♀ Bill from feathers at base 20-22, av. 21 Wing 113-120, av. 115·5.

Soft parts: ♂ Iris brown; tarsus plumbeous-brown.

292. The Spotted-winged Grosbeak. Mycerobas melanoxanthus (Hodgs.).

Reported to me by the late Mr. W. K. Webb as having occurred at Pobong at 5,500′ below the Ghoom to Sookia Pokhari Ridge, and obtained above Mangpu at *4,400′*, ♂ ♀ 12-3-21. (G. E. Shaw). There is little doubt that this Grosbeak covers a wider extent of country during the winter. Its *breeding habitat* must however be at *extreme high altitudes*. As it is decidedly rare, information respecting its appearances is most desirable. Elwes obtained a specimen at (Yumthang) Yeomatong at 11,000′ in the upper limits of the Lachung Valley as recorded by Blanford.

293. The Red-headed Bullfinch. Pyrrhula erythrocephala Vig. "Kobyu," Lepoha.

During the winter and early summer this Bullfinch is found at considerably *lower limits in the Interior* of Sikkim *than on the Outer Ranges* at a similar period of the year. Dikchu-Singhik, at 3,650′, 22-2-20*, observed hereabouts. Singhik at 5,200,′ ♂ 12-3-20, several scattered birds composing a party in which the sexes were equally divided. Gangtok, below the Durbar Hall and close to the Bazar at 5,700′, 15-3-20*, a small party entirely composed of six males, remarkably confiding, feeding on the nettles at the side of the path. Temi (south of) to Namchi, at 6,650′, 15-3-20*, three parties observed hereabouts, feeding on the seeds of the rank nettles which grew in profusion on the hillside. Lachung, 9,500′, ♀ 2-3-20, one of a pair, and likely to be an early nesting couple, as the majority of the birds were at much lower limits at later dates. Tonglo, Sikkim side of the frontier, ♀ ♀ 21-1-12, ♀ 26-1-12, occurred on both occasions, in small parties entirely composed of females; on no single occasion did I ever come across a male. Obtained on Sandakphu at 11,900′, ♂ 14-8-05. (C. M. Inglis). Blanford obtained it on the Cho La Range at 11,000′ and also in the Lachen Valley and states not common in North Sikkim. Six specimens examined: ♂ Wing, 77-78, av., 77-5. ♀ wing, 76-78·5, av., 77·7.

294. Beavan's Bullfinch. Pyrrhula erythaca erythaca Blyth.

Recorded for Sikkim. Evidently very rare and confined to *extreme high altitudes*. Neither Blanford nor Elwes met with it in the far interior. Represented in the National Collection by 7 ♂ ♂, collected in April 1874 from Sikkim.

295. The Brown Bullfinch. Pyrrhula nipalensis nipalensis Hodgs.

I have failed to locate this Bullfinch in the Interior of Sikkim.

It occurs *more frequently on the Outer Ranges.* Obtained near Sonada at 6,500′, ♂ ♀ 9-9-19. (G.E. Shaw). Kalo Pokhari, Nepal-Sikkim Frontier, 10,160′, a small party observed adjacent to my camp in early May 1912. They were entirely absent along the Ridge during the winter months when there is little doubt they had descended to lower limits. It has been obtained in summer on Tonglo at 10,000′, ♂ 30-6-04. (C. M. Inglis). Blanford obtained it in the Lachen Valley at about 10,000′, but states not of frequent occurrence which remark also applies to *P. erythrocephala.*

296 The Gold-headed Bullfinch. Pyrrhoplectes epauletta (Hodgs.).

Descends to *the valleys in the winter,* and is attracted to patches of ground overgrown with nettles, the seeds of which are a favourite food of all the Bullfinches. Hooker mentions two species of nettles, both of which virulently sting (*Urtica crenulata*) occurring in the valleys of the interior and (*Urtica heterophylla*) as being found in the valleys of the outer ranges.

During one cold-weather obtained at elevations of from 4,650′-4,720′ around Gopaldhara, ♂ 26-3-11, ♀ 30-3-11. Temi (south of) at 6,700′, 15-3-20*, a pair at the road-side. Mai "Khola," East Nepal, 6,000′ approx. elevation, ♂ ♀ ♀ 24-4-12. Observed in "maling" bamboo thickets at about 7,000′, 28-3-12*, when it was certainly ascending with the warm weather. Obtained at Kalo Pokhari at 10,000′ ♂ 1-5-12, ♀ 7-5-12. Sookia Pokhari, 7,200′, ♂ 18-4-17 *, an extremely late date to be at this elevation, notwithstanding they arrive comparatively late at their breeding haunts. Blanford obtained it on the Cho La Range at 11,000′ in August.

Four specimens examined: ♂ ♀ Wing 77-78, av. 77·5.

297. The Himalayas Crossbill. Loxia curvirostra himalayana Blyth.

A rare vagrant on the *Outer Ranges during the winter.* Sandakphu, below the summit on the Nepal side of the mountain at 11,500′, ♂ 7-3-12, secured whilst hanging on to the face of a boulder, ♀ lost owing to its falling into an inaccessible place. This single pair was located amongst huge boulders on the southern precipitous face of the mountain, and this was the only occasion I met with the Crossbill. All efforts to find it in the pine forests being fruitless. The male had the testes developed and they were evidently an early breeding pair. The stomach contained only minute pieces of white quartz or felspar which had been nibbled from off the rocks, when at this occupation I had shot them. This male is more orange than rose coloured on the parts which are at times rosy-red; the female was observed to be in a pale phase of coloration. Turzum, *5,200′,* ♂ ♂, 28-12-16, ♂ ♀ ♀, 12-2-17, for which specimens I am indebted to Mr. O. Lindgren. One male only, in the deep phase, rosy-red; one ♀ sexed without error, similarly coloured to the male, only these parts are orange-yellow; another female evidently typical, the only bright portion is the greenish-yellow of the upper tail-coverts. Any abrasion that takes place in these males during the breeding period decreases the brilliancy of the plumage, as these specimens, February—March, had completed their moult. Wing, 82-85, av., 83-3. Well represented in the B.M. Coll. by Mandelli's skins from the interior of Sikkim.

Soft parts: Iris hazel-brown; bill, upper mandible dark horny, lower mandible tinged greenish, under portion dark horny; tarsus brownish-horny; claws darker.

298. The Scarlet Finch. Hæmatospiza sipahi (Hodgs.).

This brilliant Finch is a *widely spread* vagrant and occurs *at various elevations* in forest *during "the cold weather."* The following records and observations give some indication of its wanderings :—Namsoo, 2,200′, 7-2-14,* a small party observed on the east side of the Balasan River. Gangtok-Dikchu at 4,500′, 22-2-20,* a large party in the valley of the Dikchu. Gopaldhara, 4,550′, ♀ 31-3-11, ovaries normal ; ♀ 26-3-11 ; 4,700′, ♂ ♂ 8-1-12 ; ♂ ♀ 11-1-12; 5,800′, 10-2-19,* three or four pairs observed. 6,000′, ♂ ♀ 10-3-18 ; ♂ 17-2-18, in small parties of six or thereabouts. ♂ ♂, ♀ ♀ 10-2-18. Ridge above Temi at 6,800′, 15-3-20′,* a large party on the slopes of the ridge. Obtained at elevations of from 1,900′-5,800′ in the Tista Valley below and above Mangpu. 1,900′, ♂ 23-2-19, 4,100′, ♂ juv., ♀ juv., 20-5-20 ; 5,000′, ♀ ♀ 16-12-12 ; 5,800′, ♀ ♀ 30-11-20 (C. E. Shaw).

Eight specimens examined: four ♂ ♂ wing 94-102, av. 99; four ♀ ♀ wing 100 and this measurement in this sex is constant in these specimens. The difference in length of the wing in both extreme measurements of the males representing equally adult birds is just as marked in the total length measurement taken in the flesh 6·2″-7·5″. In one male 8-1-12, the first three primaries are in process of being replaced, and in one female 11-1-12, the 1st primary is not fully grown. The Iris in the adult male is stone-brown.

299. The Red-headed Rose-Finch. Propyrrhula subhimachalus (Hodgs.).

Oates quotes Jerdon, who states he found this Finch near Darjiling. This record is vague if we understand the term to include the district. Observed on the Singile La Ridge on two occasions only. Tonglo, 10,000′, ♀ 23-1-12, wing, 93. 1st primary, growth not completed. Kalo Pokhari, 10,000′, ♀ 28-4-12, wing, 93. Both birds were secured in the foliage of some dwarf trees at no great height from the ground, difficult to locate owing to their greenish plumage and silence ; no males seen.

Soft parts : Iris hazel-brown ; bill, upper mandible blackish-horny, lower mandible pale horny, dark at the tip ; tarsus brownish-horny.

300. The Red-breasted Rose-Finch. Pyrrhospiza punicea punicea Hodgs.

Obtained by the Mount Everest Expedition at 17,500′, "never below 16,000."
Recorded for Sikkim at elevations of from 10,000′-17,000′.
Evidently it only occurs at *extreme heights.* Blanford records it from the Cho La Range at 14,000′, 27th August 1870.

301. The White-browed Rose-Finch. Carpodacus thura thura. (Bp. & Schleg.).

This Rose-Finch *occurs more plentifully in the Interior* of Sikkim than it does on the Outer Ranges at similar altitudes during the winter. Numerous above Karponang around 10,000′-11,000′ from the 17th to the 23rd of March 1917. Lachung, 8,800,′♀ 28-2-20; 9000′-9500′, ♂ ♂ 4—5-3-20. Sandakphu, 10,500′, ♂ 15-2-12, one of a pair ; this bird is in the female phase of plumage, obtained whilst feeding on the barren mountain-track in a dense overhanging mist and on a piercing, cold evening. There are few more delightful sights than to wat h a party of these Rose-Finches flitting about the Rhododendron trees when the vegetation and ground is coated with a mantle of snow. Recorded Cho La Range 12,000′ August. (Blanford). There is little doubt that some males breed in the female phase of plumage. Twelve specimens examined : ♂ adult, Wing 83-85, av. 84 ; ♂ in female phase, wing 81-82, av. 81·5. ♀ wing 80-83 ; av. 81·3.

302. The Beautiful Rose-Finch. Carpodacus pulcherrimus pulcherrimus (Moore).

Evidently confined to the higher reaches of the *valleys in the interior during the winter*, probably ascending to extreme limits to breed. Lachung, 8,800′, ♀ 22-2-20, wing 75. Secured out of the naked branches of a stunted tree. I suspected others to be in the vicinity which were overlooked.

Obtained by the Mount Everest Expedition at 14,800′.

303. The Pink-browed Rose-Finch. Carpodacus rhodochroa (Vig.)

The distribution of this Rose-Finch as given by Oates is from Dharmsala to Nepal. *The following records extend its range to the frontiers of Western Sikkim.* Tonglo, 10,000′, Sikkim side of the Frontier, ♂ 22-1-12 ; ♂ ♂ 8-2-12. These males were secured out of small parties of mixed sexes. ♂ wing, av., 71. Neither of the next two Rose-Finches have so far been obtained within the actual borders of Sikkim, but as it is interesting to know the nearest locality to the frontier where they have been obtained; I quote from Mr. N. B. Kinnear's article in the Ibis which has supplied me with the Mount Everest records. *Carpodacus severtzovi* Sharpe., breeds commonly in southern Tibet and Colonels Bailey and Steen found nests at 14,000′ near Gyantse. *Carpodacus rubecilloides* Przew. Specimens of this Rose-Finch were obtained by Colonel Walton up to 15,200′ in southern Tibet during December, April and May, and he states that its distribution coincides with that of *C. severtzovi* which is Kinnear's reason for keeping them separate as good species.

304. The Spotted-winged Rose-Finch. Carpodacus rhodopeplus rhodopeplus (Vig.).

Recorded for the Himalayas, Garwhal to Sikkim. The National Collection is only represented by specimens from Nepal.

305. Edwards's Eastern Rose-Finch. Carpodacus edwarsii saturatus. (Blanf.)

Occurs at *elevations of from about 8,000′ to 10,000′ on the Outer Ranges and also in the Interior* of Sikkim. Kalo Pokhari, 10,000′, ♀ 23-4-12 ; ♀ 15-5-12 ; ♂ 19-5-12. Mai "Khola", East Nepal, 8,000′, ♀ 28-3-12. Found frequenting the dense "maling" bamboo growth on the precipitous mountain-slopes when disturbed, occasionally rising into the bare branches of any near-at-hand tree. Lachung, 9,000′, ♂ 1-4-3-20, several observed on the ground hereabouts. Karponang, 9,600′, ♀ 18-3-17, procured on snow-covered ground in a thicket of heavy "maling" bamboo. Five specimens examined : ♂ Wing 81-85; av. 83-7. ♀ Wing 80-82 ; av. 81.

306. Hodgson's Rose-Finch. Carpodacus erythrina roseata (Hodgs.).

Obtained by Colonel Walton at 15,000′, October, in Tibet.

It occurs on the *upward migration at moderate elevations.* Observed and obtained on the following occasions at that period, with the exception of one cold-weather record. Rungbong Valley, Gopaldhara, 4,720′, ♂ ♀ 21-3-16, an adult male in deep phase of coloration seen at the same time. Thurbo, 4,250′-4,300′, ♀, 23-3-11 ; ♂ 25-3-11, one of a party of a dozen or thereabouts frequenting some peach trees in cleared ground. Gopaldhara, 4,720′, 5-4-14*, About sixty to eighty birds, adult rose coloured males much in the minority. 11-4-15,* a small party containing eight to ten birds, of which two were richly coloured males, females and immature males predominating. 4,800′, ♀ 3-11-20, "in fat condition", obtained out of a small party of six birds, all females or juvenile males. When the latter are in this phase of plumage it is impossible to discriminate between the sexes. These birds were feeding on the millet seed which

is grown by the paharias for brewing into "murwa" liquor. Cedars, Balasan Valley at 3,200′, ♂ 5-4-17, in female phase of coloration, frequenting the gaudy flowers of some "falada" trees. Obtained at 3,000′, ♂ 6-5-21, and at 3,800′: ♂ 21-4-20, around Mangpu (G. E. Shaw). Ten specimens examined. ♂ Wing 82-87, av. 84·1. ♀ Wing 78-82; av. 79·7. Dr. Hartert's measurements ♂ ♀ wing 85-90.

307. The Dark Rose-Finch. Procarduelis nipalensis (Hodgs.)

Blanford obtained this Rose-Finch on the Cho La Range at 13,000-14,000′ (27th August 1870). During the *winter* this Rose-Finch comes down to *an elevation not much below 7,000′*. Once actually *obtained at 4,500′* on the Pashok Spur *on the Outer Ranges*; whereas in the Interior it occurs at an elevation of under 6,000′. Ghoom to Sookia Pokhari, 7,200′, ♂ 19-1-12, secured out of a party of which there were several such, seen feeding on the road, and below Sookia Pokhari the previous day at 6,800′. Mai "Khola" East Nepal, 8,000′, ♂ 16-4-12; 9,000′, ♂ 25-5-12. Kalo Pokhari, 9,000′, ♀ 30-4-12; 10,000′, ♂ 18-4-12. Senchal, 8,000′, a large party numbering about fifty birds foraging on the road after a fall of snow on the 6-2-17. Below Lopchu at about 4,500′, ♂ 12-3-17, a remarkable low limit where *P. rubescens* was also obtained. Gangtok, 5,800′, 21—22-2-20, observed on the more secluded station-paths. Sandakphu and Phalut, 11,811′, ♂ 11-8-05, (C. M. Inglis). Four specimens examined: ♂ Wing 88-91; av. 89·7. ♀ Wing 81. Dr. Hartert's measurements: ♂ ♀ wing 90-93.

308. Blanford's Rose-Finch. Procarduelis rubescens Blanf.

Recorded for Sikkim and the Eastern portion of Nepal, "probably at high elevations". I have located it on *several occasions during the winter below* 6,000′, and on *one occasion actually at* 4,500′, a remarkable low altitude. Observed in Gangtok in small parties at 5,800′, 15-3-17.* Rungmook. Observed in parties on the ground at 5, 600′, 31-3-17, specimens secured above this place at an elevation of 5,900′ on the 5-4-17, in a small cryptomeria plantation; when they showed every sign of being in readiness to migrate to higher limits, as they were very restless and in the upper outskirts of the wood in a party of twenty to thirty birds. Fortunately, I anticipated this event, as I was by no means sure of meeting with them again, some time having elapsed, and an abortive attempt by my shikari had not helped matters. Obtained below Lopchu on the Pashok Spur at 4,500′, ♂ 12-3-17. Four specimens examined: ♂ Wing 80-83, av. 81·7. ♀ Wing 80.

309. The Red-browed Finch. Callacanthis burtoni (Gould).

Obtained on the *Singile La Ridge in winter, but found below 9,900′*. Tonglo at 10,000′, on the Sikkim side of the Frontier, ♂ ♂ ♀ 23-1-12; ♂ ♀ ♀ 12-2-12. Secured in the foliage of the trees which were in leaf at the time in a more sheltered quarter. No others seen on the second occasion with the exception of the three specimens obtained. There was no evidence to prove that these birds belonged to a combined party, but rather that they were scattered individuals. Dr. Hartert has mentioned this extension of its previously known range in his exhaustive work on the Palaearctic birds which Oates only recorded as far east as Kumaun.

Soft parts: Iris hazel; bill in male horny, base of the upper mandible and the whole of the lower mandible dull yellow, excepting the tip which is dark; bill in female similar, but without the yellow tinge.

310. The Tibetan Twite. Acanthis flavirostris rufostrigata (Walton).

Possibly may occur on the high eastern borders, as it is recorded from the Chumbi Valley at Gyantse in Tibet; where it has been obtained up to 15,200′. (Walton).

311. The Himalayan Greenfinch. Hypacanthis spinoides (Vig.).

Obtained by the Mount Everest Expedition at 12,500′.

This Finch commonly occurs around Gopaldhara at 4,720′, and is only absent for a few months, noticeable in August during the breeding season. In "the cold weather", small parties descend to the bottom of the valley at 3,440′. *Arbor vitæ* (Thuya) trees when seeding being the attraction; these have been planted at more or less regular intervals to demarcate the main paths through the estate. 29-3-18, observed in scrub-growth gradually receding from the vicinity of the bungalow. Mirik, 5,400′, 29-3-20, exceptionally large flights. Gopaldhara Bw., parties about in June 1914. 7-4-16, still in parties. 22-5-23*, in evidence at evening by their call. 15-6-15, much in evidence with their twitterings. 7-7-21, this morning a few birds observed to be feeding on the *Calliopsis* in the compound, the harmonizing tone of the yellow and green tints of the birds with the rich yellow flowers producing a pleasing effect. 12-7 23*, a pair at all events amongst the Calliopsis. They are very partial to the seeds of the Sunflower, which has spread to the surrounding country-side, and wherever various Coniferæ have been planted for utility or picturesqueness; it is obvious this bird has *extended its range to much lower limits* since these favourable conditions have developed. Obtained above Mangpu at elevations of 4,700′-6,500′. (G. E. Shaw).

Gopaldhara to Seyok, a series of ten specimens obtained at elevations of from 4,700′-5,000′ from the 19-12-11—7-1-12. Males in adult stage of plumage uncommon; immature birds of both sexes, impossible to separate by colour. Some time evidently has to elapse before the rich yellow tints of the mature bird are assumed and as Oates remarks summer birds sometimes fail to show the yellow tint of the forehead; it is fair to presume more than one year is required before it reaches maturity in this respect. One ♂ obtained 25-7-20 at 4,720′, when a few ~~more~~ wont to come into the compound to their favourite flowers has the deep, rich yellow tints well marked. Blanford records it as common in small flocks to about 9,000′ locally in the Lachung Valley and early in September in flocks as low as 7,000′ at Kedom. Not noticed on the Cho La Range or at high elevations in Northern Sikkim.

312. The Sikkim Siskin. Chrysomitris tibetana tibetana Hume.

Recorded for the interior of Sikkim at *high elevations* bordering on Tibet.

313. The Indian House Sparrow. Passer domesticus indicus Jard. and Selby.

Occurs up to an elevation of 4,500′ at all events in the Rungbong Valley, though it is capricious in its distribution and takes second place to its ally in the hills. I have not noticed any mutual understanding between these two Sparrows as sometimes happened in the Plains, when both more or less equally shared what accommodation was available for nesting.

314. The Indian Tree-Sparrow. Passer montanus saturatus Stejn.

Resident and numerous in the station of Darjeeling and similarly firmly established in the interior of Sikkim at Gangtok. The elevation of the former town at Observatory Hill is 7,163′, and as it is found at Jalapahar around 7,000′; this elevation is a slight increase on its recorded distribution upto 7,000′. In summer, however, I have never observed any tendency to increase its limits as this Sparrow is sedentary and occasionally gets an acquaintance with light falls of snow hereabouts, in exceptional winters. Gopaldhara 4,720-

This bungalow evidently is not suited on to its requirements as at Turbo, 4,500′ where it breeds in fair numbers. A single bird was intent on finding quarters at Gopaldhara on the 24-4-18, but contented itself with a cursory look around and then left. A form of the Tree-Sparrow was obtained at 14,000′ during the Mount Everest Expedition.

315. The Cinnamon Tree-Sparrow. Passer rutilans cinnamomeus (Gould).

This Sparrow appears to pass over the hills at moderate elevations when on migration. Recorded up to 7,000′ for the Himalayas. I have strangely enough failed to meet with it in Sikkim. Bailey found this Sparrow breeding at 13,000′ in Tibet. Well represented in the B. M. Coll. by Sikkim, Tibet and Bhotan Dooars specimens. (Mandelli).

I have since observed a small party above Sungma at 5,000′, 1-9-23* which I have little doubt was composed of this Sparrow.

316. Blanford's Mountain-Finch. Chionospina blanfordi (Hume).

Included on the record of four specimens in the Hume collection which were procured near Darjeeling! Obtained by the Mount Everest Expedition at 15,200′.

317. The Red-necked Mountain-Finch. Chionospina ruficollis (Blanf).

Recorded by Blanford for Sikkim at 15,000′-16,000′ on the Kangra Lama Pass and at Phàlung. (September).

318. Adams's Mountain-Finch. Chionospina nivalis adamsi (Adams).

Obtained by the Mount Everest Expedition at elevation of from 14,000′-16,000′.

Recorded according to Hume as far east as Sikkim and appears to be found at 11,000′-14,000′ in summer.

Sandakphu to Phalut at an elevation of over 11,000′ one or two specimens of a Snow-Finch or typical *Montifringilla* sp ? very "white" birds were seen on the mountain-track, 19-2-12,* but unfortunately, none were secured. I had no time to waste on the road as this was my fourth day without food, with every chance of darkness coming on before I reached my destination, and the track was in places deep in snow. "This remedy is not to be recommended in its entirety as a certain cure for malaria!"

319. Mandelli's Mountain-Finch. Chionospina mandellii (Hume).

Recorded for the Tibet-Sikkim borders as procured by Mandelli.

320. Hodgson's Mountain-Finch. Fringillauda nemoricola nemoricola Hodgs.

During the winter occurs on the Outer Ranges at all elevations from 6,500′ and "on *one occasion seen 1,300′ lower*" *up to 12,000′*. At this period of the year, it appears to be met with less frequently in the interior. Tonglo, Singile La Ridge, 10,000′, six ♂♂, one ♀, 22-1-12. Sandakphu, 11,900′, ♂ 2-3-12. ♂♀ 7-3-12, ♂ 13-3-12. Large parties were observed in January on Tonglo, feeding on the barren mountain-summit, and often seen at rest on the naked branches of the trees on the north side of the frontier. The sexes apparently keep in separate parties this month as the first batch of six specimens were

secured out of one party and were all males, which might have been a coincidence yet at Sandakphu in March the intermingling of the sexes had undoubtedly begun. Observed at Phalut on the summit at 11,800′, 16—19-2-12, in small parties ; the mountain was at this time covered in snow with heavy drifts on the ridge.

Seeyok, 5,200′, December 1917, a party of approximately two hundred birds observed flying overhead. Semana basti, 7-3-15, in cleared ground on the south side of the village, a party of from thirty to forty birds at 6,500′. Jalapahar, 7,500′, ♂ 13-2-20, several about on the rocky ground and using the telegraph wire to settle on.

Senchal 8,500′, 7-2-17, a few noted. Karponang, 10,500′ ♂ ♀ 22-3-17. Okayti, 5,500′, 26-12-12,* a large party, presumably this Finch.

Nine specimens examined. ♂ Wing 97·5-105, av. 100·6. ♀ wing 95-96, av. 95·5. All these are typical, inclusive of one ♂ only, 22-1-12, which has the streaks faintly indicated in the "rufous" of the crown, this coloration evidently is rarely present ; one exception is a ♂ secured along with others out of the same party of males with the axillaries ashy-white and tips to the median and greater wing-coverts tinged with rufous, is without the yellow at the base of the bill and shows no indication of the ashy-white supercilium. This specimen agrees in all respects with *F. n. altaica* (Eversm.). If the locality and circumstances were not known it would be impossible to identify correctly. Obtained by the Mount Everest Expedition up to 17,000′.

Soft parts : Iris sienna-brown; bill light horny-brown shading darker towards the tip, base of upper and lower mandible dull yellow ; tarsus horny-brown ; soles dull yellow.

321. Brandt's Mountain-Finch. Fringillauda brandti hæma topyga (Bonap).

Recorded for Sikkim at *high elevations* of from 12,000′-19,000′.

Blanford met with this bird on the Kangra Lama Pass at elevations exceeding 15,000′ in flocks of fifteen to twenty (September). Obtained by the Mount Everest Expedition up to 17,500′.

322. The Indian Grey-headed Bunting. Emberiza fucata arcuata Sharpe.

Recorded as resident in the whole of the Himalayas ; "breeds from 6,000′-8,000′". This statement is certainly misleading if Sikkim is included in this category. Buntings are conspicuous by their absence. Not represented in the B.M. Coll. from Sikkim. Mandelli obtained one from the Bhotan Dooars, February 1874.

323. The Little Bunting. Emberiza pusilla Pall.

The Little Bunting occurs irregularly in limited numbers at *varying altitudes* for brief periods on its *downward and upward migration* to and from the Plains.

Gopaldhara, 3,800′, 9-4-19, an odd ♂ ♀ pair or so on the flat in "the tea."

Nigali near Mirik, 5,500′, ♀ 23-3-11. Kalo Pokhari, 10,000′, ♀ ,23-4-12. A small party observed in the Botanical Gardens in Darjeeling on its ascent, date overlooked. Obtained at Gopaldhara, 4,500′, ♀ 23-12-11. Seen at Turzum, 4,500′, 18-1-12.* Obtained at Mangpu, ♂ ♀ 8-12-12 (G.E. Shaw). Okayti, 5,500′, 26-12-21,* a small party below the ridge.

Gopaldhara, 4,600′, 10-1-19, ♀ secured out of a party of a few birds.

324. The Yellow-breasted Bunting. Emberiza aureola Pall.

Represented in the B.M. Coll. by one specimen, October 1872, (Mandelli) and a few from Nepal (Scully and Hodgson).

Recorded as a common winter visitor to the Himalayas, Nepal to Assam, etc. This Bunting may pass high over on passage, yet I suspect the birds found during the winter in the Plains have arrived by a more easterly ? route. This remark also refers to the Moupin Black-faced Bunting which is similarly recorded in its distribution.

325. The Moupin Black-faced Bunting. Emberiza spodocephala melanops Blyth.

This bird was the common Bunting during " the cold weather " in the Plains of Upper Assam. I have totally failed to note one single occurrence in these hills. Evidently not represented in the B.M. Coll. from Sikkim, but there are 3 skins marked Nepal ! ! (Hodgson).

326. The Chestnut Bunting. Emberiza rutila Pall.

Recorded for Sikkim ; on whose specimens I am not cognizant, but probably Mandelli's. Evidence as to the supposed status of these species of *Emberiza* is most desirable. Represented from Sikkim, 3 specimens, March-April, 1871. One specimen, Bhotan Doars, January 1876 (Mandelli), B.M. Collection.

327. The Crested Bunting. Melophus melanicterus (Gmel.).

Recorded in its distribution as " everywhere apparently a resident species." This is not correct for the *Outer Ranges* in Sikkim where this Bunting is *absent in the cold-weather months*, but occurs as a *breeding species up to 6,000′* and somewhat higher. The dates of its arrival have been noted at these elevations. Nurbong, 2,000′ ♂ 22-2-14* and daily afterwards. Namsoo to Kurseong, 2,500′, 4-4-11,* a pair observed near Ambootia. Gopaldhara, 4,720′ and below, 4-4-18*; 11-4-15,* an odd pair or two about " the tea". Noted as plentiful at Cedars, 3,200′. Thurbo, 4,500′, and Gopaldhara 4,700′, early April 1917.

Obtained around Mangpu at 3,500′, ♂ 1-6-18. 3,600′, ♂ 3-3-19; 3,860′, ♀ 31-5-20; ♀ 22-5-15, parent bird with three eggs. (G.E. Shaw). I have observed it above Ambootia at 4,500, 29-8-21.* Gammie remarks on it breeding in May from 2,000′-4,000′ in the Tista Valley. Inglis obtained it breeding at Dentam, ♂ 7-8-05.

328. The Kashmir Martin. Delichon urbica cashmeriensis (Gould).

Recorded for the Himalayas up to 12,000′ or 13,000′. Included on the strength of " three adult specimens obtained in April in Sikkim " and evidently refers to birds obtained about the upper limits of the forest on the Cho La Range by Blanford.

329. Hodgson's Martin. Delichon nipalensis Moore.

Recorded. " Appears to ascend the Himalayas up to at least 8,000′."

Oates states he has seen specimens procured in Sikkim in every month from June to January.

Mai " Khola ", East Nepal, 28-4-12, a series of four ♂ ♂ and eight ♀ ♀ collected around 8,000′.

Singhik in the interior of Sikkim at 4,600′, numbers observed on the 12-13-3-20. Dentam, 4,500′, ♂ 6-8-05. (C. M. Inglis).

Nine specimens examined : ♂ Wing 91-97, av. 94-2 ; ♀ wing 90-97; av. 93-3.

330. The Indian Sand-Martin. Riparia brevicaudata McClell

In all probability occurs in the Foot-hills. Specimens obtained out of a large party, hawking over the river-bed at evening below the Gorge of the Raidak River in the Eastern Dooars, 26-1-22 ; ♂ Wing, 93 ; ♀ Wing, 86.

331. The Crag-Martin. Ptyonoprogne rupestris (Scop).

Recorded for the whole Himalayas as far east as Bhotan, etc. Not represented from Sikkim in the National Collection. Nearest localities: Tibet, Khambajong, 4-10-03, Gyantse, 9-7-04. (Walton).

332. The Eastern Swallow. Hirundo rustica gutteralis. Scop.

The typical form is recorded for the Himalayas; "breeds 4,000'-7,000." Sikkim birds are *gutteralis*. Numbers breed under the eaves of the coolie houses at Gopaldhara, and it is widely distributed on the Outer Ranges at moderate elevations. Observed up to 7,600', but absent during the winter months, notwithstanding scattered birds certainly occupy the warmer portions of the valleys at this time; they are liable to fluctuation through various changes in the weather, and only ardent prolonged observations could check these movements. Apparently they arrive around Gopaldhara early in February. First appearances noted at 4,720', 5-2-16* and 16-2-15*. 3,440', 4-7-21,* Numbers of juvenile Swallows on the wing, evidently having recently left the nest, and resting in batches. 4,650', 28-5-22*, young birds on the wing, being fed by the parents.

333. Hodgson's Striated Swallow. Hirundo daurica nipalensis Hodgs.

This confiding Swallow must be almost entirely dependent on man's domicile to give it the desired nook where it can build its retort-shaped, substantial mud structure. There can be few houses without at least a pair of these charming birds unless conditions are not in their favour. Happily, it is rarely not assured the solicited protection when, they amply repay for the little untidiness which takes place, before they can be certain their abode is secure. One nest has to my knowledge stood the test for ten years though the rightful occupants have long since had to make way for a less industrious, but stronger tenants in a pair of Swifts (*Micropus affinis*). When such an event takes place, they make every endeavour to seek a more secluded site where they will be free from further molestation, even gaining access to the rooms, with their gapes full of mud, should the windows be thrown open for any length of time. They willingly accept the inconvenience of a closed-in verandah, taking their chance when the door is opened to allow of their ingress and egress. One pair of birds which had suffered ejection, eventually selected a corner of the masonry of one of the outer windows where they have endured no visible inconvenience with the exception of the drawing of a blind, and this operation is taken as a token of friendliness; as it is certain to elicit a quick response in a cheery "tweet" from the little inmates as a notification that all is well. What becomes of the numerous families which have been safely brought up remains a problem; I suspect that more often than not, fruitless attempts to bind up their dwelling under a smooth corrugated-iron roof which is liable to expansion and contraction under a varying temperature, is the work of younger birds. These almost pathetic attempts at the impossible does not discourage, judging by the renewed efforts, when the heat of the sun brings it tumbling down to be finally abandoned.

It breeds commonly in all stone habitations and even wooden buildings, and may utilise rocks and cliffs for this purpose, which I have so far not been able to substantiate, at all elevations from 2,822', at all events, Tindharia station on the D.H.Ry. up to the town of Darjeeling. At Gopaldhara Bw, 4,720', they are absent for a few months only, and not always that length of time, which depends on the prevailing conditions; as when a tolerable mild spell of weather intervenes they readily avail themselves of their own snug quarters, which are

then occupied almost year in and year out. Observed 9-1-17.* Most birds, however, come up to breed in early February; noted on the 16-2-15*, a few days earlier, reported to have arrived at Nagri by Mr. F. S. Boileau in the following year, when I noted their arrival at Gopaldhara on the 12-2-16.* Observed to have been absent for a brief period possibly occupied in getting the young brood safely launched on the wing, 14-9-17.*

334. The Indian White Wagtail. Motacilla alba dukhunensis Sykes.

Merely occurs as a *passing migrant at moderate elevations* on its descent to the plains, when it has been noted on the following occasions; all of which records apparently refer to this Wagtail. Gopaldhara, 3,500′, 19-9-21,* a single bird in company with a single M. cinerea melanope. 4,720′, 27-9-19,* single bird, stayed one day only. 3,500′, 28-9-21,* one adult and two immature birds in company with a Hoopoe. 4,720′, 4-10-20,* single bird only. 3,500′, 21-7-16.* Had I not made absolutely certain of my identification, I would not have inserted this remarkable occurrence, which remains a mystery, as to why a Wagtail other than *maderaspatensis* should appear in July; this bird had a "grey" back, as regards the colour of the ear-coverts, and whether an eye streak was present or not, I cannot speak with certainty; so far I have not observed either *M. alba personata* or *M. alba ocularis* on migration, and it must be left at that. The first and the last species of the next-mentioned were obtained by the Mount Everest Expedition upto 17,500′ and from 14,000′-15,000′ respectively.

Motacilla alba leucopsis Gould.
Motacilla alba ocularis Swinh.
Motacilla alba personata Gould.
Motacilla alba alboides Hodgs.

Any of these Wagtails are likely to be discovered ~~up~~ at low elevations, at all events during "the cold weather." Blanford refers all his specimens of the Pied Wagtail obtained in the Lachung Valley above 12,000′ to the last species. It was not met with before the 11th of September.

335. The Large Pied Wagtail. Motacilla maderaspatensis Gmel.

Recorded "Breeds in the Plains, also in the Himalayas up to 3,000′." Partial to the stony banks of the large rivers when it is found during the winter at the foot of the hills. Obtained on the Raidak River above Bhotan Ghat in the Eastern Dooars, ♀ 23-1-22, ovaries fairly active; one of a small party of three or more. Also obtained on several occasions in the Tista River at low elevations by Mr. G. E. Shaw.

336. The Grey Wagtail. Motacilla cinerea melanope Pall.

Recorded for the Himalayas, "summer above 6,000′, where a few birds may also be found in winter." A cold-weather migrant arriving in the Rungbong Valley during September, leaving for higher elevations towards the end of April. Sparingly distributed adjacent to running water throughout "the cold weather"; as it is partial to the stony beds of all hill streams, there is every likelihood of it occurring in the upper reaches of the valleys as stated at 6,000′.

Gopaldhara, earliest arrivals.—4,500′, 10-9-17,* 4,720′, 21-9-20*, 3,550′, 22-9-19*, 19-9-21*, all of which records refer to single birds. Latest departures. 23-4-18,* a pair at 4,700′; a single at 4,720′, 22-4-23; 21-4-18,a single at 3,400′, 31-3-20*; a single at 4,750′, in company with Pipits (*Anthus hodgsoni*). All the Wagtails with this exception must be fleeting passage migrants, breaking their journey for brief intervals at moderate elevations on their descent to the plains.

Motacilla flava thunbergi Billberg.
Motacilla flava beema Sykes.
Motacilla citreola citreola Pall.
Motacilla citreola calcarata (Hodgs).

All of these Wagtails are likely to occur at plains-levels in "the cold weather." Unfortunately I have neglected these birds in late years, and at the moment I have not Mr. G. E. Shaw's records at hand. The two last-mentioned are recorded from Nepal where Hodgson obtained a large series of both species. Blanford speaks of procuring a young bird of Budytes viridis (*M. f. thunbergi*) at Yumthang, 12,000′, 13th September, when on migration.

Obtained by the Mount Everest Expedition (M. c. citreola, breeding at 14,000′).

337. The Forest Wagtail. Dendronothus indicus (Gm.)

Occurs *on migration*, both *on the downward and upward journey*, though of somewhat rare and irregular occurrence. Gopaldhara, 4,650′, 9-9-20,* heavy rain this morning ; a single bird, very restless, flitting about amongst some small "siris" trees on the "dhara" below the bungalow. 4,720′, 27-9-21,* a single bird came into the compound towards evening, somewhat shy, evidently a new arrival ; misty and drizzling rain prevalent. Obtained above Mangpu at 4,000′, ♂ 21-9-20. (G. E. Shaw). Observed on the upward migration at 5,500′ on a forest road above Pokharibong, date unfortunately not fixed.

338. The Indian Tree Pipit. Anthus hodgsoni Richmond.

Recorded "breeds 7,000′-12,000′, Himalayas." A cold-season migrant to the Rungbong Valley arriving at the latter end of September and departing before the close of April. Small parties are apparently resident on the Outer Ranges throughout the winter at much higher altitudes. Tonglo, 9,500′, ♀ 23-1-12, heavily streaked on both upper and underside ; secured out of a small party.

Bhotan Ghat, Eastern Dooars, January, 1922 ; commonly occurred in light growth in open forest at the base of the hills.

Gopaldhara, earliest arrivals.—4,700′, 13-9-20,* a single pair ; 4,720′, 22-9-20,* several, and many were in and about the compound on the 26-9-20* ; 19-9-16,* numbers located in "the tea" ; 4,500′, 19-9-17,* a single bird only ; 3,600′, 22-9-21,* a few about.

Latest departures.—4,720′ and below, 22-4-23, a few still about; 21-4-18*, numbers about : 20-4-17,* numerous around the bungalow ; 20-4-21,* ♀ secured, one of half-a-dozen or so, very restless, preparatory to moving up ; ovaries showing signs of development ; 9-4-19,* much in evidence ; 4,750′, 31-3-20,* several in freshly dug ground. Jalapahar. 7,500′, ♂ 14-2-20. heavily streaked above and below ; several seen amongst the rocks, Gopaldhara, 4,500′, 18-1-20, albino ? ♀. This bird looked more like a mule-canary amongst the party of thirty to forty normally coloured individuals. Blanford has an interesting remark in reference to this species. No Tree Pipits were seen in Eastern or Northern Sikkim until about the 20th September, then they appeared in considerable numbers. ♂ Wing 84-87, av. 85 ; ♀ wing 80-86, av. 83. Assam skins from the hills and plains average somewhat similar measurements : ♂ 87. ♀ 82-2.

339. The Brown Rock Pipit. Anthus leucophrys jerdoni (Finsch.)

Recorded for Sikkim "breeds up to about 6,000". I have no information respecting this Pipit.

340. Blyth's Pipit. Anthus richardi striolatus Blyth.

Occurs in the Rungbong Valley on its downward migration to the plains, staying for a brief period only. Obtained at Gopaldhara at 5,400′, ♂ 7-101-2,

wing 91. Turzum, 5,200′, ♀ 29-9-19, wing 90. (O. Lindgren). Mangpu, 6,200′, ♂ 15-9-19. 3,800′, ♂ 1-10-21. (G. E. Shaw).

Blanford found it common in clearings a little below 7,000′ in early September and at Phalung above 15,000′ in the beginning of October in the northern parts of Sikkim. Several seen by the Mount Everest Expedition at 20,000′.

Gopaldhara, 5,000′, 17-9-21, a party of about nine of these Pipits observed in the roughly cultivated ground on the steep hill-side; all had disappeared by the 24-10-21.

341. The Indian Pipit. Anthus richardi rufulus Vieill.

Recorded as ascending the Himalayas to about 6,000′. Its exact status is obscure.

342. Hodgson's Rosy Pipit. Anthus roseatus Blyth.

This Pipit is recorded for the Himalayas summer 12,000′-15,000′. It is a winter migrant to the plains, and so far has only been secured at high altitude on its upward migration. Karponang, 9,700′, ♂ 18-3-17, secured on an open patch of ground during a hot afternoon; evidently had recently arrived. Tonglo, 9,000′, ♀ 19-4-18. (G. E. Shaw).

Blanford records it as common on the Cho La Range in August and in the valleys of Northern Sikkim from 12,000′-15,000′ regarding it as a "constant resident, rarely or never descending to the plains." It was plentiful in the plains of Upper Assam in the cold weather. Obtained by the Mount Everest Expedition at 15,000′.

343. The Japanese Water Pipit. Anthus spinoletta japonicus Temm. & Schleg.

Recorded as follows: "Undoubted specimens from Darjiling are in the British Museum, collected in the winter months."

There is a possibility of *Anthus spinoletta blackistoni* Swinh. occurring on migration. *Oreocorys sylvanus* (Hodgs.) is also recorded as a permanent resident as far east as Nepal. Neither of these species is known to me.

(*To be continued.*)

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NOTES ON THE BIRDS OF THE SIKKIM HIMALAYAS.

BY

HERBERT STEVENS, M.B.O.U.

PART VI.

(*With 2 plates.*)

(*Continued from page 379 of this Volume.*)

344. Elwes's Horned Lark. Otocorys alpestris elwesi. Blanf.

Recorded for Sikkim at nearly 18,000′ at which elevation Blanford met with this Lark. (Kongra Lama Pass between 15-16,000′. Donkia Pass, 18,000′.)

345. The Long-billed Calandra Lark. Melanocorypha maxima. Gould.

Recorded for the higher parts of Sikkim. Observed up to 15,200′ in Tibet. (Walton.)

346. The Tibet Skylark. Alauda arvensis leiopus Hume.

I have not been fortunate to meet with any species of Skylark in these hills, though I have a distinct impression of a crested Lark without any pronounced form and colour characters, seen in the winter of early March 1920 at 8,800′ in Lachung; this records might also in the circumstances refer to Galerida sp ? as it was not secured. Mr. N. B. Kinnear regards *Alauda inopinata* Bianchi as a purely Tibetan species; until specimens actually turn up from the Sikkim Himalayas for identification and comparison the status of any species of *Alauda* must remain very obscure. *A. inopinata* was obtained at Khamba Dzong at 15,000′ in June and July by the Mount Everest Expedition.

347. The Small Kashmir Skylark. Alauda gulgula guttata. Brooks.

Evidently obtained by Mandelli in June from somewhere in the far interior as Kinnear refers to four skins in the National Collection, one of which is from Sikkim.

348. The Rufous Short-toed Lark. Calandrella brachydactyla dukhunensis. (Sykes.)

I saw undoubted birds of a species of *Calandrella* or *Mirafra* and took their eggs at about 7,500′ in the Mai Khola in East Nepal, unfortunately I failed to secure any specimens. Blanford records it as common in all the higher valleys of Northern Sikkim above 12,000 especially abundant at Yumthang, 12,000′, Momay Samdong, 15,000′ and Phalung, 16,000′. "At the latter place early in October, the Short-toed Larks were in flocks of several hundreds just as they are found in March in the plains of India". These records refer to *Alauda brachydactyla* but might well include the next species. Obtained by the Mount Everest Expedition up to 17,000′.

Brook's Short-toed Lark. Calandrella acutirostris tibetana Brooks.

Obtained by the Mount Everest Expedition at 14,000′.

Possibly may occur in the extreme north which remark also applies to *Galerida cristata leatungensis* (Swinh.).

349. The Western White-eye. Zosterops palpebrosa elwesi. Stuart Baker.

Commonly and generally *distributed up to 5,000′* at all events. Occurs at Gopaldhara, 4,700′, during the cold-weather months ♂ 31-12-11. In all likelihood reaches an elevation of 7,000′ as recorded for the Himalayas.

350. The Himalayan Yellow-backed Sunbird. Æthopyga siparaja seheriæ (Tick.).

Recorded for the "Himalayas up to 7,000′ in summer". This elevation is entirely erroneous for the Sikkim Himalayas. *Confined to low elevations only* Entirely absent from the valleys of the foot-hills in the west which do not support a plains-fauna. Nurbong at 2,000′, 21-2-14, conspicuous by their numbers. Obtained in the Tista Valley up to an elevation of 3, 600′. (G. E. Shaw).

351. The Fire-tailed Yellow-backed Sunbird. Æthopyga ignicauda ignicauda (Hodgs.).

Irregularly distributed *from 2,000′ and undoubtedly lower on occasions, up to over 10,000′ in winter and higher in summer* Phalut, 11,800′, August. *This Sunbird ascends the highest of the several species represented in the Sikkim, "Himalayas."* "Observed by Blanford at 11,000′". Kalo Pokhari, Nepal-Sikkim Frontier, 10,160′ These sunbirds were often seen in parties during brief, sunny spells of weather haunting the birch and rhododendron trees, when in flower in late March and early April, all vegetation and the surroundings being enveloped in a coating of snow at this time. A drop in the temperature or the wafting up of the clouds would force them into the valley below. Nurbong, 2,000′, an immature male observed on the 20th of February and a similar male in March 1914. Eighteen specimens examined. Gopaldhara, 4,720′, ♂ 16-11-20 (a), juvenile no moult, breast suffused with orange-red, remainder of lower plumage greenish-yellow, rump yellow, upper tail-coverts crimson; in all other respects similar to the adult female. 4,700′ ♂ 28-12-11, (b), juvenile, similar to (a) with the exception that the red on the breast is wanting, the tail is margined externally with rufous, a few feathers on the upper surface showing signs of the change into the adult plumage. 4,720′, ♂ 16-11-20, (c), similar to (a) excepting the tail is margined externally with rufous, and one middle feather is 63 mm. longer than the next pair; evidently an abnormality for this juvenile stage of plumage. Kalo Pokhari, 10,000′, ♀ 18-3-12, partial moult on crown. 8,500′, ♂, 28-3-12, partial moult on crown and throat.

Kalo Pokhari, 10,000′, ♂ 18-3-12, partial moult, middle pair of tail feathers shorter than the remainder, measuring 30 mm. in total length. 8,500′, ♂ 19-3-12, in moult. Darjeeling, 6,500′, ♂ 13-304, partial moult. Gopaldhara, 6,000′, ♂ 10-3-18, in moult; ♂ 10-3-18, in moult; ♂ 10-3-18, in moult. These five specimens agree with the first specimen in respect to the middle pair of the tail feathers, which measure in the order taken, 24, 32, 24, 30 and 39 mm. respectively.

Kalo Pokhari, 10,160′, ♂ 17-3-12. adult, middle pair of the tail feathers longer than the next pair by 24 mm. ♂ 20-3-12; ♂ ,22-3-12; ♂ 2-4-12; ♂ 3-4-12. These four adult specimens agree with the first specimen in having the middle pair of tail feathers longer than the next pair in the order taken by 19, 25, 16 and 26 mm. respectively. Five others collected, but not available for comparison: these did not vary in any appreciable extent from the average. Thus the elongated middle pair of tail feathers of the adult male; the measurement of which is given byOates as exceeding the next pair in length by 2.7″=69mm. takes several months to reach their extreme length which is probably not attained before July and may not always be reached within the year, and this is further

confirmed by an adult ♂ 11-8-05 showing a measurement of 61 mm. in this respect.

Blanford's record refers to the Cho La Range, 11,000′, August.

352. Mrs. Gould's Sunbird. Æthopyga gouldiæ gouldiæ (Vig.).

Uncommon. Found at *all elevations of from* 4,000′-10,000′ according to season. Once observed on the Mirik Ridge above Namsoo at an elevation of 4,000′, exact date overlooked, probably late March or early April. Kalo Pokhari, 10,160′, ♂ ♀ 17-3-12; ♂ ♂ 22-3-12. With the exception of one other female these specimens constituted the sum total of this Sunbird's appearance on the Ridge, which occurred during a few days of tropical heat; they had come up from the densely wooded valley below, on the Sikkim side of the Frontier. Gopaldhara, 4,720′, ♂ 15-3-16,* ♂ 16-11-20, only this single male secured; as I failed to discern the female which was in all likelihood mixed up with the numerous immature males and females of *Æ. ignicauda*. 3 ♂ ♂, ♀ 2-11-21. First arrivals, which appeared immediately the cherry blossom opened.

This Sunbird was much in evidence at this time, dwindling down gradually until the 13th of this month when the flowers had mostly set and the last bird had disappeared: two males are in partial moult not having yet attained the full adult plumage.

353. The Black-breasted Sunbird. Æthopyga saturata (Hodgs.).

Generally distributed. Occurs up to *an elevation of 6,000′* at all events in "the rains". During "the cold weather" it keeps to the warmer bottoms of the valleys. Gopaldhara, 4,720′ Only a few birds of this species are to be seen in this "Sunbirds' paradise" when the cherry trees are in blossom in November, as there is no appreciable augmentation of their numbers as is so noticeable with *Æ. ignicauda* and in some measure *Æ. gouldiæ* at this favourable time; yet they frequent scattered cherry trees at lower limits to some extent along with *Æ. nipalensis*. During late April, I have seen odd birds probing the flowers of the cardamom at ground level.

354. The Nepal Yellow-backed Sunbird. Æthopyga nipalensis nipalensis. (Hodgs.).

Found at *all elevations of from 3,500′-10,000′* both in the Interior of Sikkim and on the Outer Ranges. Only recorded up to 6,000′ for the Himalayas. Gopaldhara, 3,500′, ♂ 17-1-19, the tail in this male has not acquired its full length. 4,700′, ♂ 24-12-11, the head, throat, breast and back are undergoing moult into the adult stage of plumage. Sonada, 6,500′, ♂ 6-2-17, adult. Lepcha Jagat, near Ghoom, ♂ 28-5-16*. Common around Singhik at an elevation of 4,600′ during the second week of March, 1920. Kalo Pokhari, Nepal-Sikkim Frontier, 7,000′-10,000′. A series of 10 ♂ ♂, 4 ♀ ♀ collected during March and April 1912; all of which are fully adult. Oates remarks the female is undistinguishable from the female of *Æ. seheriæ*. A comparison of a series of both species shows *Æ. nipalensis* to have the *back a more defined yellowish-green, the throat to breast to be darker than in any specimens* of *Æ. seheriæ*, also some females of *Æ. seheriæ* have *the mantle feathers tinged in places with red.* All these characters are easily discernable in well-prepared skins.

355. The Purple Sunbird. Cyrtostomus asiaticus asiaticus (Lath.).

A plains-species. Recorded as found up-to 5,000′ (Himalayas). This elevation is certainly not applicable to the typical form for Sikkim. It occurs in the

Eastern Dooars at Kumargram on the borders of Assam; where it does not encroach on the heavily forested region at the base of the hills. Specimens collected hereabouts in the plains in January 1922, have the back and upper tail-coverts of a steely-blue in comparison with the purple tone of specimens from farther west (Behar).

356. The Larger Streaked Spider-hunter. Arachnothera magna magna (Hodgs.).

Commonly occurs in the Rungbong Valley up to *an elevation of* at least 5,000′, wherever it can find the clumps of plantain trees in the folds of whose leaves it constructs its nest. Obtained around Mangpu at an elevation of 3,600′, (G.E. Shaw.) and at Turzum, 5,200′, 17-4-21, (O. Lindgren). Gopaldhara, 4,720′, 21-5-23* seen to take a spider out of a bed of Nicotiana flowers and demolish it on the ground.

357. The Sikkim Yellow-vented Flower-pecker. Dicæum chrysorrhœum intensum Stuart Baker.

A Plains-Flower-pecker obtained at elevations of 500′ at Golar Ghat, Mahanuddi River, ♂ 29-12-20, up to 2,500′, ♂ 23-2-21 in the Tista Valley. (G.E. Shaw).

358. The Fire-breasted Flower-pecker. Dicæum ignipectum (Hodgs.).

Generally distributed from 3,500-10,000′. Only recorded up to 7,000′ for the Himalayas. Partial to forest; during "the cold weather" it may be found in sparsely wooded tracts. Commonly occurs around Gopaldhara, 3,500′, ♂ 31-1-19; 5,000′, ♀ ♀ 5-1-12; ♂ 19-1-19; 4,900′, ♀ 21-12-19, obtained amongst the tangled growth of a lofty tree. 5,500′, ♂ 21-12-19, shot whilst pecking away at the berries of a forest-tree,—name unknown. 5,800′, ♀ 17-2-18; 5,000′, ♀ 2-3-18.; ♂ 16-3-16. 6,000′, ♂ 10-3-18. In March 1919, females were much more in evidence than males; all were gaily chattering from the topmost branches in an incessant volume of song for such a small bird. Equally plentiful at elevations of 4,600′-4,800′ around Singhik on the 23-2—12-3-20.

359. The Plain-coloured Flower-pecker. Dicæum minullum olivaceum Wald.

In all probability occurs at the *base of the hills in the Terai.* Easily overlooked. Found in fair numbers in the densely forested area at the foot of the hills of Bhotan on the Raidak River in the Eastern Dooars, at the end of January 1922. Very noisy as they poured out their lively trill from the tops of the lofty trees. Specimens collected 25-1-22, showed the birds to be about to nest.

Soft parts: Iris brown; bill plumbeous-grey, upper mandible and tip of lower mandible blackish-plumbeous; tarsus plumbeous horny; soles grey. *Dicæum cruentatum cruentatum* (*L.*) is only likely to be found at *plains-levels.*

360. The Thick-billed Flower-pecker. Piprisoma squalidum squalidum. Burton.

Recorded for the "Himalayas at low elevations from the Sutlej Valley to Sikkim." I have seen no specimens collected nearer to these hills than Tirhut in Behar. C.M. Inglis.

361. The Yellow-bellied Flower-pecker. Pachyglossa melanoxantha. Hodgs.

Evidently rare and extremely local. Obtained near Sonada at 6,500′, ♂ in May 1920 and ♂ 27-3-21. I am under the impression several scattered males, the females possibly overlooked, came under my observation in December 1911, when working the Senana-Mirik Ridge above Gopaldhara at an elevation of from 5,500′-6,000′. At the time I took them for *Chalcoparia singalensis,* a bird

H. S. Photo.

ABOVE KÁRPONANG. March, 1917.

Haunts of *Conostoma æmodius*, *Suthora fulvifrons*, *Pteruthius xanthochloris*, *Läiscopus himalayanus*, *Carpodacus thura*, *Lophophorus impejanus*, *Ithagenes cruentus*, &c., &c.

H. S. Photo.

LACHUNG VALLEY ABOVE KEDOM.

Looking north. 11th March, 1920.

A *Palæarctic Avi-fauna* below the region of the Pines. *Suthora unicolor*, *Aegithaliscus iouschistos*, *Yuhina occipitalis*, *Proparus chrysotis*, &c., &c., in the valley-bottom.

which could not possibly occur hereabouts; as no specimens were secured this record lacks substantiation. Mr. G.E. Shaw's specimens are the only ones I have seen.

362. The Ruby-cheek. Chalcoparia singalensis singalensis (Gmel.).

This species is gregarious in the cold-season when it occurs at this period in parties. Obtained at Bhotan Ghat on the Raidak River Eastern Dooars, in January 1922, ♂ ♀ 22-1-22. There was quite a crunching noise audible, caused by this small party of birds, out of which one pair was secured, as they *probed vigorously with their bills*, sometimes *hanging on with their feet to the dry leaves* reminding me more of *the actions of White-eyes without their delicate movements.*

Soft parts: Iris red-brown; bill black; tarsus yellowish-plumbeous, soles similar.

363. The Blue-naped Pitta. Pitta nipalensis nipalensis (Hodgs.).

Occurs sparingly around Gopaldhara upto 5,000′ or thereabouts, and up to 3,700′ at all events at Mangpu, (G. E. Shaw), at this same locality Gammie obtained it breeding twice at 5,000′ in June.

♂ Juvenile, 16-6-16, agrees with Oates's description in so far as that goes. Forehead to nape, feathers centred with pink, shading into pale ochreous, giving it a streaky appearance; upper portion of orbital ring fulvous; upper plumage black with broad fulvous spots, very prominent on the wing-coverts; primary-coverts black; wing and tail ochreous-green, the tips of the tail with ochreous centres; chin and throat, pink merging into fulvous and black of the posterior and upper portions of the ear-coverts and sharply defined from the black, fulvous-tipped feathers of the breast; belly, entirely pink with faint dusky edges; under tail-coverts with broad-white tips, tinged with ochreous and pink.

Soft parts: Juvenile. Iris hazel-brown; bill orange lobster-red; upper mandible dusky in centre; tarsus pale dusky lobster-red.

364. The Indian Pitta. Pitta brachyura (L.).

I have observed this beautiful Pitta on one occasion 11-6-19[c] only, at a *low elevation* in the Great Rangit Valley. The B. M. Coll. also contains a single specimen collected by Mandelli from the Lower Hills in April 1874. The nearest locality where it commonly occurs is Behar and it is well represented by Hodgson's specimens in the National Collection.

365. The Green-breasted Pitta. Pitta cucullata cucullata. Hartl.

Probably *confined to the Terai and Foot-hills only*, in a similar lay of land and heavy forest to that, in which it occurred on the North frontier of Assam. Jerdon records obtaining one specimen breeding at 1,200′ in the Gt. Rangit Valley. There are numerous specimens of this species from the lower hills in the B. M. Collection.

366. Hodgson's Broadbill. Serilophus lunatus rubropygius (Hodgs).

Recorded for the "Himalayas below about 5,000′." Evidently *does not occur much beyond the plains-level* as I have nothing to record in support of this statement excepting negative evidence. Gammie is mentioned by Hume, as having obtained it breeding at Mangpus around an elevation of 3,000′ on one occasion. Mr. G. E. Shaw has so far not obtained it from this same locality so it appears to be confined to lower limits generally.

367. The Long-tailed Broadbill. Psarisomus dalhousiæ (Jameson).

This beautiful Broadbill is generally distributed up to *an elevation of 5,000'* in the Rungbong Valley; it appears only sporadically, and these movements are difficult to follow. Recorded up to 6,000′. Gopaldhara, 4,720′, 13-1-18,* calling adjacent to the bungalow and heard for some time previously, again on the 28-3-15.* 5,000′ upwards, calling in the forest, 22-4-16* and also heard at a similar elevation 14-20-5-15. Sepoydoorah to Tindharia, 2,500′, 13-3-14,* much in evidence. Gammie obtained it breeding at 2,500′ in April in the Tista Valley.

368. The Assam Black-naped Green Woodpecker. Picus canus gyldenstolpei Stuart Baker. "Larchi Paharis.

Used without distinction for all Woodpeckers.

In the vicinity of Gopaldhara occurs up to an elevation of 5,500′ or somewhat higher. Found in open, sparcely forested tracts, as well as the defined forested areas.

The young ♂ (Assam) 7-8-04, has the crown merely tipped with fulvous, and with the exception of the head, the whole of the upper and lower plumage, especially the upper tail-coverts and tail are in moult; in this last condition resembles an adult ♂ 31-7-04.

369. The Small Himalayan Yellow-naped Woodpecker. Picus chlorophus chlorophus. Vieill.

Commonly occurs at plains-levels. In the Rungbong Valley is found up to an elevation of 5,000′ at all events. Recorded upto about 10,000′. I have nothing to mention in support of this statement. Nine examined: Some females show a tendency to resemble the male in having a "few" feathers of the forehead over the black stripe and in front of the eye coloured red.

370. The Large Yellow-naped Woodpecker. Chrysophlegma flavinucha flavinucha (Gould).

Recorded for the Himalayas chiefly between 2,000′ and 7,000′. I have noted this Woodpecker at all elevations from 600′ upto 5,500,′ and it possibly exceeds these limits to some slight extent. Whilst it occurs commonly at plains-levels, the recorded limit is likely to be rarely reached.

371. The Northern Pale-headed Woodpecker. Gecinulus grantia grantia McClell.

Recorded chiefly between 2,000′ and 5.000′. Evidently locally distributed. Occurs in the Tista Valley, and obtained below Mangpu at 3,500′. (G. E. Shaw). My only information respecting this Woodpecker was obtained in the Plains of Upper Assam.

372. Rufous-bellied Red Woodpecker. Dryobates hyperythrus hyperythrus (Vig.).

Occurs along the Singile La Ridge from Tonglo to Phalut at 10,000′—12,000′ during June to August. In the winter it is decidedly rare at these high elevations. I cannot follow Blanford's statement: "the commonest Woodpecker in the pine forests of Sikkim at 9,000′-12,000′" which would very aptly apply to *D. darjellensis*, and as I note the Lepcha name is given for the latter and not for *D. hyperythrus* I surmise the letterpress has been somehow transposed.

Three examined: Tonglo, 9,000′, East Nepal, ♂ 3-2-12. Nepal Sikkim Frontier, ♂ 30-6-04. (C. M. Inglis). Phalut, 11,600′, ♂ 9-8-05. (C. M. Inglis). The two last specimens evidently obtained in the Pine forests. I am wrong in my surmise but allow the original note to stand and quote Blanford's remarks. "The change from the fauna of outer Sikkim where Woodpeckers abound as

they do throughout Malayasia, is strikingly exemplified by this family. It is doubtful if *P. hyperythrus* has been obtained in the neighbourhood of Darjeeling; specimens reported to have been brought thence were probably shot in the interior." He speaks of it as rare in the Pine forests where two specimens were obtained at 9,000′, Lachen and 10,000′, Lachung. It has of course, *a decided Palæarctic status.*

373. The Darjeeling Pied Woodpecker. Dryobates darjellensis (Blyth).

Recorded for the Himalayas in Nepal and Sikkim from about 3,000′-12,000′ elevation. This distribution is totally incorrect, although it has been obtained below the Sonada to Kurseong Ridge at *6,000′*; this elevation may well be considered the extreme, lowest limit, as it does *not appear to be found much below 8,000′ in winter.* Obtained on Tonglo at 10,000′, 10-2-12. Commonly occurred around Kalo Pokhari during April 1912, at a similar elevation. Obtained south of Lachung at 8,600′, 26-2-20. Observed at close quarters south of Senchal at 8,200′, ♂ 24-3-15*. Obtained above Mangpu at 6,000′. (G. E. Shaw). Mai "Khola", East Nepal. Several clutches of two and three eggs. 28×20 average, taken in April and May at elevations of from over 8,000′-10,000′. Ten specimens examined.

♂ Wing 126-129, av. 127·3. ♀ wing 123-127, av. 124·4.

There is some individual variation in the depth of tone and in the intensity of the black streaks on the underside in adults.

Two immature ♂ ♂ obtained on Tonglo at 10,000′, 6-7-04, (C. M. Inglis.), and between Dentam and Chiabanjan 7-8-05, have the whole crown tipped with crimson-red and orange-red respectively; this coloration is evidently a distinct, characteristic phase of the immature male and substantiates Scully's description to which Blanford merely makes passing mention. Wing in both examples 122.

374. The Lesser Pied Woodpecker. Dryobates cathpharius cathpharius (Blyth).

Recorded with a range similar to *D. darjellensis* (Blanford). I have failed to meet with this Woodpecker at such high elevations as the former. The zonal distribution of this species is mainly between *5,000′-6,000′*, and though these limits are exceeded in both directions, there is only a remote chance of meeting with it at 3,000′. Occurs in the Rungbong Valley from 4,500′-7,000′ and also occurs in East Nepal at similar elevations; 7,000′, ♀ 22-5-12. Obtained around Mangpu from 5,600′-6,000′, (G. E. Shaw). Observed near Kedom at 7,000′, in March in the Lachung Valley and at Mangam below Ringim Gompa at 4,300′, in February, in the interior of Sikkim. Even in the winter, I have always found *D. darjellensis* above the highest limit of *D. cathpharius.*

Eight specimens examined:

♂ Wing 99-102, av. 100·5; ♂ juv. wing 95. ♀ wing 96-101, av. 98·6.

Soft parts: Iris red-brown; bill plumbeous-horny; tarsus "greenish"—plumbeous, claws, similar only horny.

375. The Fulvous-breasted Pied Woodpecker. Dryobates macei macei (Vieill.).

Occurs in the Rungbong Valley up to an elevation of about 3,500′, and is found chiefly in the bottom of the valley and not in the thick forest which is above the limit of its range; so far it has not been obtained above 2,400′ in the Tista Valley (G. E. Shaw), where it might be expected to reach a higher limit than in the minor valleys to the west.

There appears to be *well-defined limits in the distribution of each of the members of this genus*, particularly where competitive forms have to maintain their status in a limited forested area, as is the case where cultivation has altered the face of the country through depletion of the forests.

Three specimens examined: Rungbong Valley, Darjeeling, (December) ♂ wing 108; ♀ ♀ wing 105-109, av. 107, compared with five Assam skins, ♂ ♂ wing 102·5-104, av. 103·3; ♀ wing 103. This disparity in size is significant and almost points to the formation of a race, distinct from the plains bird.

376. The Darjeeling Pigmy Woodpecker. Iyngipicus semicoronatus (Malh).

Recorded for Sikkim at elevations above about 3,500′.

Occurs in the Rungbong Valley at elevations of from about 3,400′-4,500′. In the Tista Valley occurs as low as 1,100′ to 3,800′, (G. E. Shaw). Observed and obtained in pairs, four to five miles out from the Hills in *the plains* of the Eastern Dooars, between Jainti and Hathipotha and on the Raidak River in January 1922. Found in light, tree-growth outside the limits of the heavy forest. Gopaldhara, 3,500′, 10-5-20. Three to four, or probably, two to three males and an odd female, the males vieing with each other for the possession of the female, they were so mixed up in their movements, I failed to count the exact number and the preponderant sex.

Five examined: ♂ Wing 83-88 av. 85·7; ♀ wing 84-87, av. 85·5.

377. The Red-eared Bay Woodpecker. Blythipicus pyrrhotis pyrrhotis (Hodgs).

Confined strictly to close forest with heavy undergrowth. Occurs around Gopaldhara at from 4,700′ to higher limits on the Nepal Frontier at 7,000′ or even appreciable higher in the Mai "Khola". This Woodpecker feeds in a great measure on the ground in such dense cover as seems more in keeping with the habitat of some of the Laughing-Thrushes. Seven specimens examined:

♂ Bill from feathers 47-48, av. 47·5; wing 145-148, av. 146·5.

♀ At base 45-48, av. 45·6; wing 146-149, av. 147·4.

All my Sikkim skins have the tail barred throughout; in a single example from Assam, this character is only faintly indicated, the centre pair being uniform rufous.

378. The Northern Rufous Woodpecker. Micropternus brachyurus phaioceps Blyth.

Gammie mentions this species as breeding at 2,000′ in the Tista Valley.

Obtained around Mangpu at 3,800′ (G. E. Shaw).

Absent at much lower elevations in the west of the Darjeeling district. I have failed to meet with it anywhere in the Rungbong Valley at its lowest limits.

379. The Himalayan Golden-backed Three-toed Woodpecker Tiga shorei (Vig.).

Recorded for the lower valleys of the Himalayas as far to the east as Bhotan. So far I have failed to locate it, and it is only likely to be found along the *Terai of the foot-hills.*

380. Tickell's Golden-backed Woodpecker. Chrysocolaptes gutticristatus gutticristatus (Tick.).

Confined to low elevations, probably not occurring much above 2,000′.

381. Hesse's Great Slaty Woodpecker. Alophonerpes pulverulentus harterti (Hesse).

Evidently does not occur higher than the Terai, as it is only likely to be found in heavy, forested tracts.

382. The Himalayan Speculed Piculet. Picumnus innominatus innominatus Burton.

Recorded up to 6,000′ and even ascending to 9,000′ (Stolickza); which latter extreme height evidently refers to a locality in the North-West Himalayas. Apparently *does not occur at a higher elevation than 4,500′ or thereabouts.* 4,700: (G. E. Shaw.), both in the interior of Sikkim and on the Outer Ranges. Occurs sparingly around Gopaldhara; noted at Singhik, 4,000′, and is generally distributed.

383. The Indian Rufous Piculet. Sasia ochracea ochracea Hodgs.

Occurs around Gopaldhara up to an elevation of 6,000′ at all events, and plentifully distributed throughout the whole area, both in the valleys and on the ridges. My observations place this Piculet with a *somewhat higher distribution* than *P. innominatus.* Observed commonly between Singhik and Dikchu in March, around an elevation of 3,500′. Gammie mentions this Piculet as breeding at 4,000′ in the Tista Valley, which locality probably refers to Mangpu.

384. The Japanese Wryneck. Jynx torquilla japonica Bp.

Represented in the National Collection by one specimen from Sikkim, January 1873. Evidently only occurs rarely at moderate elevations during "the cold weather"; as there is certainly no well-marked migration route through Sikkim as was obvious in Upper Assam, when it commonly occurred on its descent to the plains and at its time of departure. The few birds occurring on migration, may of course, pass over unnoticed without breaking their journey, though it seems hardly feasible. It is certainly remarkable that only a single occurrence has come to my notice during a period of ten years, when one was secured at 4,200′ in December 1911, below Gopaldhara; on the ground as on every former occasion. As this form has a wide distribution, I have considered it expedient to examine my Assam material. Nine specimens measure:

♂ Wing 82·5-86, av. 84·5; ♀ wing 80-85, av. 82·3.
♂ Bill from base, 15-19, av., 16·8; ♀ 15·5-17, av., 16·2.

Dr. Hartert gives the wing measurement, Ussuri, 80-86; Japan, 80-85; China, 80-86, thus the size of this Eastern form is fairly constant and Assam cold-weather migrants show similar measurements.

385. The Yellow-backed Honey-Guide. Indicator xanthonotus Blyth.

Recorded for Sikkim, "very rare" which is undoubtedly the case. Represented in the Tring Museum by one specimen ex. Elwes Collection, and in the British Museum from Native Sikkim as follows: ♂ October, ♀ December 1878. 2 ♂ ♂ February 1879, ♀ March 1874, ♂ April 1879. I have not been fortunate to meet with it. Evidently resident somewhere in the interior.

386. The Great Himalayan Barbet. Megalæma virens marshallorum Swinh. "Newal" Paharia.

Recorded for the Himalayas between 3,000′ and 8,000′. Breeds commonly above Gopaldhara up to 6,500′ at all events, and observed in the interior of Sikkim at Dikchu at 2,150′ in February and March. Also heard calling in the foot-hills of the Bhotan Dooars near the Raidak Gorge in January; none however were actually seen at plains-levels. Gopaldhara, 4,720′, 15-7-14; a party daily frequent the pear trees in the compound. 20-6-23, youngster brought in almost ready for flight, safely hand-reared to maturity.

The monotonous, wailing call of this Barbet is one of the most noticeable characteristics of the birds hereabouts.

387. The Assam Lineated Barbet. Thereiceryx lineatus hodgsoni (Bonap.).

Recorded for the Lower Himalayas, not ascending more than 2,000′ or 3,000′. These limits are too great an extreme for Sikkim. This Barbet appears to be *confined to its distribution area by the belt of heavy forest at the base of the hills.* I found it to be common in the sparsely wooded country, four to five miles away from the hills in the Eastern Dooars.

388. The Blue-throated Barbet. Cyanops asiaticus asiaticus (Lath.).

Recorded for the Lower Himalayas up to 3,500′ or 4,000′.

In the Rungbong Valley occurs up to 4,500′, and observed on one occasion at 5,200′, 26-12-21; also obtained up to an elevation of 6,000′, above Mangpu. (G.E. Shaw).

389. The Indian Blue-eared Barbet. Cyanops duvauceli cyanotis (Blyth).

Recorded for Sikkim. I have seen specimens from the Terai where it is probably far from common. It appears to be strictly *confined to the base of the hills* in the Eastern Himalayas.

390. The Golden-throated Barbet. Cyanops franklini franklini (Blyth).

This Barbet commonly occurs in the Rungbong Valley from 4,500′ up to 7,000′, and may on occasions considerably exceed the higher limit. Whilst it is found as low as 3,500′ in the interior of Sikkim; it appears not to be found below 4,500′ in the hills to the west of the Tista Valley as there is practically *no overlapping with C. asiatica in any areas of its distribution* though both species meet; apart from some dispersal which causes a slight perceptible interminglings during the winter, when food is none too plentiful. This movement does not affect the distinct breeding areas of either species.

Gopaldhara, 5,000′, 11-9-21. Two youngsters about to leave the nest; evidently this Barbet is double-brooded, judging by this late date.

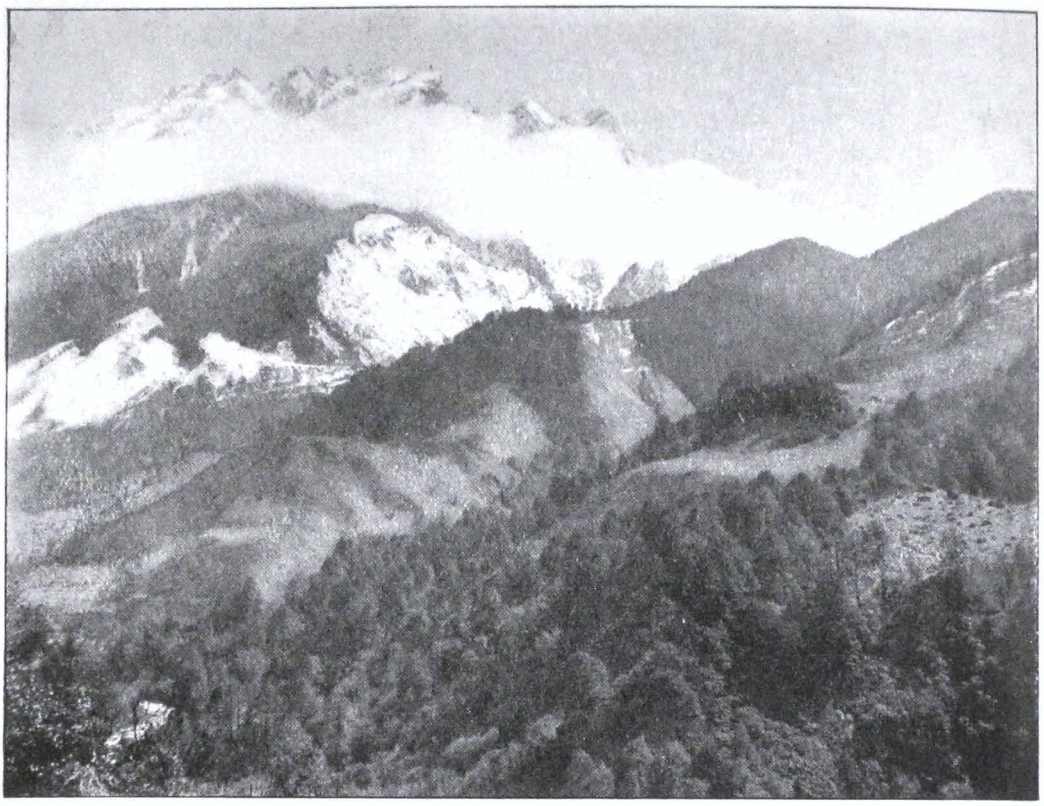
The young bird has the head golden-green; forehead crimson and patch on occiput faintly tinged with crimson; ear-coverts shading into bluish-green throat and spot at base of lower mandible pale yellow; primary-coverts on carpus bluish-green; otherwise the general coloration is as well defined as in the adult. Taken young, these birds make charming pets, readily taking food out of one's hand and learning to recognise their master's voice and step. Tonglo, 10,000′, 5-2-12.* I saw an unmistakable Barbet which could only have been this bird, although no Barbets were calling at this high elevation in January and February.

391. The Northern Indian Roller. Coracias benghalensis benghalensis (L.).

Occurs at *plains-levels only*; observed at Rungpo, on the maidan, in the Tista Valley in Sikkim (March).

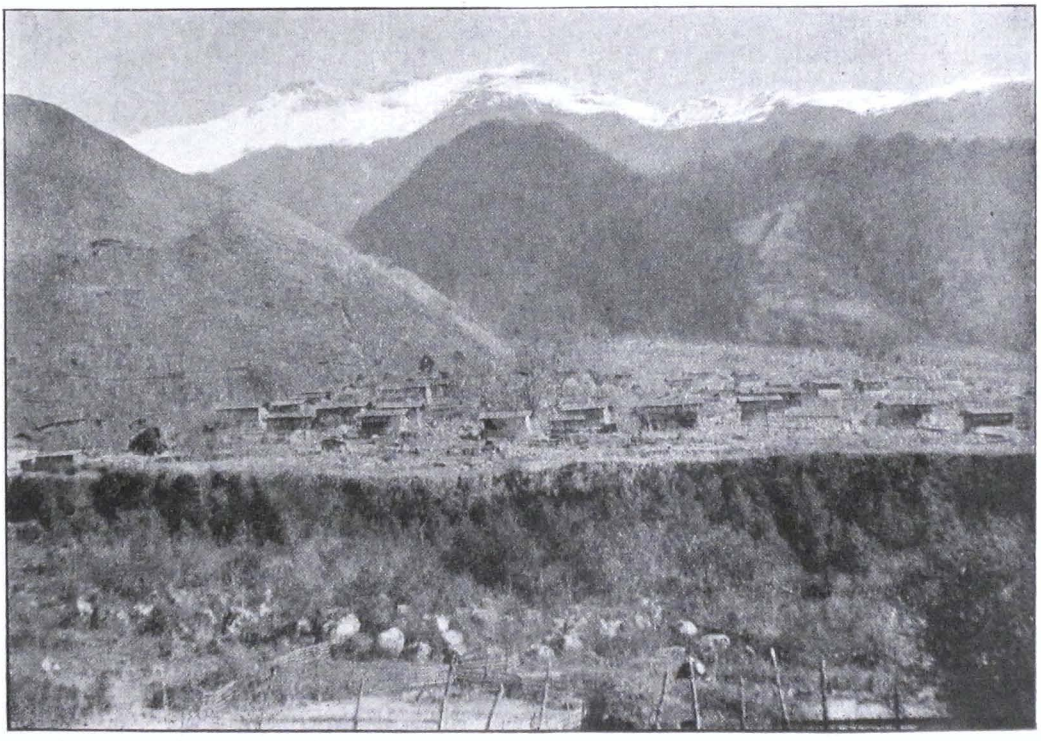
392. The Indian Broad-billed Roller. Eurystomus orientalis orientalis (L.).

Recorded for the base of the Himalayas up to 3,000′. Another *plains and low elevation* Roller; obtained up to an elevation of 2,000′ in the Tista Valley



H. S. Photo.

LACHUNG VALLEY.
Looking north-east, elevation 9,000′. 11th March, 1920.



H. S. Photo.

LACHUNG VILLAGE, elevation 8,800′.
10th March, 1920.

(G. E. Shaw.), and reported to me as having actually been seen on the Chowrasta in the Station of Darjeeling by the late Mr. E. A. Wernicke.

393. The Common Indian Bee-eater. Merops orientalis orientalis Lath.

Commonly occurs at the *plains-level*, where it has been obtained in the south of the Darjeeling District at 500′, (G. E. Shaw). I noted it as being plentiful in the open country in the Eastern Dooars in January.

394. The Chestnut-headed Bee-eater. Melittophagus erythrocephalus erythrocephalus (Gmel.).

This Bee-eater has been obtained at the *foot of the hills* (G. E. Shaw).

395. The Blue-bearded Bee-eater. Nyctiornis athertoni (Jard. & Selby).

Observed in the Rungbong Valley at an elevation of 3,500′ in December 1911, and obtained up to an elevation of 1,800′ on the 1-9-20, in the Tista Valley, (G. E. Shaw). Recorded distribution up to about 4,000′. There is only a remote chance of meeting with it, except on rare occasions as above mentioned; as it appears to be strictly *confined to the base of the Lower Foot-hills and Plains.*

396. The Himalayan Pied Kingfisher. Ceryle lugubris guttulata Stejn.

Wherever this fine Kingfisher can get a sustenance, it is to be found on every river of consequence. In the Rungbong River, an odd pair or two reach the upper limits at an elevation approaching 4,750′. I have no information as to how far it penetrates into the interior by way of the Tista River; it has, however, been obtained on the "jhoras" in the lower portion of the valley up to an elevation of 1,200′. (G. E. Shaw).

397. The Common Indian Kingfisher. Alcedo atthis bengalensis Gmel.

Occurs in the Tista river and all tributaries where it has been obtained up to 1,900′, (G. E. Shaw). On the Rungbong River it ascends as far as there is a sufficiency of water, but as the river gets depleted in "the cold weather" from December to March, it is found more noticeably to frequent the lower reaches from 3,500′ downwards.

398. Blyth's Kingfisher. Alcedo iredalei Stuart Baker.

Recorded for the *Lower Foot-hills* of Sikkim.

399. The Indian Three-toed Kingfisher. Ceyx tridactylus tridactylus (Pall.).

Obtained on one occasion at Mangpu 3,600′, 6-9-13. (G. E. Shaw). This beautiful miniature Kingfisher seems addicted to wandering away from its accustomed haunts during "the rains" as was frequently noted in Assam, which accounts for it turning up in the most unexpected places.

400. The Brown-headed Stork-billed Kingfisher. Ramphalcyon capensis gurial (Pearson).

I always regarded this Kingfisher as being strictly confined to the "Jhils" and sluggish streams of the Plains, until one was obtained adjacent to the Rungbong River during a dry spell of weather at 3,400′ on the 27-4-17, ♀; this specimen is altogether paler than any of my Assam skins: the point of the bill is much worn as a result of securing its food in the shallow water and stony bed

of the river. Observed flying up stream on the 29-11-18,* at an elevation of 3,750′, and since this date I have seen it on several occasions over long periods though these occurrences have not been duly jotted down. It may ascend some of the other swift-flowing, minor rivers of the foot-hills in a similar manner.

401. The Indian Ruddy Kingfisher. Entomothera coromanda coromanda (Lath.).

Recorded for the Lower Himalayas up to about 5,000′ for Sikkim.

No evidence has come to my knowledge in substantiation of its claim. As it is a rare bird generally and as there is a strong likelihood of it occurring at the foot of the hills "in forest" and being easily overlooked; it is worthy of inclusion on the recorded statement.

402. The Great Hornbill. Dichoceros bicornis (L.). "Kodong" Lepcha.

This exceptionally grand bird, attached to which there is so much interest in regard to its habits and in particular its nidification, may be regarded as the representative of the remarkable family of Hornbills; the different genera of which are worthy of more than casual notice.

Evidently sparingly distributed throughout the Tista Valley up to an elevation of 4,500′ at all events. More generally confined from the base up to a limit of 2,000′-3,000′ in the foot-hills. As it is only to be found in heavy forest; there can be little doubt that it formerly covered a wider tract of country but extensive cultivation, and improvident and disastrous methods in clearing the land have resulted more often than not in producing nothing more than a barren waste in place of magnificent forest. Nurbong, 2,500′, 14-3-14,* a party of four birds seen to settle in the almost inaccessible forest on the left bank of the Mahanuddi. Heard calling on rare occasions in the Balasan Valley, some miles above Panighata.

Hathipota, Eastern Dooars, 6-1-22,* I was gratified to come upon a party of six to eight birds in occupation of some lofty trees in virgin forest, but judging by the systematic harassing, amounting almost to persecution, by hoards of Paroquets (*Psittacula a fasciata*), there was little chance of ever obtaining that desired peace and quietness which the Hornbills stood sadly in need of.

There is every reason to suspect that a similar state of affairs exists towards the breeding season, as these pests will do their utmost to appropriate every nesting cavity, whether in occupation by the rightful owners or not. When competition for the right of survival becomes more acutes through the depletion of the forested tracts; the status of all our Hornbills is certain to be detrimentally affected. Opinions may differ as to the correct methods to adopt in this difficult question of giving protection to one species at the expenses of another. A drastic thinning-out of such Paroquets, as haunted the vicinity of their breeding haunts, would have a beneficial effect, and would seem to be the only feasible and correct course of action to ensure the hornbills the necessary protection. As the broad facts of the preservation of our wonderful and rich avi-fauna unfortunately concern only a limited few, and are not rightly understood; it is premature to expect any efforts to be centred on special cases calling for protection, therefore meanwhile it would be advisible to confine all attention to the reservation of sanctuaries, and endeavour to create a healthy public interest in this direction.

403. The Large Indian Pied Hornbill. Anthracoceros coronatus affinis (Blyth).

Recorded for the Lower Himalayas.

404. The Rufous-necked Hornbill. Aceros nipalensis (Hodgs.). "Kolep" Lepcha.

Recorded for the Himalayas of Nepal, Sikkim and farther east from 2,000′ to about 6,000′. My first acquaintance with this Hornbill was noted as follows:

Nurbong, 1,800′, 10-3-14.* A large dark coloured Hornbill; bill, white, no perceptible casque; tips of wings white, and a heavy patch similarly coloured at end of the tail, uttering a call somewhat resembling the syllables "ghwa" "ghawa."

Since this occasion I have seen a few obtained in the Tista Valley. Formerly Hornbills used to ascend to the upper limits of the Rungbong Valley in the recollection of the oldest residents, but have long since disappeared when their favourite trees had been felled. In the event of such an occurrence happening nowadays, I should almost doubt my powers of vision at such a surprise. In Hume's "Nests and Eggs of Indian Birds" (Oates) Vol. III, p.77, is an interesting and long account by Gammie of the nidification of this species in May at Poomong. Reported to me as having been seen above Gopaldhara in March 1922, when a nest was found this year in Nepal. Obtained also in 1922 above Rungmook, in pairs on both occasions.

405. The Tibetan Hoopœ. Upupa epops saturatus. Lonnb.

This Hoopoe is a common and familiar bird during the winter in the Plains and occurs at *moderate elevations on migration.* Gopaldhara, 4,720′. Odd Hoopoes make a brief sojourn almost yearly, on their descent to the plains; whilst the majority evidently pass over on migration. During the time they remain, are remarkably tame and as one or two invariably frequent the compound their arrival is always looked forward to with interest.

Earliest arrivals—7-9-17,* 11-9-17,* 26-9-18,* 19-9-20,* 2-10-21.*

All these records refer to the bungalow elevation of 4,720′, and to single birds. 3,500′, 28-9-21,* single bird. Mr. G.E. Shaw has seen it on migration at 5,300′, and at 8,000′. The earliest arrival noted at Mangpu, 3,860′, being on the 3-10-15, ♀.

Latest departures, 30-3-18,* Nagri, 4,500′. 17-3-20, above Turzum, 5,650′.

406. The Indian Hoopoe. Upupa epops orientalis Stuart Baker.

If I rightly understand the nomenclature and distribution of the forms of the resident, plains Hoopoe was previously denoted under *U. epops indica* I take it the Hoopoes observed on the following dates at Gopaldhara on the 22-8-18* and 30-9-19* refer to this race, as these were probably the resident, plains species; some slight doubt exists as to the former record, whilst the latter record undoubtedly has reference to a richly coloured bird. As no resident Hoopoe occurs in the Rungbong Valley, these occurrences denote a partial migratory movement before the termination of "the rains".

During the Mount Everest Expedition, Mr. A.F.R. Wollaston saw this Hoopoe several times flying over a glacier at an altitude of about 21,000′ in September and Mr. N.B. Kinnear remarks on this extraordinary altitude for a bird of such weak flight. For a list of the birds found at these extreme altitudes, consult his paper to which reference is made under other species. Kinnear refers these Hoopoes to "*orientalis*" and not "*saturatus.*"

407. The Alpine Swift. Micropus melba melba (L.).

Recorded for Darjiling, though apparently there are no specimens in the B.M. Coll. from the Sikkim Himalaya. It is well represented by a fine series from Simla, so it evidently has a clearer defined status in the North-West Himalayas.

408. The Common Indian Swift. Micropus affinis affinis (Gray).

Recorded as ascending the Himalayas up to about 6,000′.

This Swift, wherever stablished in the verandahs of dwelling-houses, invariably usurps the bulky mud structure of the Swallow (*Hirundo daurica nipalensis*), and having once obtained possession, its occupancy becomes a permanency. At Gopaldhara, one such nest has been occupied for ten years ; the birds remaining the whole year round. There is little doubt, they cover enormous distances when climatic conditions are not favourable ; and when the whole surrounding hills are enveloped in mist, it is nothing short of miraculous how readily they locate their quarters and dash in with arrowy flight. I noted these Swifts to have young on the 6-5-15 ; and young birds to leave the nest on the 31-5-16*: a brood of the following year. They are absent for the whole day during the cold-weather months, and at Nurbong 2,050′, observations extending over a period of eight days from the 19—26-1-14. I noted the pairs arrived between 4-50 p.m. and 5-30 p.m. at the nests almost simultaneously, having been absent the whole day. Okayti, 7-6-23. I counted thirty-eight nests, comprising a colony; when every available site appeared to be occupied, under the eaves of an office outbuilding.

Obtained in the Mai "Khola", East Nepal, ♂ ♀ 23-5-12.

409. The White-necked Spine-tail. Hirundapus caudacuta nudipes. (Hodgs.).

Recorded as throughout the Himalayas. Specimens in the B. M. Coll. from Sikkim are dated March, April, May (Mandelli.), one from Nepal (Hodgson.), and one from Bhotan (Pemberton). I have observed it on very few occasions ; once above Okayti at 5,600′ approximately,* probably in May, when there was a party taking their food without any appreciable effort during a bright morning and at the Turzum factory when a pair were seen at an elevation of 4,900′ approximately, 24-6-21* ; on this occasion they showed their wing power to the best advantage, when climatic conditions were not so congenial as on the previous occasion. Often observed at Gopaldhara at the oncoming of a storm half-a-dozen birds seen on the 28th April in company with several Swallows and again 31-5-23, on this occasion exclusively.

410. The White-rumped Spine-tail. Idacapus sylvatica (Tick.).

Recorded for Sikkim. Not represented in the National Collection by any Sikkim specimens.

411. The Hymalayan Swiftlet. Collocalia brevirostris (Mc Clell.).

fuciphaga

Occurs at *all elevations up to 12,000′*, but its appearances are very erratic. Several observed on the Singile La Ridge near Phalut at 11,700′ on the 19-2-12, a ♂ secured out of a number at evening, a Kalo Pokhari at 10,160′ on the 22-5-12. Numbers observed hawking for food around the Gopaldhara Bw. at 4,720′ on the 15-8-15*. Obtained in the Tista Valley at 3,600′, ♂ 2-9-20. (G. E. Shaw). Blanford also records it from the Cho La at 12,000′ (August) and throughout the Tista Valley at low elevations in the autumn of 1870.

Hume records finding the Indian Crested Swift *Macropteryx coronatus* (Tick.) breeding in May in the Darjeeling Terai.

412. The Nepal Long-tailed Nightjar. Caprimulgus macrurus nipalensis Hartert.

This Nightjar is more a bird of the Plains than the Hills, and I have failed to locate it in the valleys to the west. Obtained at elevations of from 2,500′-3,760′ in the Tista Valley. (G. E. Shaw). I have gone through all my Assam skins.

Nine examined: Juvenile, ♀ (June) wing 193; ♂ (July) wing 200, probably not quite fully grown. Adult ♂ wing 204-219, av. 210·8. Adult ♀ wing, 211-219, av., 214·3.

These specimens are very variable in the depth of tone and the barring on the underside.

413. The Himalayan Jungle Nightjar. Caprimulgus indicus jotaka. (Temm. & Schleg.)

Occurs up to 7,000′-8,000′ during the breeding season and found at all intermediate heights from the base of the hills in "the cold weather." Gopaldhara, 3,500′, 31-10-14, several in evidence. 3 ♂ ♂ 23-12-11. Mai Khola, East Nepal, ♀ 22-5-12, wing 200; obtained with two eggs which measured 30×19, av.

Five males examined: 3 ♂ ♂ Sikkim, wing 203-206; av. 205·7.
Bhotan Dooars, 27-1-22, ♂ wing 193. Assam, 12-2-05, ♂ wing 199.
Dr. Hartert gives the wing measurement for "*indicus*" 197-203, and for "*jotaka*" type, locality, Japan, ♂ 212-224.
In size my specimens are nearer the typical form.

414. Gould's Great-eared Nightjar. Lyncornis cerviniceps cerviniceps Gould.

Included on the recorded specimen said by Jerdon to have been obtained in the Tista Valley.

415. Hodgson's Frogmouth. Batrachostomus hodgsoni (G. R. Gray).

Recorded for Sikkim at *low elevations*. Great Ranjit Valley, 3,000′ and 4,000′ (Hodgson), Namchi (Mandelli). Evidently as rare as it was in the Foot-hills of Assam.

416. The Red-headed Trogon. Pyrotrogon erythrocephalus erythrocephalus (Gould).

Recorded for the Himalayas up to *5,000′ at which elevation it occurs* at Gopaldhara, and as it is strictly a forest species it would appear to be isolated hereabouts at the upper limit of its range from its main distribution area, as for instance at Gopaldhara where to the south the country is under cultivation until the forest reserve is reached at about 2,000′, with the exception of sparsely wooded areas intervening.

417. The Asiatic Cuckoo. Cuculus canorus telephonus Heine.

With the commencement of the hot weather, it is possible to trace the ascent of the Cuckoo, as the birds commence calling almost immediately, when they enter the valleys, and announce their arrival according to the distance and elevation reached. Its appearances around Gopaldhara take place with marked regularity; and invariably occur during the latter days of March or the first week in April. Its arrival has been noted over a number of years. Gopaldhara, around 4,720′. First heard calling on the 1-4-14, and noted again on the 12th to be calling up to 6 p.m. The last occasion when I heard the familiar call being on the 11-7-14. The following year on the 31-3-15. Noted to be calling a few times at 6-30 a.m., on the 6-5-15. Calling somewhat inaudibly on the 23-3-16; its full note heard on the 27-3-16, and remarked as silent during July 1917 prior to the 21st; when it was heard to call, 31-3-17, heard again on the 2-4-17, and almost daily afterwards when the air resounded with each male bird endeavouring to outdo his neighbour. Heard above Avongrove at 5,500′ on the 3-4-18, having been reported to me on the 1st at 4,500′ around Sungma. (C. E. Brown). In 1919 calling commenced as early as the 19th of March, though the birds did not attain their full

vocal powers until a few weeks later. This Cuckoo appears to ascend *up to about 9,000′ on the Outer Ranges*, around which elevation, I came across it in the Mai Valley in Nepal. Mr. G. E. Shaw has so far not obtained it above Mangpu beyond an elevation of 3,800′. Birds collected in April 1921, on the 13th were feeding on the earliest to appear, cicada (*Geana sulphurea* Hope.), which was plentiful, and *C. optatus* was also taking this Cicada in numbers as was proved on dissection. During 1923 at Gopaldhara in the Rungbong Valley; the first arrival was noted on the 2nd of April, and while one bird was calling at evening on the 13th of June, its utterances being nothing more than a choking effort; another bird was heard on the 10th of July at its best and others were in evidence calling audibly on the 16th or 27th of the same month.

Six specimens examined: ♂ Wing, 220-230, av., 225; ♀ wing, 204.

Soft parts: ♂ Iris gamboge-yellow; orbital skin yellow; bill greenish-black, deeper on culmen, a defined patch of yellow at the base of the upper mandible-gape bright orange; tarsus yellow. ♀ Iris, yellow; bill horny, greenish; yellow on the lower mandible; tarsus yellow.

418. The Himalayan Cuckoo. Cuculus optatus Gould.

The first of the migratory Cuckoos to put in an appearance, arriving at Gopaldhara in the Rungbong Valley about the middle of March; when it ascends to an elevation of over 7,000′. Jerdon has aptly described the call of this Cuckoo which is a sonorous "whut" of four syllables, and the preparatory note at the commencement is quite audible at close quarters. Heard calling on the 27-3-16, and possibly earlier, but not noted down. 12-3-18, calling at mid-day, and possibly few a days earlier. 19-3-19, first occasion heard. 16-3-20, calling for the first time and again on the 19th. On the 25-5-20 I heard this Cuckoo calling at an elevation of 3,550′, but most of the birds appear to be *confined from about 5,000′ and upwards.*

Six specimens examined: Collected from the 31st of March to the 25th of May. ♂ Wing 182-195, av. 186.

419. The Small Cuckoo. Cuculus intermedius intermedius Vahl.

I have no information respecting the exact date of arrival of this Cuckoo at Gopaldhara but my record of specimens obtained when the birds are particularly noisy, point to the end of May, and this in accordance with Jerdon's statement as quoted by Oates,as to it being rarely heard at Darjeeling before this time, The earliest date at an elevation of 4,720′ being 11-5-21, and the remainder from the 25th of May to the 5th of June. In the Mai Valley, 24-5-12, *7,000′*, circum. With this exception all were collected at *elevations of from 3,750′-5,700′, chiefly above 5,00′.* Turzum, 5,200′, 12-9-17, ♀ (*a*) juvenile, rolling in fat; caught at a strong moth lamp. (O. Lindgren). Obtained at as low an elevation of 800′ in the Tista Valley. (G. E. Shaw). Eight specimens examined: One ♀ 5-6-20, is in the hepatic stage, so that more than one year must elapse in some cases before the adult plumage is attained. One ♂ 27-5-20, (*b*) shows signs of immaturity in that some of the greater-coverts and primary-coverts have not been moulted, the under feathers of upper tail-coverts are tinged with rufous, a few feathers on the forehead and crown are also rufous. It has a loud call, somewhat resembling the syllables "quik" "four" times rapidly uttered and this is the only call I have heard it produce.

Wing, ♀ (*a*) 150. ♂ (*b*) 146. 5 ♂ ♂ wing, 151-157, av., 154. ♀ wing, 141.

420. The Indian Cuckoo. Cuculus micropterus micropterus Gould.

This Cukoo is more frequently heard, if not actually seen at lower elevations than its near congeners. It arrives at Gopaldhara about the second week in

April and *does not appear to transcend an upward limit of 5,000′* where it gives ground to *C. optatus*, whereas *C. canorus* appears not to be hampered by any such restrictions. The surprising number of this parasitic group of birds, both in regard to species and numerical strength is no better proof of the wealth of bird-life in general which can support them all. In 1914 noted to be calling as late as the 4th and 11th of July. First heard calling during the following years: 12-4-15, when on the 19th one call was heard at night. 20-4-16, 10-4-17, and noted as calling after sunset on the 23rd, 12-4-18, 11-4-19, 10-4-21. It is generally silent during July but in 1916 they were noted to have their full vocal powers previous to the 21st. I have not had the opportunity of watching the courtship of any of the Cuckoos with the exception of *C. canorus*.

The well-known call of this Cuckoo has been rendered into common parlance by tea-planters as being best expressed in the term of "make more pekoe," though it may not always be advisable to take the hint and which might be better defined at times as an imprecation. In addition to this vocal effort a rapid thrice or twice repeated "quik" is uttered on occasions. The females seem to be more secretive and do not lend themselves to observation, which is natural during the egg-laying period. During 1923 at Gopaldhara in the Rungbong Valley; the first arrival was noted on the 6th April, calling at night and replied to by another. On other occasions heard on the morning of the 14th of June; on the 19th had lost none of its sonorous notes and still in evidence on the 25th. These latter occasions being the only records noted towards the close of its seasonal vocal efforts. Five specimens examined: ♂ Wing 194-200, av. 197·6.

421. The Large Hawk-Cuckoo. Hierococcyx sparverioïdes Vig.

Recorded as ascending the Himalayas in summer up to 9,000′ or more.

Resident in the Rungbong Valley, being confined during "the cold weather" chiefly to the forest at elevations around 5,000′. These may be birds which have descended from higher limits? As their place is vacated others probably arrive from lower limits as its numbers are certainly augmented during March and April. The silence of these birds during "the cold weather" is quite as pronounced a feature of their existence as their noisiness is towards the breeding season. So far I have *not obtained it above 6,000* while 4,000′, is the highest limit above Mangpu for Mr. G. E. Shaw's records.

The following dates have reference to the period of its greatest activity. Gopaldhara, 4,720′. First heard calling on the 8-3-15, and again on the 15-3-15. During May there was a lull amongst all the Cuckoos with a recommencement at the last week. Finally heard on the 14-8-15, but only a feeble effort. 14-3-16, calling at evening and again on the 27-3-16. Noted to call on as late a date as the 21-7-16 and on a single occasion on the 11-10-16 which was most unusual, as during July there is a pleasant respite from the interminable volume of sound which prevails throughout April and June. During 1917 a single bird with no others in evidence was calling as late as the 27-7-17. 3,550′, on the 23-2-18, one bird was observed to attempt calling but only managed to effect a two note utterance, the completed effort being attained on the 5-3-18: when a bird was heard to call around an elevation of 4,720′ for three times at 6 p.m. on a dull day. 4,720′. First heard 19-3-19. Gangtok, around 6,000′ much in evidence on the 14-3-20. Gopaldhara at 4,720′ first time heard on the 9-3-21. "The rains" of 1923 were remarkable for spells of sunny weather, most of the rain falling in heavy showers at night which apparently had some influence on the Cuckoos as the pandemonium which reigns all day long and throughout the long hours of the night was certainly not so prolonged as is generally the case. Noted as calling on the 14th of June and during the first week in July when

the other species had for the most part finished. The preliminary "chu" "chu" "chu" call heard on the 12th also finally in evidence on the 1st August.

Nine specimens examined: ♂ Wing 217-230, av. 224·2; ♀ wing 217-221, av. 219.

422. The Common Hawk-Cuckoo. Hierococcyx varius (Vahl.).

Recorded for the Himalayas as far as east as Bhotan, ascending the hills in summer to about 7,000′. I have no knowledge of the status of this Cuckoo in the hills. It occurs *commonly in the plains* around Jalpaiguri; on the 18-2-15, it was in evidence judging by its clamorus call emanating on all sides. Not represented in the B. M. series from the Sikkim Himalayas.

423. Hodgson's Hawk-Cuckoo. Hierococcyx fugax nisicolor (Blyth).

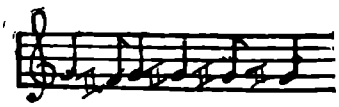
Recorded for the Himalayas as far west as Nepal. Its *distribution is extended* by the record of a specimen obtained at 4,500′ above Mangpu, ♂ 7-5-20, (G. E. Shaw), in the hills *to the west of the Tista River*, though Mandelli is mentioned p. 384 in Vol. II of "Hume's Nests and Eggs" (Oates) as having obtained an oviduct egg from a specimen, exact locality not stated.

424. The Rufous-bellied Cuckoo. Cacomantis merulinus querulus Heine.

Recorded for the Eastern Himalayas from Nepal. I have no knowledge of this Cuckoo; which commonly occurred in the plains of Upper Assam, as to its status in these hills. Not represented in the B. M. series from the Sikkim Himalayas.

425. The Indian Plaintive Cuckoo. Cacomantis merulinus passerinus (Vahl.).

This Cuckoo occurs around Gopaldhara as a migratory bird in the summer, yet its appearance is somewhat irregular. During 1916, first heard to call on the 27th of March and in evidence on the 15th of August. During 1920, two ♂ ♂ obtained in the compound at 4,720′, 14—16-5-20, and noted again on the 19th. It has two calls: the first is best described in the syllables "pe" "peah" and to be often followed by a mournful effort of three notes, generally uttered in semi-tones thrice in an ascendant scale rendered in syllables "tay" "tā" "tay" or "dhay" "dā" "dhay", but more effectively:



During 1923 the preliminary call was first heard on the 4th of April. In evidence on the 15th of June and from the 11th to the 16th of July which last date was the final occasion on which it came under my notice.

Two specimens examined: ♂ Wing, 115-120.

Soft parts: Iris venetian-red or pale crimson-brown; tarsus dusky-yellow; soles ochreous; claws dark horny-yellow.

426. The Banded Bay Cuckoo. Penthoceryx sonneratii sonneratii (Lath.).

Obtained on one occasion in the Tista Valley at 2,000′. (G. E. Shaw). Represented in the B. M. series by one specimen from Darjeeling and one specimen from Sikkim, April 1873.

427. The Emerald Cuckoo. Chalcococcyx maculatus (Gm.)

A summer migrant of rare and irregular occurrence to the Rungbong Valley Easily overlooked in dense foliage. On its arrival at Gopaldhara in April, it is remarkably devoid of fear and shows a disinclination to avoid any possible chances of danger, trusting to its harmonizing plumage and unobtrusive habits for protection. I regret my inability to describe its call which is quite distinctive from any of the other Cuckoos and notwithstanding its weakness in volume savours of cuculine pecularities. On occasions its vocal strains are produced during the stillness of the night. Information in respect to it is as follows: Gopaldhara, 4,500′, ♀ 11-4-18, ovaries active; a few birds seen, but the first to be obtained by a youth who had knocked it down at short range. 4,250′, ♂ 2-5-18. Three birds reported to me as having been seen by an intelligent chaprassi on the 22-4-18. 4,720′, 17-4-19. My attention was drawn to two pairs of this beautiful Cuckoo this morning as they were busily occupied making a systematic search of the foliage of the cherry trees. They were allowed to complete their task without molestation and the caterpillars suffered a diminution of their numbers accordingly.

During a partially weak ? monsoon in 1920, they appeared to be totally absent. The "Fauna" key to the species of this genus, has always seemed confusing; the distinguishing characters between the female of this species and "*xanthorhynchus*" are evidently transposed, and, comparison and checking by the description shows this to have been the case.

1923. Gopaldhara, 6,000′. Juvenile females within a few days of leaving the nest were brought in on the 13th of June and 7th of July, The nests of the foster parents (*Cryptolopha castaneoceps*) out of others which I got eggs, having been found on previous occasions.

428. The Indian Drongo Cuckoo. Surniculus lugubris dicruroides (Hodgs.).

This Cuckoo arrives in the Rungbong Valley about the middle of April, or in some years, during the first week in April. At Mangpu, 3,860′, seen and heard as early as the 25-3-15. Gopaldhara, 4,720′, heard on the 2-4-15. 3,500′, in the bottom of the valley, 13-4-16, and again at 4,720′ on the 25-4-16, finally noted as calling on the 19-7-16. 4,720′, in evidence, 19-4-18.

I have gone into a long list of dates in reference to many of these Cuckoos at the period of intense sexual activity, as an aid in determining its duration, and at the same time in fixing their arrival, if not always their departure. Meanwhile my notes on oology will of necessity have to stand over until a future occasion.

429. The Pied Crested Cuckoo. Clamator jacobinus (Bodd).

Recorded for the Lower Himalayas. Unknown to either Mr. G. E. Shaw or myself. It would be an interesting fact, if the route were known of the specimen obtained at Tingri. 14,000′, by the Mount Everest Expedition. (*vide* Kinnear N. B., Ibis, Vol. IV, No. 3, July 1922, p. 504.)

430. The Red-winged Crested Cuckoo. Clamator coromandus (L.).

Recorded for the base of the Himalayas and farther east. The only locality known to me is that supplied by Mr. G. E. Shaw from below Mangpu at elevations of from 2,500′-3,600′ in the Tista Valley where specimens have been obtained as follows: 2,500′, ♂ 5-6-19. 3,500′, ♀ 22-4-19. 3,600′, ♀ 16-4-20. Mandelli appears to have obtained it from Namchi.

431. The Large Green-billed Malkoha. Rhopodytes tristis (Less.).

Recorded for the Outer Himalayas below about 8,000′. Obtained up to an elevation of 3,860′ at Mangpu. (G. E. Shaw). In the Rungbong Valley, it has an extension to the head of the valley up to 3,600′, being confined to the river-bed and surroundings as a resident. So far I have not seen it in any other locality hereabouts.

432. The Hill Sirkeer Cuckoo Taccocua leschenaultii infuscata Blyth.

Recorded for the Lower Himalayas, and evidently referable to this form which, however, is unknown to me.

433. The Chinese Crow-Pheasant. Centropus sinensis sinensis (Steph.).

Occurs in the Tista Valley up to 3,600′ below Mangpu. (G. E. Shaw).
I have no record of its occurrence in the minor valleys to the west.

434. The Indian Lesser Crow-Pheasant. Centropus bengalensis bengalensis (Gm.)

Recorded as occurring up to about 5,000′ in Sikkim according to Gammie. Once only observed at Gopaldhara in the Rungbong Valley at an elevation of 3,440′, 28-1-15*; when it was flushed out of a reed-bed. As these Coucals are dependent on the necessary dense cover; it can only be locally distributed and absent from large tracts of the country.

435. The Large Assam Paroquet. Psittacula eupatria indoburmanica (Hume.).

Recorded for the Sikkim Terai; which statement also refers to
Psittacula cyanocephala cyanocephala (L.), and
Psittacula cyanocephala bengalensis (Forst.).

436. The Slaty-headed Paroquet. Psittacula schisticeps schisticeps (Hodgs.).

Recorded throughout the Himalayas below about 8,000′. This Paroquet performs an upward movement into the Rungbong Valley at the end of "the rains," when large parties may be observed in flight, attracted to their favourite feeding grounds which consist of berry-laden trees. Blanford gives *P. s. schisticeps* with a wing measurement of 6·5″ = 165, and a total length of 16″ against *P.s. finschi* with a wing measurement of 6″=152 in males and a total length of 17″. These total length measurements evidently require reversal as the former is the bigger bird of the two.

437. The Indian Red-breasted Paroquet. Psittacula alexandri fasciata (P. L. S. Muller).

Recorded throughout the Lower Himalayas up to about 5,000′.

Obtained in the Tista Valley up to 3,800′. (G. E. Shaw). Only seen in the Rungbong Valley during "the cold weather"; which is a movement evidently connected with the shortness of the food supply, necessitating a wider area to be covered. As is well known these Paroquets in common with the rest take safety in numbers, and whilst the screeching that takes place may be the means of warning all laggards; it can only result in drawing attention to the flight, even if undertaken with great rapidity. The breeding habitat lies in the foot-hills to which reference has previously been made.

438. The Indian Loriquet. Coryllis vernalis (Sparm.).

Recorded from the Darjeeling Terai, eastwards to the Bhotan Duars and Assam. Authentic reports of its occurrence under the foot-hills of Bhotan have been given me, but so far I have not been able to substantiate its reported occurrence in the Rungbong Valley during "the cold weather", in which case it is a similar extension upwards along the bed of the river, at a time of food shortage.

439. The Bay Owl. Photodilus badius (Horsf.).

Strictly confined to the heavy forest of the Foot-hills from where I have seen only a few specimens, inclusive of a record for the Tista Valley,2,000′, 20-11-15 (G. E. Shaw).

44c. The Short-eared Owl. Asio flammeus flammeus (Pontoppidan).

An irregular cold-season visitor on the *Outer Ranges at moderate elevations on its southerly migration* to the plains. Observed quartering the "dharas" at Okayti on the evening of the 27-12-21.* My specimens have been obtained in exposed ground on the ridges on both sides of the Rungbong Valley. Gopaldhara, 6,100′, ♀ 24-2-18. Turzum, 5,200′, ♀ 2-2-15. (O. Lindgren).

These two specimens compare similarly in colour and measurement with a ♀ from Tirhut, 21-12-04. (C. M. Inglis). The three ♀ ♀ measure: Wing 307-310, av. 309. whilst a ♂ from Hessamara, Upper Assam, is altogether paler with the streaks on the under surface much finer. Wing 294. Dr. Hartert does not consider this specimen to be referable to "*leucopsis*" (Brehm). The status of this Eastern form is obscure.

441. The Himalayan Wood-Owl. Strix aluco nivicola (Blyth).

Recorded for the Sikkim Himalaya at elevations of 6,000′-14,000′.

This owl may not be so rare as it is generally supposed to be, in consequence of its nocturnal habits and high altitudinal distribution. Tonglo, Nepal-Sikkim Frontier, 10,000′. The first clue to this bird's whereabouts was the finding of a few feathers in the vicinity of some huge boulders in January 1911; evidently one of its haunts on the south face of the mountain, but it was not until the 17-5-12; when in camp at Kalo Pokhari at 10,160′, that I was able to obtain a specimen, a male being brought in by a "paharia" youth from the valley below in Nepal. Wing 290. Bill greenish-yellow. Stomach contained remains of Coleoptera, also a portion of a vole's skull, probably *Microtus sikkimensis*, several of which were trapped near my camp.

442. The Himalayan Brown Wood-Owl. Strix indrani newarensis Hodgs.

Recorded from the base of the hills up to 13,000′ in Sikkim.

A nocturnal owl, sometimes to be seen on occasions in the depths of forest towards evening, at elevations of from 5,500′-6,000′ at Gopaldhara; when it is on the alert, as if anticipating an attack from above and not as mindful of danger from below. The bird takes flight on the slightest audible noise at one's approach, and this is unavoidable as it is impossible to avoid crunching the thick layer of dry decayed leaves which carpet the ground, so common a feature in tropical forests and forests of moderate elevations in "the cold weather". It frequents the wooded portions in the station of Darjeeling, and occurs around Mangpu at elevations of from 3,600′-3,800′. (G. E. Shaw). Messrs. Barrett and

Shaw have both kept this Owl in semi-captivity, and it makes a docile and interesting pet when taken young. A pair disturbed in the forest at 6,000′ on Gopaldhara, 13-5-23*.

Three specimens examined: Gopaldhara, 6,000′, ♀ 27-1-18, one of a pair, wing 381. ♂ 10-3-18, wing 363; testes well advanced in development. 5,500′, ♂ 17-5-20, wing 385. Iris brown ; bill pale greenish-horny.

(*To be continued.*)

NOTES ON THE BIRDS OF THE SIKKIM HIMALAYAS

NOTES ON THE BIRDS OF THE SIKKIM HIMALAYAS

BY

HERBERT STEVENS, M. B. O. U.

PART VII

(*Conclusion*)

(*With 2 plates*)

(*Continued from page 685 of this Volume*).

443. The Himalayan Brown Fish-Owl. Ketupa zeylonensis nigripes (Hodgs.).

This form is larger, and on the underparts somewhat paler. Wing 2–3c.m. longer than in the typical '*zeylonensis*.' Dr. Hartert gives the distribution Himalayas, exact distribution not known. Unknown to me, but a *Ketupa* was seen on a few occasions around Hathipota in the Eastern Dooars and could hardly have been referable to this form as it is only likely to be found above the base of the hills, though my largest ♂ (wing of 405) was obtained in the plains of Upper Assam. The wing measurement of typical '*zeylonensis*' is given 39–41·5 c. m. (Hartert).

444. The Tawny Fish-Owl. Ketupa flavipes (Hodgs.).

Recorded for the Lower Himalayas at elevations not exceeding 5,000′. The only specimen that I have seen in recent years is one secured in the Tista Valley by Mr. H. P. P. Barrett. This specimen is in the Darjeeling Museum.

445. The Forest Eagle-Owl. Huhua nipalensis (Hodgs.).

Recorded for the Himalayas at elevations not exceeding 7,000′.

Mai ('Khola') Valley, East Nepal, ♀ 14-4-12, wing 450, obtained along with a single youngster from the nest. The latter became quite one of the attractions to the *paharia* youths who frequented my camp, being accommodated during the day in the nook of a rock, with snug quarters at night, as it was wont to sit at the foot of my stretcher inside my tent, and invariably awakened me with a friendly chuckle. After many vicissitudes and trials from the penetrating cold of these high altitudes to the steamy heat (100° in the shade) of Calcutta in May, and a rough voyage home in the S. W. Monsoon ; it was safely deposited in the Regent's Park Collection where for several years it was an inmate. Mr. G. E. Shaw had one in semi-captivity for many years. Turzum, ♀ 29-5-15, wing 441 (O. Lindgren). Sungma, ♂ 27-12-18, wing 438 (C. E. Brown), procured at mid-day whilst demolishing the remains of a Kalij Pheasant when disturbed by the beaters. Reported to me on a few occasions in the Rungbong Valley, where these two last specimens were obtained at elevations below 5,000′.

446. The Himalayan Scops Owl. Otus scops pennatus (Hodgs.).

Obtained on one occasion only at Turzum, ♂ 29-10-18, at an elevation of 5,200′ (O. Lindgren.), and seen at Gopaldhara on a few occasions at early daybreak and often suspected of being in the vicinity of the Bw., but it is a strictly nocturnal owl, difficult to locate. In this specimen the wing is 140. Coloration : a dark phase, scupulars buff and white mixed, 1st quill longer than the 8th ; 4th quill longest and slightly longer than the 3rd. This bird is evidently referable to Hodgson's '*pennatus*,' but is darker than any specimens in the B. M. from Nepal. *O. s. sunnia* Hodgs., appears to be the bird which is scattered over the plains of Northern India. One very rufous specimen I have, was collected by Mr. C. B. Antram in the Luskerpore Valley in South Sylhet. In this example the 1st quill shorter than the 8th ; 4th quill longest and more pronounced in length to the 3rd than in the previous example.

447. The Spotted Himalayan Scops Owl. Otus spilocephalus (Blyth).

Apparently generally distributed, though few specimens are actually secured. Obtained around Mangpu at 5,000′, above the Tista Valley. (G. E. Shaw).

Nagri, Rungbong Valley, 3,700′, ♀ 11-1-12 (S. F. Boileau.) ; wing 150, ovaries well developed. This specimen agrees well with Assam birds which are very variable in coloration from russet-red to brown, 2 ♂ ♂ wing 142 4 ♀ ♀ wing 142-150, av. 147. Recorded for the Himalayas at elevations between about 3,000′ and 6,000′, but it occurred at lower limits in Upper Assam, being found at the base of the hills. Gopaldhara. Two youngsters brought in 7-7-23 which were safely reared to maturity.

448. The Himalayan Collared Scops Owl. Otus bakkamœna lettia (Hodgs.).

This Scops owl is the commonest nocturnal owl in well-wooded tracts in the Rungbong Valley, and is frequently heard though rarely seen. It appears to occur up to at least 5,000′. Gopaldhara, 4,720′, 24-4-16 ; three almost fully developed youngsters brought in. ♂ 8-7-20, juvenile. ♂ 26-4-21, juvenile ; from which it may be inferred the nesting season is a prolonged period. One specimen was deposited in March 1922 in the Regent's Park Collection.

449. The Larged Barred Owlet. Glaucidium cuculoides cuculoides (Vig.).

This common Owl is widely distributed on the Outer Ranges up to an elevation of over 7,000′. Obtained at Sonada, 6,600′, ♀ 8-2-17. Frequently seen in the Rungbong Valley in broad daylight in open tracts.

450. The Collared Pigmy Owlet. Glaucidium brodiei brodiei (Burton).

Recorded from the base of the hills to a considerable elevation in Sikkim. I have seen it in the deep valleys of the interior at low elevations, and it has been obtained at Gopaldhara around an elevation of 5,000′, where it is occasionally to be met with. The Paharias attribute a call to this Pigmy Owlet, though it is almost an impossibility to locate the quarter from which the sound emanates. On rare occasions I have heard it uttered well on into the morning and frequently at night under the foot-hills in Upper Assam. There is every reason to believe this ventriloquist is the culprit as there appears to be no other feasible explanation of the riddle.

451. The Brown Hawk-Owl. Ninox scutulata lugubris (Tick.).

The specimens obtained in the Tista Valley at an elevation of 2,900′ (G. E. Shaw.) may be referable to this race and not to *burmanica* Hume. Dr. Hartert gives the distribution : India from Rajputana to Bengal. Wing between 205-228, and whereas the exact distribution of *burmanica* is not known ; it is the breeding bird of the Naga Hills in Assam, Cachar and Burma.

452. The Osprey. Pandion haliaetus haliaetus (L.).

I have not been fortunate enough to have seen the Osprey in the Tista River where it is surely to occur. In January 1922, a fine bird was frequenting the Gorge and lower reaches of the Raidak River at the base of the hills ; when on more than one occasion, I had the opportunity of watching its methods of grasping captured fish.

453. The Cinereus Vulture. Ægypius monachus (L.).

Recorded distribution in the ' Himalayas as far east as Bhotan, and there can be no doubt this bird breeds in the Himalayas.'

454. The Black Vulture or Pondicherry Vulture. Torgos calvus (Scop.).

Occurs at frequent intervals in the Rungbong Valley, and may on occasions be seen above the station of Darjeeling where it reaches an altitude of over 7,000′ at all events.

455. The Eastern Griffon Vulture. Gyps fulvus fulvescens Hume.

Recorded as far east as Nepal and Sikkim.

456. The Himalayan Griffon. Gyps himalayensis Hume.

Recorded for the Himalayas from Cabul to Bhotan being confined to the mountains. In the precipitous rocky mountains on the west side of the valley, at an elevation of 10,000′ upwards, above Lachung, in March 1920 ; I daily observed a huge congregation of several species of vultures which were undoubtedly breeding. They were never seen away from these haunts around which they sailed in majestic fashion. Mr. A. F. R. Wollaston during the

Mount Everest Expedition mentions seeing it in the gorges of the main Himalayan Range, up to 14,000′, but not on the Tibetan plateau, where only *Gypaëtus barbatus grandis* occurred.

457. The Himalayan Long-billed Vulture. Gyps indicus tenuirostris Hodgs.

Recorded throughout the Lower Himalayas and near their base. Evidently occurs in Sikkim as Blanford quotes the Lepcha name.

458. The Indian White-backed Vulture. Pseudogyps bengalensis (Gmel.).

Recorded, "not found above moderate elevations in the Himalayas." It appears to ascend to *over 8,000′ on the Outer Ranges* at which elevation, a ♀ was obtained in the Mai ' Khola ' in East Nepal on 24-3-12. This bird was knocked over by some youths, when on the ground, and brought into my camp at 10,160′, it was a juvenile with black bill and dark back. At varying periods, three other species of vultures were seen in some numbers, which in many cases appeared to be *Gyps himalayensis*, none were obtained with this exception as I must confess to an avowed aversion in the preparation of vultures' skins. Gopaldhara : I disturbed a single bird on my way home on the evening of 6-3-18 ; which had evidently settled for the night in a cryptomeria tree below the compound, 4,720′. I identified the vultures, which were breeding in January 1922 in the village of Kumargram in Eastern Bengal, to be this species, judging by their roaring though I failed to observe the white parts of the adult. For a better acquaintance with this group of birds, no more advantageous place for observation in the hills can be afforded than the municipal slaughter house at Darjeeling, where there is every chance of meeting with all the species that occur in the district. The whole surrounding ground is in occupation of vultures with kites and crows in attendance. The late Mr. J. L. Macintosh availed himself of this opportunity, and did not miss the humorous side of their habits in his description of their jaunts on the wire-ropeway which carries the refuse to its destination. It requires the enthusiasm of an ardent ornithologist but the results would justify the olfactory inconvenience.

459. The Bearded Vulture or Lammergeyer. Gypaetus barbatus grandis Storr. ' Lhema gida ' Paharia.

There can be few more impressive sights in connection with any bird, than to be fortunate in seeing the majestic Lämergeyer proudly keeping ahead of an approaching storm, as the clouds roll along the ridge with an enveloping mist or whilst under more favourable circumstances, it soars at an intense height over the sublime depths of the valley below. They appear to have regular beats along the ridges and spurs, and at the close of the breeding season, extend over a wider area, as single birds may be seen as far out as Mirik or Kurseong, though I have no record of their descending to a lower limit than 4,800′ when on one occasion it was observed flying leisurely above my home on 29-6-18. I have seen it on the Outer Ranges, Phalut, 11,811′, 17-2-12. Sandakphu, 11,923′, 8-3-12 ; when one passed overhead several times in company with vultures, and on this and similar occasions its curiosity was so aroused as I reclined on the ground to bring it within measurable distance, when the rich ferruginous tint of the breast feathers, and piercing eye, heightened by the blood-red membrane were seen to perfection. I have never seen more than a solitary bird on any one occasion,[1] which trait in its habits, almost discounts any near relationship with the vultures. Mr. H. P. P. Barrett informs me, whenever it appears with the latter at their feeding grounds it keeps aloof from the common herd. One specimen he obtained had its gullet and stomach crammed with undigested bones. This well-known fact prompted me to test the extent of the Bungalow *chaukidar's* knowledge at Sandakphu in reference to its habits, and as the old man vividly described what he had witnessed ; I was content to let him have his final assurance that this bird was no ordinary ' *Gida.*' It occurs frequently over Ghoom and was noted daily in the Lachung Valley in March, when an adult bird was wont to wend its flight down the valley. I have only once seen it settle in a tree and remain there for some

[1] I have since seen three birds soaring at an immense height over the Gopaldhara Bw. 7-5-23. This occurrence most likely pointed to adverse conditions in the weather in the high upper regions.

time. They seem to spend only brief intervals on the ground, when they are attracted to their favourite repast. One adult ♀ was obtained in this manner by trapping near Kurseong on 11-1-20, wing, 830. Soft parts : Iris pinky yellowish-white ; sclerotic membrane blood-red ; bill horny, tip dark ; tarsus plumbeous-grey, stippled with oxide of iron ? Kalo Pokhari, camp, 10,160′, ♂ 24-5-12. This specimen was in extremely ragged condition ; as it was in the so-called immature plumage ; some years must elapse before the full adult garb is attained, otherwise this record nullifies the usual accepted data in regard to this phase being a mark of the young bird. To me it seems akin to a melanistic phase. This bird in its dark plumage and blackish-brown head in flight appeared like a huge *Ictinaëtus*. Wing abraded. Soft parts : Iris stone-yellow ; sclerotic membrane, dull orange ; gape, blue.

Mr. A. F. R. Wollaston records seeing this bird flying at a height of not less than 24,000, during the Mount Everest Expedition.

460. The Eastern Steppe Eagle. Aquila nipalensis nipalensis Hodgs.

Blanford gives the Lepcha name for this Eagle. Mr. G. E. Shaw appears to have obtained it at Mangpu at 3,860′. Probably occurs with more frequency in the Tista Valley than in the minor valleys on the west. As these large Eagles have so many different phases of plumage, and opportunities seldom come one's way in the well-wooded country of the Eastern Himalayas for observation, I am unable to fix the identity of a few aquiline birds which have come under my notice which at sight appeared to be referable to this species.

461. Bonelli's Eagle. Hieraetus fasciatus fasciatus. (Vieill.).

It is with some diffidence that this fine Eagle is included in this list as, so far, I have seen no specimen from Sikkim, or the lower foot-hills, though this country is well within its recorded distribution. My observations point to its having some status, but until specimens have been actually obtained, its inclusion only rests on circumstantial evidence. The National Collection is represented by two specimens from Nepal (Hodgson and Scully) and one from the Bhotan Dooars collected in March 1875 by Mandelli. *Hieraaëtus pennatus* (*Gmel.*) by one Sikkim skin, dated 1872, in the Hume collection and one specimen from Nepal collected by Hodgson. My thanks are due to Mr. N. B. Kinnear for supplying me with this information.

462. The Rufous-bellied Hawk-Eagle. Lophotriorchis kienerl (De Sparre).

This grand bird is apparently confined to the Tista and Great Rangit Valleys, occasionally straying to the surrounding hills. Reported to me as known by a few careful observers, and within recent years has been obtained at Bannockburn Estate at 5,000′, ♂, 18-4-18 by the late Mr. E. A. Wernicke and a ♀ below Mangpu at 3,300′ on 31-8-20 by Mr. G. E. Shaw. Observed at Gopaldhara at about 4,000′ in the Rungbong Valley on 9-2-19 when the rich ferruginous underparts were prominent, and a wild resounding call was uttered on its taking flight.

463. The Indian Black-Eagle. Ictinaetus malayensis perniger (Hodgs.).

The Black-Eagle has recently been recorded at the foot of the hills at 500′ by Mr. C. M. Inglis. It is generally distributed at elevations of from 2,000′—10,000′, on the Outer Ranges and occurs in the Interior around Gangtok at 5,800′, in February and March. I have noted its appearances, which have attracted my notice, though excepting the period, when it is occupied in breeding ; it is often to be seen leisurely quartering the wooded ' kholas' of the hill-sides. Gopaldhara, occasionally seen in January 1912. Observed the first week in July 1914. On 13-5-16, pursued Drongos (*Chaptia ænea*), several of which are addicted to mob it daily, as it appears on its rounds. Sandakphu, 11,923′, 1-3-12, several hereabouts. In flight it shows some resemblance to the laboured motion of the Marsh Harrier ; this trait is more noticeable as it passes overhead than from a broadside aspect.

Four specimens examined : Rungbong Valley, Sungma, 4,500′, ♂ 29-9-14, (C. E. Brown), wing 572. Nagri, 4,300′, ♂ 11-2-16, wing 576. Gopaldhara, 6,000′, ♀ 4-11-19, wing 580 ' worn' ; a broad patch of white on the throat extending behind the ear-coverts with the chin and a gular stripe black, otherwise in the rich deep black plumage of the adult female. The gullet and crop

contained the carcases of six or more young field-mice. Balasan Valley, Pussimbing, 4,500′, circum. ♀ 15-12-15, wing 585.

Soft parts : ♂ Iris stone-brown ; cere deep ochreous-yellow ; base of bill greenish-yellow ; bill black ; tarsus ochreous-yellow ; claws black.

♀ Iris brown ; cere and gape gamboge-yellow ; bill basal half, yellowish-green, remainder bluish-black darkening towards the tip ; tarsus dark ochreous. ' *A Synopsis of the Accipitres* ' (Kirke Swann.) gives the measurement of the wing, as 550–600.

464. The Himalayan Hawk-Eagle. Spizaetus nipalensis nipalensis (Hodgs.).

This bold and aggressive eagle is the great terror of the country-side. It is generally distributed in the forested tracts at elevations of from 2,500′–10,000′ on the Outer Ranges. Often to be seen around Gopaldhara. Being a wary bird, it is difficult to obtain. Sungma, 4,500′, ♀ 10-1-12. Sandakphu summit, 11,800′, 8-3-12. This day, I was the witness of the manœuvres of a pair of these grand birds, as they were too wary to allow of a near approach, I had to be well content with the excellent view attained from a secluded vantage point amongst the rocks. At times they remained stationary in the clear atmosphere, hovering perceptibly against the wind, occasionally making some terrific dashes in a down-ward direction, closing the wings at each attempt ; in one instance this feat was performed by a single bird as it came to roost on the topmost, naked branch of a tall, commanding pine-tree ; but more frequently these acts were performed in combination, in true exuberance of spirits. Ambootia, 3,000′ approx., 18-4-15. I watched a prolonged bout in mid-air at a great height up, between a pair of these eagles endeavouring to seize a domestic pigeon, which eventually escaped after an exciting time to the accompanied shouts of the owner of the bird to which the eagles were oblivious. Nigali, 5,000′ approx., 28-1-16 ; a Kite (*Milvus lineatus*) was brought in to me with its throat ripped open by one of these eagles, the combat, which took place in mid-air, was witnessed by my informant. Gopaldhara, a large ' utis ' tree adjacent to the bungalow has been a favourite roosting place on more than one occasion and a date against this fact is 18-9-15*. Seen to take a Kalij Pheasant from the ground and carry it away with perfect ease. Three specimens examined : Ghoom, 6,500′, ♂ 18-1-19, wing 462 ; the whole of the lower parts from the chin to the under tail-coverts without streaks or bars. ♀ the pair to this male, is in a melanistic phase, with black head and bars on the tail well defined, throat and breast with heavy dark streaks, and the whole of the lower surface dark and barred throughout to the under tail-coverts, wing, 465. Rungbong Valley, 10-1-12, ♀ wing 432 ; this appears to be a younger ? bird but with crest fully developed, gular stripe on throat and streaks on breast well defined, lower parts pale with barring on the flanks, abdomen, thighs and under tail-coverts also prominent. Kirke Swann gives the wing measurement of this form as ♂ 450–460, ♀ 485–495. In my ' Notes on the Birds of Upper Assam ' I recorded a ♂ from Dejoo, N. Lakhimpur, 30-11-08, under this species which on further examination is referable to *Spizaëtus cirrhatus limnaëtus* (Horsf.), being the pale phase (*S. caligatus* Raffles). This species appears to be restricted to the Lower Himalayas along the base of the hills ; the wing in this specimen is 440.

465. The Crested Serpent Eagle. Spilornis cheela cheela (Lath.).

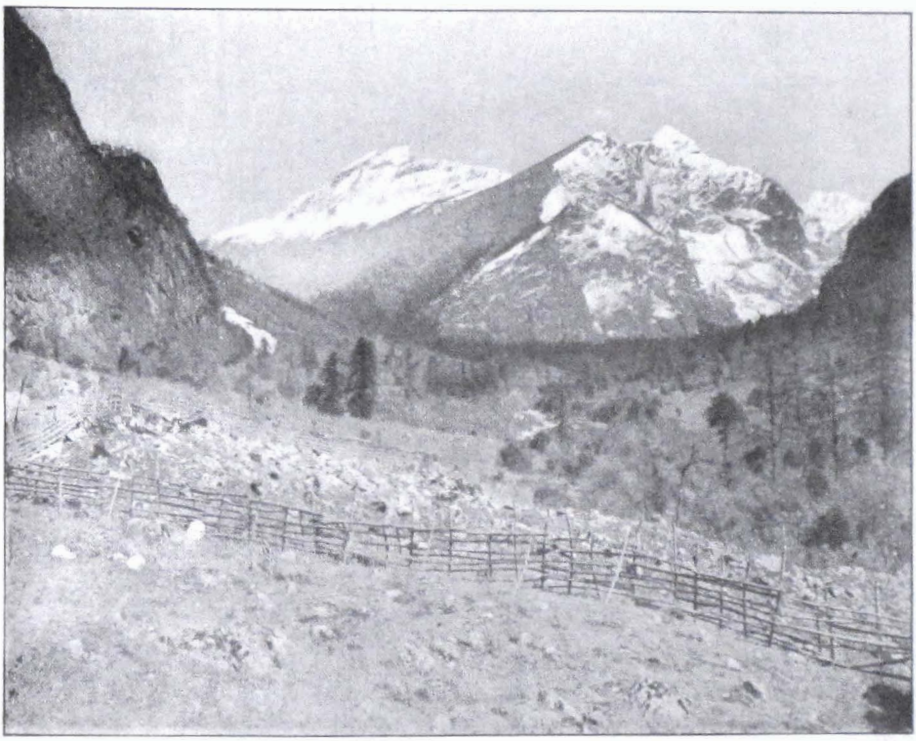
A common and generally distributed eagle. It occurs on the Outer Ranges and well into the Interior, where I have observed it around Singhik in the Tista Valley. Amongst the numerous occasions it has come under my notice, the following records have been duly noted. Gopaldhara, 4,720′, 7-4-19. * Turzum, 5,200′, one secured, minus one tarsus, on 25-7-17. (O. Lindgren.) 25-2-21, ♂ wing 495. Seeyok, ♂ 31-3-20, wing 493. Thurbo, ♀ 1-5-21, wing abraded.

Kirke Swann gives the wing measurement of this form as ♀ (Himalayas) 495–532, ♂ 500–510 and that of *S. c. albidus* (Temm.) ♂ (Assam) 430–443 ; ♀ 430. I find five ♂ ♂ measure (a) 405, (b) 455, (c) 460, and (d) 485 respectively whilst a single ♀ measures only (e) 415. Some of these low wing-measurements for Assam specimens are significant. Whilst the single female (e) refers to an adult in typical dark plumage, male (a) is in the pale phase ; throat entirely white, breast white with centre streaks, abdomen banded, head and nape showing a preponderance of white, upper surface fringed with white ; (c) is a

H. S. Photo.

CRAGS, NORTH-WEST OF LACHUNG VILLAGE.

Haunts of Vultures sp.?, *Pyrrhocorax graculus*, *Grandala cœlicolor*, &c.
7th March, 1920.



H. S. Photo.

LACHUNG VALLEY ABOVE THE VILLAGE.

Looking north.—"An excellent example of a glacial valley."
Pines in foreground chiefly *Abies smithiana*, the Spruce of Hooker.
Haunts of *Pyrrhocorax pyrrhocorax*, *Columba leuconota*, &c., &c. 7th March, 1920.

still paler bird which almost discounts this phase of plumage being a mark of immaturity. Stuart Baker restricts *albida* to Southern India. Kirke Swann gives the distribution of this form.—E., C. and S. India from Assam to Travancore; whereas Kirke Swann restricts *rutherfordi* to Hainan Isl. and French Indo-China. Stuart Baker gives the distribution of this form.—Assam, Burma and Siam to Hainan Isl. My specimens show much disparity in size and thus best agree with the last-mentioned distribution.

466. The White-eyed Buzzard-Hawk. Butastur teesa (Frankl.).

The only record for this species is that of a ♂ obtained at Mangpu, 3,800′, on 19-2-21. (G. E. Shaw). A bird seen at Chungthang on 11-3-20* appeared to be referable to this *Butastur*, as it was not secured, this occurrence lacks substantiation. Blanford refers to this species as wanting in the Himalayas. The above record is apparently *an extension of its distribution area.*

467. Pallas's Sea Eagle. Cuncuma leucorypha (Pall.).

Obtained on one occasion in the Rungbong Valley at Sungma 4,500′, ♂ 16-6-19 (C. E. Brown.), wing, 585. Kirke Swann gives the wing-measurement of this species: ♂ 563–573; ♀ 600–618.

468. The Brahminy Kite. Haliastur indus indus (Bodd.).

Apart from a few birds occurring in the cold weather, there appears to be an influx into the hills of this kite on the advent of the S. W. Monsoon. Obtained at Turzum at 5,200′, ♂ 11-12-21. (O. Lindgren.) Gopaldhara, a single bird seen on 8-4-19, and a pair in evidence at Nigali, 5,200′, on 14-6-15. This kite ascends to 7,000′.

469. The Indian Kite. Milvus migrans govinda Sykes.

Recorded as 'found in the Himalayas up to an elevation of about 12,000′, but is uncommon above about 8,000′.' I have identified this kite from a few low elevation specimens, Nurbong, 2,000′, 18-3-14. I picked up a bird with a wing-measurement of only $13\frac{3}{4}'' = 350$, and I have received specimens from Thurbo in January 1916, and from Sungma, 11-5-15, wing, $19'' = 483$.

♂ Wing, 430–450. ♀, 460–480. (Kirke Swann.).

Blanford records this kite from Lachung, 8,000′ and Yumthang, 12,000′, (September). All the birds I saw in Lachung in March were referred to the next species.

470. The Black-eared Kite. Milvus lineatus (Gray).

The following information has reference to this large kite. I have neglected to obtain specimens, since a number were obtained in Assam. Balasan Valley, Namsoo, 2,000′. Observed in some numbers frequenting the river-bed in the first week in January 1912. Kalo Pokhari, Nepal-Sikkim Frontier, 10,160′, 29-3-12. Not much in evidence at these heights but a single pair seen to-day and a solitary bird on 1-4-12. Jalapahar, 7,500′ circ., 9-4-17. Numerous kites congregating hereabouts, disporting in a high wind on a bright afternoon. Lachung, 8,800′, 9-3-20. Numbers in evidence around the village. During the Mt. Everest Expedition observed in the Kharta Valley up to 17,000. (A. F. R. Wollaston). ♂ Wing 475–485; ♀ 500–530; tail 300–335. (Kirke Swann).

471. The Indian Black-winged Kite. Elanus cæruleus vociferus (Latham).

During the early summer in 1921 there appeared to be an extension of this kite into the hills, as both Mr. O. Lindgren obtained it at Turzum in May at 5,200′ in the Rungbong Valley and Mr. G. E. Shaw below Mangpu at 3,700′, ♀ 15-4-21; 3,800′, ♂ 16-4-21.

472. Montagu's Harrier. Circus pygargus (L.).

Evidently occurs sparingly in the Rungbong Valley during the 'cold weather.' Turzum, 5,200′ circ., ♀ 12-1-21 (O. Lindgren.), wing 338; both ovaries well defined. Iris brown; bill black; tarsus yellow; claws black. As will be noted from the wing measurement this bird is a diminutive specimen. ♂ Wing 350–370, (one 340 and one 380 mm.) ♀ wing 350—380 (one 335). *British Birds, vol. ii, p. 153,* Witherby.

473. The Pallid Harrier. Circus macrourus (S. G. Gmel.).

This harrier most likely occurs under favourable conditions in 'the cold weather.' On the west side of the Rungbong Valley, all harriers give the wooded tracts a wide berth, and on no single occasion, have I ever seen a bird on Gopaldhara ; yet they occur in the valley fairly frequently, but much more commonly on the bare, open ground around Pokharibong and Mirik.

474. The Hen Harrier. Circus cyaneus cyaneus (L.).

This harrier is probably the commonest of all the members of this genus, Rungbong Valley, Selimbong, ♀ 20-1-16, wing, 398. Iris gamboge-yellow ; this specimen is a fine adult bird. A female observed at Mirik, 29-3-20.

475. The Pied Harrier. Circus melanoleucus (Forst.).

I have seen it on a few occasions, and it has been reported to me at other times. It evidently extends into the hills, covering a wider area in 'the cold weather.'

476. The Long-legged Buzzard. Buteo ferox ferox (S. G. Gmel.).

This buzzard appears to be more common in the North-West, than in the Eastern Himalayas. Recorded for Sikkim, and I obtained it under the hills in Upper Assam. A further examination proves the specimen to be the typical form. It is quite impossible to distinguish between adults in the pale phase of this species and *Buteo japonicus* = *B. plumipes* (Hodgs.), unless they are available for comparison, when the former shows a more decided ferruginous coloration generally ; which is pronounced on the tail, the inner webs of which have a preponderance of white. Birds from the eastern limits of its range appear to have the naked portion of the tarsus in front reticulated and not scutellate as in European examples. Buzzards seen on several occasions on the Singile La Ridge during the winter of 1911–12, in particular near Phalut on 16-2-12 and 19-2-12, some of which were dark coloured birds, and at Sandakphu, 15-3-12, and Kalo Pokhari in March 1912 ; which latter records to refer to very pale birds may have in some cases been this species, though no definite certain indentification was possible, and this remark applies to birds seen on various occasions at much lower limits.

477. The Upland Buzzard. Buteo hemilasius Temm. & Schleg.

Dr. Hartert treats this buzzard as a race of *B. ferox* and *Buteo leucocephalus* and *Archibuteo strophiatus* (Hodgs.) are synonyms. Both these two latter birds have been recorded from Sikkim. On Sandakphu, 3-3-12, I saw a large bird with a dark head, inclined to black, breast distinctly ferruginous, tail much rounded ; as it soared overhead it uttered a plaintive, mewing cry. To all appearances it seemed too large for a buzzard but might have been this species. The few small birds in the gully below which, at the time, I was watching were a pair of Redstarts (*P. schisticeps*) a Wren (*T. nipalensis*) and several Cole-Tits (*L. rufonuchalis beavani* and *L. dichrous*), but these suffered no molestation, whilst busily occupied in and about the dwarf rhododendron bushes.

478. The Japanese Buzzard. Buteo japonicus (Temm. & Schleg.).

This is the *B. plumipes* (Hodgs.). Kirke Swann queries the Himalayas in his, distribution key. Rungbong Valley, Turzum, 5,000′ circ. ♂ 18-11-19, wing, 380. This example is in the stage of plumage which is probably referable to a not yet adult bird and has the zone on the abdomen, which Kirke Swann has very aptly compared with *lagopus*. Iris stone yellow (pale brown) ; ceregreenish yellow ; bill slaty-black ; tarsus scutellate in front, dull ochreous. Stomach contained remains of a mouse, some Orthoptera and a skink in the gullet. 5,200′, ♀ 16-2-21, an adult, wing, 412. Very similar to some specimens of *B. ferox* without the rufous markings, tail uniformly dark. Iris pale stone-brown ; cere greenish ochreous ; bill black ; tarsus reticulate in front, dull ochreous ; claws black. Stomach contained remains of a field-mouse and a chameleon. Lachung, 10,000′, ♂ 3-3-20, wing, 360 ; this example has the bare portion of the tarsus reticulate in front, and is in a melanistic phase of plumage throughout. Several buzzards were seen in this Valley, when on occasions they have been observed to descend with closed wings in a terrific swoop but which calmy ended by settling on a tree stump or other

equally accommodating perching site. This buzzard is frequently to be seen in the Rungbong Valley during the 'cold weather,' and I saw a fine pair of birds at Mirik, which had taken up their quarters in a lofty tree adjacent to the swampy ground in the winter, 1921-22; when odd birds were to be seen around Gopaldhara, a specified date being 28-10-21. Blanford records it from Yumthang, 13,000'. (September).

479. The Siberian Goshawk. Astur gentilis schedowi Menz.

The only specimen that I have seen from these hills is a ♀ obtained on the 18-11-18 at Sungma, 4,500' in the Rungbong Valley by Mr. C. E. Brown, to whom I am indebted for many interesting *Accipitres*. The wing of this example measures 337, tarsus 83. It is richly suffused with cream colour and heavily blotched on the underside so, is apparently in the immature stage of plumage. This bird was molested by a pair of Jungle-Crows, being driven from tree to tree. Iris bright golden-yellow; cere greenish-yellow; gape yellow; bill, bluish, shading towards tip into black; tarsus, lemon-yellow; claws black. Stomach contained only two small fragments of micaceous gravel, being absolutely empty of any food.

480. The Shikra. Astur badius dussumieri (Temm.).

The Shikra breeds at moderate elevations and is generally distributed. After an examination of my material from the Eastern Himalayas, I can detect no differences from extreme limits, which are not explained by *seasonal change*, and my conclusion is that all these birds must be relegated to one form. *A. b. poliopsis* (Hume.) is said to be darker grey above; with broader and brighter vinous bands below whilst *A b. dussumieri* is above lighter grey, below paler rufous in comparison with the typical form (Kirke Swann); there is apparently no difference in the size of these two forms, which are larger than *A. b. badius* (Gmel.).

Adult males, all very similar on upper side.

Sikkim Himalaya. Rungbong Valley, Turzum, 5,200' circ., ♂ (*a*) 8-3-19. (O. Lindgren.), wing 182. Iris crimson; bill bluish at gape, sheath, horny bluish-black, deepening towards tip; cere bluish and yellowish on top of culmenal base; tarsus dull yellow; claws black.

Sungma, 4,500', ♂ (*b*) 2-4-20 (C. E. Brown), wing 186; the palest example of all, gular stripe best defined. Iris orange-yellow; bill bluish at base, varying to the dark tip, cutting edge of upper mandible yellow; cere bluish-yellow; tarsus dusky-yellow; claws black: testes active. Stomach contained remains of *Leiothrix lutea calipyga*, identified by the bill, which was intact.

Upper Assam. Dibrugarh, Rungagora (Plains), ♂ (*c*) 4-7-03, wing 187. Iris crimson; the darkest example of all, traces of the bars indicated on the thighs, otherwise showing the white under tail-coverts as in the rest. Sibsagar. Komilabari (Plains), ♂ (*d*) 1st-13-9-04, wing 178, bars not as deep in colour as (*c*) but brighter than (*a*), identical with an example from the Luskerpore Valley, South Sylhet, month not noted, wing 190.

Immature males, all showing the rufous fringes to the feathers of the upper side, and bloched below.

Upper Assam. N. Lakhimpur, Dejoo, ♂ 23-7-04, wing 191, ♂ 5-8-04, wing 188; ♂ 10-8-07, wing, 192. Iris pale yellow; the darkest example in this series.

Sikkim Himalaya. Rungbong Valley, Gopaldhara, 4,700', ♂ 5-8-20, wing 182. Iris pale yellow.

Adult females, all very dark on the under side with the head slaty in example (*h*) which is brownish-slaty in the rest; bars on thighs well defined in (*g*), only faintly indicated in (*h*); gular stripe most prominent in (*f*).

Sikkim Himalaya. Rungbong Valley, Gopaldhara, 4,700', ♀ (*e*) 15-7-16, wing, 209, a breeding bird, tail in heavy moult. Sungma, 4,500', ♀ (*f*) 7-8-17 (C. E. Brown.), wing 214, a breeding bird, tail in moult.

Upper Assam. Nth Lakhimpur, Dejoo, ♀ (*g*) 15-9-08, wing 216. ♀ (*h*) 21-10-08, wing, 214.

Immature females. *Upper Assam.* Nth. Lakhimpur, Dejoo, ♀ 2-8-04, wing 208. *South Sylhet.* Luskerpore Valley, ♀ wing 207. *Sikkim Himalaya.* Rungbong Valley, Gopaldhara, 4,720', ♀ 18-9-21 wing 201. Iris pale yellow, cere greenish-yellow; bill black at tip, gape and basal half of lower mandible, bluish; tarsus dingy-yellow; claws black. This bird flew into the bungalow verandah at 3 p.m. in a bold endeavour to seize a caged barbet.

481. The Larger Crested Goshawk. Astur trivirgatus rufitinctus McClell.

Recorded for Sikkim, but apparently occurs more commonly farther to the east and is evidently a bird of low elevations. Mandelli obtained it breeding at Mantchu ? (Namchi) in May.

481 (*a*). The Larger Besra Sparrow-Hawk. Accipiter affinis Gurney.

This Sparrow-Hawk occurs, yet is apparently far from common. Turzum, 5,200′, ♀ 28-12-15. (O. Lindgren.) wing 203, tail, 156, this example is a fine adult bird. Gopaldhara, 6,000′, ♀ 5-11-19, wing 196 ; tail 138 ; this last example is an immature bird ; both specimens were obtained in the Rungbong Valley. A female observed in December 1911 near Thurbo at 4,600′ was certainly referable to this species.

482. The Indian Sparrow-Hawk. Accipiter nisus melanoschistus Hume.

An examination of my material is detailed, as it seems to me impossible to separate this form from *nisosimilis* as far as cold-weather birds are concern, ed. The measurements overlap and colour differences are an unstable guide due to age and seasonal change. The distribution of the two races appears to be not yet clearly defined, especially if the two forms intermingle in their winter limits ; if this is the case ; there must be some confusion in an exact determination.

Nepal-Sikkim Frontier, Kalo Pokhari, 10,160′, (*a*) ♂ 22-3-12, wing 204 ; tail 142 ; this example is an adult. Iris orange-yellow. Upper parts dark slaty, head still darker and the whole of the lower surface rusty-red, obliterating the bars, excepting on the abdomen and flanks.

Rungbong Valley, Thurbo, 4,500′, (*b*) ♂ 25-1-16, wing 212 ; tail 143, not quite as dark as the previous example, bars on the under surface defined and suffused with rufous.

Upper Assam, N. Lakhimpur, Dejoo, ♂ (*c*) 2-12-10, wing 216, tail 150.

Similar to (*b*) lower surface strongly suffused with rufous ; bars distinct. Dibrugarh, Rungagora, ♂ (*d*) 6-4-03, wing 205 ; tail 142 ; an immature example in abraded plumage. ♂ (*e*) 26-1-04, wing 216 ; tail 150 ; an immature example in fresh plumage.

Sikkim, Lachung, 10,000′, ♀ (*f*) 3-3-20, wing 253 ; tail, 183. Left ovary developed, stomach empty. *On migration*, held up with a snow storm. This example is the darkest of six females, and has the head almost black, yet this bird was accompanied by the next specimen which is equally adult ♀ (*g*) but which is correspondingly in a lighter phase of colouration, wing 247 ; tail 162 ; both ovaries showing signs of activity, stomach empty.

Rungbong Valley, Thurbo, 4,500′, ♀ (*h*) 28-11-20, wing 253 ; tail, 169 ; head and nape showing more white than is usually present in adult females, with the under surface and bars dark and well defined. Attracted to the precincts of the bungalow by the Pigeons. ♀ (*j*) 24-12-21, wing 240 ; tail, 156 ; an immature bird in fresh plumage, ♀ (*k*) 20-1-19, wing, 258, tail, 180 ; a fine adult bird with the head dark slaty, contrasting with the back and wings which are a slaty-brown ; an altogether paler phase than (*f*). Gopaldhara, 3,500′. ♀ (*l*) 30-1-19, wing 245 ; tail, 160, evidently an immature bird in slightly abraded plumage. Males Nos. (*b*) & (*c*) in comparison with (*a*) and female (*k*) in comparison with (*f*) might be referred to *A. n. nisosimilis* (Tick.) provided the specimens with which they have been compared are typical and in normal plumage,—not the result of excessive vigour or a phase of melanism.

Blanford refers to a sparrow-hawk as common in the Lachen and Lachung Valleys after the middle of September, evidently migrating southward but none were seen on the Cho La Range at the end of August 1870.

483. The Indian Crested Honey-Buzzard. Pernis cristatus ruficollis Less.

This Buzzard occurs with frequency in the hills at *moderate elevations*. An adult ♀ obtained in the Rungbong Valley in late March 1912. Wing 452 ; underparts more white than cream-coloured with the streaks well defined on the breast. Sungma, 4,500′, ♀ 14-10-19 (C. E. Brown.), this example is a very fine adult bird, showing a rich creamy suffusion over the whole of the lower surface, particularly marked on the breast ; the streaks are well defined. Wing 448. Soft parts : Iris gamboge-yellow ; bill greenish-plumbeous at base of both mandibles, upper mandible plumbeous-black, darkening towards

the tip; lower mandible bluish-plumbeous darkening similarly; tarsus dusky-yellow.

A few observations have been duly noted. Gopaldhara, 9-10-16.* A kestrel seen in company with a honey-buzzard when the former was observed to harrass it, but this act could hardly amount to a serious effort as it was glorious weather at the time and seemed to be more of an ebulition of spirits in sheer delight; even the Butterflies (*Papilio philoxenus*) which usually flitted about the compound at no great height, were this morning disporting some hundreds of feet above their accustomed realm, when they appeared like diminutive birds in the clear atmosphere. Nagri Spur, 31-3-17*. Mangpu, 3,800′. ♂ 5-5-20; ♂ 13-8-21. (G. E. Shaw). For comparison my specimens from Assam, 3 ♀♀ Wing, 412, 415, 432, ♂ 398. The measurements of my adult birds exceed Kirke Swann's: ♀ 405-418, ♂ 380-390.

484. The Black-crested Baza. Lophastur leuphotes leuphotes (Dumont).

Sparingly distributed and confined to *low elevations*. Reported to me from few localities but evidently breeds on the Nagri Spur at an elevation not higher than 4,250′. Two specimens examined from this locality for which I am indebted to Mr. E. G. Birch. ♂ 26-6-19, wing 232; tail 122; bill from cere, 18; tarsus 36. Iris hazel; bill plumbeous-blue, darker at tip; tarsus plumbeous; claws plumbeous-horny. ♀ 10-7-20, wing 242; tail 128; bill from cere, 18, tarsus, 34. Iris, brown; cere, dark bluish-plumbeous; bill, pale-blue, tip and edges of notches of upper mandible dark; tarsus, pale bluish-plumbeous; claws dark horny. Stomach contained insect remains entirely—grasshoppers and caterpillars.

485. Blyth's Baza. Aviceda jerdoni jerdoni (Blyth).

Recorded from Kurseong, 6,000′, by Mr. E. A. D'Abreu and by Mr. A. M. Primrose from the foot-hills, 1,200′–2,000′, in this Journal, vol. xx, pp. 518 and 1152, respectively. It has since been obtained by Mr. G. E. Shaw at Mangpu, 5,500′, ♂ 13-12-20.

486. The Indian Hobby. Falco severus indicus A. B. Meyer & Wiglesw.

The only specimen obtained in recent years to my knowledge was shot by the late Mr. E. A. Wernicke at Bannockburn Estate below the station of Darjeeling. Observed in lofty forest on the left bank of the Raidak River in January 1922.

487. The Central Asian Hobby. Falco subbuteo centralasiæ (Buturlin).

The typical form appears to be a winter visitor to North-West India, where my specimens have been obtained. Until the following specimens from these hills have been compared, it is impossible to decide whether they refer to this form or *F. s. streichi* Hart. & Neum. Mangpu, 3,850′, ♂ 3 10-18. ♂ 11-10-19. (G. E. Shaw.). Both of us observed a hobby to take up its position in the trees facing the bungalow at Mangpu on 16-10-18* when its identification was fixed. Observed at Gopaldhara on 19-10-18* and again at 3,700′, 7-2-19*, single birds on both occasions.

488. The Eastern Red-footed Falcon. Falco vespertinus amurensis Radde.

A single ♀ obtained at Mangpu at 3,860′, on 18-10-18, (G. E. Shaw.) is the only record that I am aware of for these hills within recent years.

489. The Himalayan Kestrel. Cerchneis tinnunculus saturatus. (Blyth.).

Nov. Zool. xxxiii, 1926 pp. 231-2. Rothschild

490. The Eastern Kestrel. Cerchneis tinnunculus subsp. ?

So far as can be ascertained, no reason has been cited for the acceptance of McClelland's *interstinctus* in place of Blyth's *saturatus*. McClelland's type came from Assam, where two or more races are likely to occur. While some of my skins from the Sikkim Himalaya are without doubt referable to *saturatus*; this appears not to be the case with my Assam skins, as the majority of my specimens are not 'saturatus.' This kestrel is resident in the Rungbong Valley, and breeds sparingly around Gopaldhara from 5,000′ upwards. It seems to lay fewer eggs in the clutch than the typical form. A single youngster, taken from the nest in early 1915, either in March or April, was a female. This bird is now in the Regent's Park Collection.

Six specimens examined : Gopaldhara, 4,720′, ♀ 16-1-12, wing and tail in heavy moult. Thurbo, 4,500′, ♂ 20-8-21, wing 243 ; tail 146, first two primaries in process of growth. ♀ March 1919, wing 259 ; tail 150. ♀ 22-11-21, wing, 234 ; tail, 132 ; wanting the deep rufous suffusion on the breast, probably not fully adult, otherwise agrees with the rest, in the average run of coloration ; noted to be in fat condition.

Turzum, 5,000′, ♀ 17-9-20 (O. Lindgren.), wing 253 ; tail 144, not fully adult. ♀ 8-11-20, wing 257; tail 149, a fine adult bird ; stomach contained Diptera Larvæ and parasitic filariæ.

My Assam specimens and with these are included one ♂ from the Sikkim Himalaya, approach nearer to *japonicus* Temm and Schleg., in coloration, but are far too large for this race, yet at the same time are too small for *dorriesi* Kirke Swann. Another race has been described from Fusan and Corea, 1907 :—*perpallida* Clark.

The measurements of my specimens are detailed.

Assam.	♂	Wing	250 ; tail	149	(November), Immature.
,,	♂	,,	250 ; ,,	141	(April), in change of plumage.
,,	♂	,,	258 ; ,,	143	(December), Adult.
,,	♂	,,	256 ; ,,	158	(November), Adult.
Sikkim.	♂	,,	255 ; ,,	149	(January), Adult.
Assam.	♀	,,	254 ; ,,	156	(November), Immature.
,,	♀	,,	258 ; ,,	147	(April), Adult.

This series I consider to be well removed from '*saturatus*' and sub-specifically undeterminable. The elucidation and correct identification of these eastern forms is most desirable. Numbers of kestrels are to be seen during 'the cold weather' at moderate elevations in these hills, and a few pairs were observed in the Lachung Valley up to 9,000′ at a similar period of the year, where Blanford records first seeing it on the 9th of September when it made its appearance a few days sooner than the sparrow-hawk, which evidently refers to the cold-season migrant.

491. The Red-breasted Pigmy Falcon. Microhierax cærulescens cærulescens (L.).

The true home of this interesting, miniature falcon is the deep, hot valleys and at the base of the heavily forested hills. It has come under my observation at limits of from 800–1,700′, and I have not seen it at a higher elevation in the interior of the country ; whilst on the outer hills it has been obtained up to 3,860′ at Mangpu, 16-2-18, as well as at 1,100′, 2-3-20 (G. E. Shaw.), and reported from the Nagri Spur at 4,000′ by Mr. E. G. Birch, and from Bloomfield at 6,000′ near the station of Darjeeling by Mr. H. P. P. Barrett. I have seen a number of specimens from the Terai. There is little doubt that it disperses over a wider area after the breeding season, notwithstanding its distribution limits are strictly confined to low elevations. Towards April they congregate in small colonies at their nesting haunts and are then partial to clusters of lofty 'simal' trees in open tracts in preference to the dense forest, when towards evening, they become very active, enlivening the air with their bold, dashing flight, which partakes of the combined actions of *Artamus* and *Cypselus*, and though they eventually settle on the naked branches at a great height from the ground, they often dash overhead within a few feet, uttering all the while a shrill whistle. At midday it is no unusual sight to observe an odd bird enjoying a siesta in the open branches of any diminutive tree by the road-side, and even in a village quite oblivious to the daily routine of its human occupants ; unless one is acquainted with this habit it might be mistaken for a shrike. I have found their breeding haunts entirely deserted at other times. In one day, 28-3-17, I had the gratification of observing six birds, at scattered intervals, along one valley. My observations have reference to the years 1917 and 1920 in March between periods covering the 12th-28th.

Four ♂♂ examined : Bill from cere, 10–11, av. 10-4 ; wing 99-104, av. 100·8.

One ♀ examined : Bill from cere 11 ; wing 100 ; ovaries developed but not breeding, 28-3-17. Several filariæ taken from behind the eye of one of these specimens. I have come across them in other birds of diverse genera such as *Spilornis*, *Motacilla*, *Siphia*, &c., &c.

Soft parts : Iris brown ; tarsus greenish-plumbeous.

I have refrained in this solitary instance from stating the exact locality as

it would be quite within the realms of possibility for an over-zealous or selfish collector to decimate the birds at their breeding colonies to such an extent to disastrously affect their status. As the eggs are very rare, or even not known of this form in collections, no such charge can yet be brought against the brother Oologist, and he well might have a grievance against the skin collector.

492. The Bengal Green Pigeon. Crocopus phœnicoptera phœnicoptera (Lath.).

Entirely a plains-species. I found it plentiful around the village of Kumargram in East Bengal near the Assam boundary.

493. The Thick-billed Green Pigeon. Treron curvirostra nipalensis (Hodgs.).

Evidently confined to the base of the foot-hills and adjacent forested country of the plains.

494. The Pin-tailed Green Pigeon. Sphenocercus apicauda (Hodgs.).

Recorded for the Himalayas below 5,000′ or 6,000′. This pigeon only *appears* in the Rungbong Valley *in the cold weather*, and is then generally found below 4,700′ or thereabouts. Gopaldhara, 3,500′, 30-1-19. I counted twenty-six Pin-tailed Pigeons at rest on the bare branches of a tall 'siris' (*Albizzia stipulata*) tree at the bottom of the valley. Obtained in the Tista Valley at 2,000′. ♂ ♀ 6-3-19. (G. E. Shaw)

495. The Kokla Green Pigeon. Sphenocercus sphenura sphenura (Vig.). 'Halisa' Paharia.

Recorded for the Himalayas between 4,000′ and 7,000′ at which limits it is generally distributed in well-wooded tracts of the Outer Ranges during the summer. It breeds around Gopaldhara at elevations of from 3,440′–6,000′ during 'the rains'; a few birds remaining around 5,000′–6,000′ throughout the 'cold weather' though the majority migrate; in what direction can only be conjectured. It is recorded to the west of Nepal in summer, but stated to remain throughout the year in Nepal and farther east which requires modifying for the Sikkim Himalaya. I have heard the delightful notes of this Green Pigeon in the station of Darjeeling, where the birds are quite at their ease amongst the trees with no likelihood of being molested. Evidently double-brooded, as young birds have been found in the nest as late as 14-9-15 when I saw two nestlings at Okayti. As soon as they arrive or shortly after their arrival at Gopaldhara, they commence calling, when on 24-5-18 between a limit of 3,500′–4,720′ I noted this to be the case. 5,000′, 16-10-14, much in evidence in the forest. 8-10-21, half-a-dozen birds congregated; on 24-10-21, apparently had deserted this same patch of forest and evidently had migrated. In evidence on 27-7-15. Specimens obtained 4,720′, 2-10-19, juvenile male, 5,800′, ♂ 23-11-20, when several pairs were in evidence feeding on a dark purple berry. 6,000′ and below. ♀ 30-1-19; ♀ 21-12-11.

The rufous of the crown, orange wash of pink on the upper breast is wanting in the young male of the year which is in similar coloration to the adult female, inclusive of the under tail-coverts; while there is an entire absence of the maroon on the back, a few feathers of the lesser wing-coverts showing this character, which is faintly indicated on the median wing-coverts. On several occasions I have seen these birds called up to within measurable distance by an almost perfect imitation of their familiar notes.

496. The Green Imperial Pigeon. Muscadivora ænea sylvatica (Tick.)

Recorded for the base of the Himalayas from Sikkim eastwards. Evidently confined to the Terai and Plains. It is entirely absent from the Rungbong Valley even as a straggler.

497. Hodgson Imperial Pigeon. Ducula insignis insignis Hodgs 'Hukas' Paharia.

Recorded for the Himalayas at moderate elevations, 'about 2,000′–6,000′'. Obtained in the Tista Valley at 2,200′, ♂ 29-7-20, 2,500′, ♂ 9-7-18, elevation ? ♂ 6-8-15; 3,500′, ♀ 6-3-21. (G. E. Shaw). I observed it in small parties in the rocky, wooded ground on the precipitous right bank, in the Gorge of the Tista River at Dikchu, at an elevation of 2,800′ in March 1920. I signally failed to locate any Imperial Pigeons in the Eastsrn Dooars, in January 1922. My impression is these birds ascend in 'the cold weather,' as it is only at this period of the year they occur sparingly in the minor valleys on the west.

A pair was obtained in the vicinity of the Gopaldhara Bw. at 4,720′ in January 1914. I had an excellent view of a pigeon at 3,500′ on 14-11-19* which could only have been this species but the fact of its being single and showing a decided chestnut colouration, intensified by a white crown ; were this area within the distribution limits of *Alsocomus puniceus ;* this record would have been nearer the mark by a reference to this last species.

498. The Bronze-winged Dove. Chalcophaps Indica (L.).

Generally distributed at all elevations from the plains-level up to 6,000′. Equally plentiful in the valleys of the interior, where it occurs commonly in winter, as it is on the outer ranges throughout the whole year.

499. The Blue Hill-Pigeon. Columba rupestris turkestanica But.

Recorded under " specimens labelled Kashmir, Sikkim, and Darjeeling in the British Museum Collection probably came from more northern localities". During the Mount Everest Expedition, Mr. A. F. R. Wollaston found this Pigeon above 12,500′ below this elevation occured the next species.

500. The White-bellied Snow-Pigeon. Columba leuconota leuconota Vig.

Recorded for the Himalayas, 10,000′—14,000′ in summer, but descending to lower elevations in winter. The Snow-Pigeon was reported to come down on the maidan at Chungthang, 5,350′, in the interior during severe weather, which is quite feasible. The forest officer who supplied me with this information had a sound local knowledge of the birds. I met with it on the first occasion at about 6,000′ on 26-2-20, when a solitary bird was disturbed out of some growth above a huge projecting boulder along the path to Lachung ; in its flight it crossed the foaming river before a clear view was obtained, once it had taken up its fresh quarters amongst the trees ! During my stay in Lachung up to the 10th March ; it was an every-day occurrence for large parties to settle in the rough ground surrounding the village, and on the morning we left, a last impressive view was obtained of a large flock in the valley, at just about the most distant point reached by the Choughs after a fall of snow in the higher reaches. Seen at a distance, long before it is possible to distinguish the form of the birds as they move over the ground, bunched together ; one can aptly describe their rippling motion only by comparing it to that of a forthy sea lapping an open beach. Numerous Fritillaries (*Argynnis lathonia* issæa) chiefly, with a sprinkling of Swallow tails (*Papilio machaon sikhimensis*) were on the wing, and as we reached the wooded glades, a further acquaintance with the rare vivid Blue (*Herda moorei*) was in store.

On leaving Lachung my thoughts were expressive of regret in taking leave of its primitive people—nature's gentle-folk, still isolated from the turmoil of life ; and if smiling countenances heightened by rosy cheeks are any criterion of a happy disposition ; here was ample evidence that, the fewness of their wants more than compensated for any questionable advantages that are likely to accrue from the penetration of Western influences.

Dr. Hartert gives the wing measurement of this form as 233-245.

My three specimens measure : ♂ ♂ Wing 239-243 ; ♀ wing 241.

501. The Tibetan Snow-Pigeon. Columba leuconota Gradaria Hart.

This form is recorded from Gnatong in the Chumbi Valley, and there is a strong likelihood of it occurring within the frontier of Independent Sikkim. The wing measurement is given by Dr. Hartert as 239-262.

502. The Speckled Wood-Pigeon. Dendrotreron hodgsoni (Vig.).

Recorded for the Himalayas at elevations of from 10,000′-13,000′ in summer, and at 6,000′-9,000′ in winter, Obtained at Gopaldhara at 5,000′, ♀ 7-1-12, when feeding on ' Jinghana ' berries in the forest, and also at Mangpu at 5,500′, ♂ 2-4-20 (G. E. Shaw). Elwes obtained it on the Tankra La at 13,000′ in the autumn of 1870. (Blanford).

503. The Eastern Cushat. Palumbus palumbus casiotis Bp.

Reported to have been obtained on Tonglo on several occasions. Up to the present it is unknown to me. Information in respect to its status, if actually occurring in these hills, is desirable. Stuart Baker records it from the better wooded parts above Gyantse and further north. (*Indian Pigeons and Doves*).

504. The Ashy Wood-Pigeon. Alsocomus pulchricollis (Blyth).

Recorded for the Himalayas at elevations of from 7,000′-10,000′ or higher. I have seen specimens obtained on Senchal at 8,000′ during the winter (H. P. P. Barrett). It is said to have formerly frequented the station of Darjeeling in flocks of ten or thirty from November to April, and odd parties probably occur at the present day in the well-wooded portions on occasions. During the cold-season, when on the ridge above Gopaldhara at 6,000′ I saw large flights of this pigeon presumably, descending in a southerly direction, possibly under stress of weather.

Obtained by Messrs. E. O. Shebbeare and W. P. Field from the plains at Gorumara to the east of the Tista River. Recorded Ibid. Vol. XXV, page 300. (C. M. Inglis.).

ferrago (Everem.).

505. The Indian Turtle-Dove. Streptopelia orientalis ~~meena~~ (~~Sykes~~).

This Dove is the *Turtur ~~meena~~ ferrago* (~~Eversm.~~) of Blanford's ' Fauna.' As there is some confusion with the forms of the *orientalis* group, both in the nomenclature and recorded distribution ; the following extracts have been collected for future information, as correctly identified specimens, from any locality and every month, from the hills in particular, are a desiderata. The nomenclature here followed is in accordance with Dr. Hartert's treatment of the group. Recorded as breeding in the Himalayas as far east as Sikkim at elevations of from 4,000′-8,000′ from May to August. Migratory in the winter throughout the whole of India as far east as Behar, from whence my specimens have come. Tirhut. (C. M. Inglis). So far, I have failed to locate this form in the Sikkim Himalaya. All the forms in the *orientalis* group differ from the *turtur* group in having the tips to the feathers of the neck patch grey, *~~meena~~* is the palest form of the three here mentioned : the throat is albescent and the belly is almost white, which last character cannot be lost sight of in life. For the purpose of discrimination between the other two forms when available for examination : vent and flanks very pale grey and under tail-coverts white. (Stuart Baker). ♂ ♀ Wing 187-202, maximum 195. (Hartert).

ferrago

Consult. Nov. Zool. vol. XXXIII, 1926. p. 223. Rothschild

506. The Rufous Turtle-Dove. Streptopelia orientalis orientalis (Lath.).

Recorded from ' East Tibet to Nepal and Sikkim, at all events the northern boundary of the latter State, also from Bhamo in Upper Burma ; probably also in northern Assam as an occasional visitor '. (Hartert.) According to Stuart Baker, Nepal birds are true *orientalis* as are those from Sikkim and Tibet while Darjeeling specimens in the B. M. Coll. are mostly (*meena* = *agricola* Tick.), and recorded as resident in the extreme north. Vent, flanks and under tail-coverts pale grey. (Stuart Baker.). ♂ Wing 190-204 ; in most cases smaller in ♀ 180-198 (Hartert). ♂ 185-200, ♀ 176-195 (Witherby). Specimens obtained around Maling, near Ringim, 4,590′, in the early summer of 1920 are referable to this form, which appears to be found at all events in the interior, though the exact determination of the birds which occur on the outer ranges around Mirik, sparingly in winter at 6,000′ ; when I last observed one on the 6th of November 1921, remains doubtful, until specimens have been actually secured. In the Mai (' Khola') Valley in East Nepal all birds obtained are intermediate *orientalis* × *~~meena~~* where at an elevation of about 7,000′, a pair of breeding birds with a clutch of two eggs were taken on 2-5-12, ♂ wing 191 ; ♀, 193. In the female the under tail-coverts and the broad tips to the tail feathers on the underside are white equally ; these characters are less pronounced in the male, which remark applies to another specimen obtained from this locality on 19-4-12, wing 185 ; which agrees more with *orientalis* on the upper surface and in showing less rufous and no white tips to the lesser and median wing-coverts, scapulars and tertiaries ; and while the underside approaches nearer to ' orientalis ' there is no plumbeous suffusion as is the case with a bird from Kumargram, ♀ 14-1-22, wing 182. This was certainly the typical form ; as this specimen was neither the pale *~~meena~~* nor the rich vinaceous *~~agricola~~*. It also showed more plumbeous on the forehead and crown than is the case with *~~agricola~~*. In the Eastern Dooars in January, this dove was fairly common in the open country around the villages, but did not occur in the heavily wooded tract at the base of the hills ; unfortunately I failed to make the most of my opportunities.

n/

ferrago

li/

ferrago

meena

meena

These doves never seem to be plentiful in the hills, and I have never seen them in the well-wooded portions of the country, which was not the case with the next form in Upper Assam.

meena (Sykes).

507. The Indian Rufous Turtle-Dove. Streptopelia orientalis agricola (Tick.).

Recorded for Assam, Cachar and Sylhet, the Bhotan Dooars and the Terai, south of the last form eastwards to Burma, etc. (Hartert.) It is thus recorded from the Bhotan Dooars and Stuart Baker mentions it as resident in Darjeeling. This is the form with vent, flanks and under tail-coverts dark grey. (Stuart Baker). Wing measurement between 165-191. (Hartert). Blanford did not recognize this form in the 'Fauna' treating it as a synonym of *orientalis*. In my 'Notes on the Birds of Upper Assam' (Ibid. vol. xxiii, No. 4, 1915, page 722), reference is made to the typical form No. 368 which requires alteration to ~~*agricola*~~. It was common at the foot of the hills in N. Lakhimpur in Upper Assam, where in July 1904, I obtained two pairs of this form. While '~~meena~~' may extend on its descent to the plains somewhat to the east of its breeding range. It appears as if, where the birds are not actually resident, a straight descent from their breeding habitat is all that is accomplished, and the cold-weather distribution area is almost as well defined as the breeding lateral distribution, at all events in the country along the foot of the hills. This group affords an interesting illustration of the overlapping of the several geographical races and we can only expect to find typical birds at the centre of each distribution area.

meena ferrago

508. The Spotted Dove. Streptopelia chinensis suratensis (Gm.).

Recorded for the Himalayas up to 7,000′. This little dove arrives at Gopaldhara about the last week in March, when it immediately becomes a familiar object in the bungalow compound at 4,720′. One pair accommodates to the ramblers growing around the porch of the verandah as there is generally one nest in this situation. It breeds commonly up to an elevation of 5,500′ in the open country. The majority leave about the first week in October. First arrivals seen on 17-3-20*, but heard a few days previously. During 1921 the first birds arrived on 25-3-21*, and several departed on 16-10-21*, a pair still about on 29-10-21, whilst a straggler was in evidence 9-11-21 up to the first few days in January 1922. I anticipate the wet and cold which was experienced later on, would compel it to leave; however, I was unable to follow this out. This late stay is most unusual, as crowds are to be seen at the foot of the hills throughout the winter, and are then everywhere obtrusive. Gammie says this Dove leaves in November in reference to its disappearance from Mangpu during 'the cold weather.' Gopaldhara, 4,720′. Whenever unmolested in the quiet hours at midday they congregate at the godown, picking up the remains of the pony food: twelve observed in a cluster on the 8th and eight on 12-6-23.*

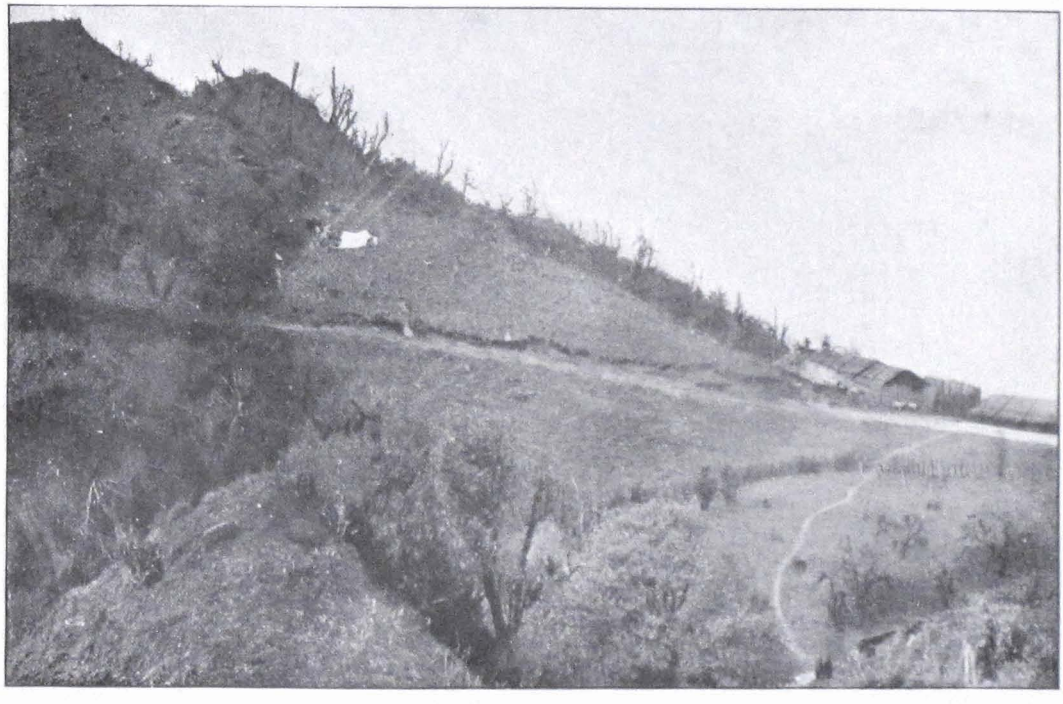
509. The Bar-tailed Cuckoo-Dove. Macropygia tusalia tusalia (Hodgs.).

Recorded in its distribution from 3,000′ to about 10,000′. Resident and generally distributed at all elevations from 3,500′–6,000′ in the Rungbong Valley, and in the Tista Valley from 1,500′–6,000′. (G. E. Shaw). A number of birds breed in the bottoms of the valleys and they scatter over a wider area during 'the cold weather,' so that they may be found on the wooded ridges at that period of the year. It commonly occurs in the interior of Sikkim. Obtained above Dikchu at 3,000′, approx. on 22-2-20, and commonly observed around Singhik at 4,500′, 13-3-20*, when they were in parties on both occasions. Noted as plentiful in forest at Gopaldhara around an elevation of 6,000′ on 24-10-21. Obtained at 5,800′, ♂ 23-11-20; 5,900′, ♂ 3-1-15; 5,500′, ♂ 27-12-14; 4,000′–5,000′, ♂ ♂ 2—7-1-12; ♀ 30-1-16; 3,500′, ♂ 15-2-16, wing 189.

The deep sounding note of this dove is characteristic of the bird-life in forest at moderate elevations. The young ♂ (February) has the crown barred, the throat and abdomen barred in patches, whilst the breast and remainder of the plumage is similar to the adult. One ♂ obtained on 23-11-20 had the testes showing signs of activity. Seven adult specimens examined: 5 ♂ ♂ wing 190–219, av. 202·2. ♀ wing 188. The depth of colour on the belly and under tail-coverts is subject to variation. The barring on the tail is more pronounced in some specimens; whilst in others, it is almost obsolete.

H. S. Photo.

SANDAKPHU FROM KALO POKHARI.
Nepal-Sikkim Frontier. May, 1912



H. S. Photo.

KALO POKHARI CAMP, 10,160′.
May, 1912.
Surroundings, the haunts of *Ægithaliscus iouschistos*, *Suthora unicolor*, *Xiphirhynchus superciliaris*, *Myzornis pyrrhoura*, *Æthopyga gouldiæ*, &c., &c.

510. The Tibetan Sand-Grouse. Syrrhaptes tibetanus Gould.

Recorded for the country north of Sikkim, strictly not within our limits, though there is every likelihood of it occurring in the snowy ranges in the extreme north. Blanford only met with it beyond the actual borders of Sikkim.

511. The Common Jungle-fowl. Gallus ferrugineus murghi. Robinson & Kloss. Records of the Indian Museum, 1920, vol. xix, pp. 13–15, 181–183.

Gallus bankiva ferrugineus Stuart Baker.

Recorded up to about 5,000′ in the Himalayas as a breeding bird, keeping much to the valleys. Commonly met with in the Tista Valley and reported as occurring up to an elevation of 5,500′, circ. above Chungthang in the interior of Sikkim. It occurs very sparingly in the Rungbong Valley up to an elevation of 4,500′ or thereabouts, yet formerly, according to local information, it was to be found at somewhat higher limits. The few birds obtained in the Rungbong Valley were shot in ' the cold weather.' I have no record of their breeding at anything approaching an elevation at which they are occasionally reported to breed. Insufficient protection, accounted for by the clearing of the forest and molestation at the nesting season are no doubt the main causes of its disappearance in many parts of the country, where it was formerly comparatively common. The Jungle-fowl delights in the warmth of the deep, hot valleys ; and provided there is a sufficiency of suitable cover such localities are ideal breeding haunts. In the foot-hills at and around 2,000′ in 1914, I heard the first bird to commence calling during the second week and again on the 21st of February at evening, when it was to be heard daily afterwards.

The Peacock, *Pavo cristatus L.* is recorded as ascending the Himalayas to about 2,000′ and locally somewhat higher. I have only seen them on the level ground at the base of the hills in the Eastern Dooars.

512. The Black-backed Kalij Pheasant. Gennæus leucomelanos melanotus (Hutton).

The distribution of this Kalij Pheasant is recorded as 1,000′–8,000′, chiefly 2,000′–6,000′, Sikkim Himalayas. Obtained as far west as the Mai ' Khola ', East Nepal. Its ideal habitat is the densely overgrown, steep gullies of the hill-slopes on the Outer Ranges, where they manage to maintain a precarious existence, for their numbers are undoubtedly diminish wherever their haunts are brought into cultivation, and when they are not assured protection from molestation during the breeding season. Pine Martens account for much destruction of the eggs and young birds, and this Kalij suffers, in common with other ground game, from the depredaiions of these animals. They are partial to dense cover in close proximity to running water, moving out in the mornings and evenings, when feeding, to more open cover and apparently do not frequent forested land to any appreciable extent. Gopaldhara, 23-4-17. Observed to be by no means shy and fairly numerous, as I saw a cock bird on my way down, flushed out of ' the tea ' by my dog ; when it took refuge in an adjacent tree, paying little attention to me as it gave vent at this annoyance to a loud scolding ; seen on my return in much the same place. 11-5-15, a single youngster in evidence. 10-6-16 remains of a female found on a secluded path with the eggs mashed in the nest. 15-8-16, a party of two adults and four youngsters seen in ' the tea.' Females are subject to marked differences in the varying depth of the coloration as a whole. Some males show a preponderance of white on the long lanceolate feathers of the breast, which appears like a patch, at the same time the upper tail-coverts have well defined white tips, which is indicated to a less extent over the whole of the back, whereas some examples have the upper tail-coverts devoid of these white markings which are only fairly indicated on the back; but most show the white shaft character on the upper back. The first-mentioned characters seem to be a sign of full maturity. Gopaldhara. Observed on two or three occasions during May and June 1923 in forest at 6,000′ circ.

Six specimens examined : ♂ ♂ wing 234–240, av. 235·5. ♀ wing 216–223.

513. The Monal. Lophophorus impejanus (Lath.).

Blanford records the zonal distribution of this Pheasant in Sikkim in summer at elevations of 10,000′–15,000′, in winter lower. Whilst Dresser states 8,000′–10,000′ in summer and as low as 4,500′ in winter. This latter records may

refer to the N. W. Himalayas but is entirely inaccurate for the Sikkim Himalaya. The lowest limits reached according to my observations and where specimens have been obtained is *9,500' during the winter* at Karponang and below Changu in the mountains of the *Interior*, when birds were often to be flushed out of the dense bamboo-growth on the rockey slopes with the ground under snow, in fact most of the birds were well above the winter snow-line. All efforts to trace it on the Singile La Ridge at elevations of from 10,000'-12,000' during a severe winter in 1911-12 totally failed, and the Nepalis assured me its whereabouts was unknown to them. Reported by a competent observer to have been seen on Senchal, and said to have been obtained on the above-mentioned Outer Ranges ; I prefer to keep an open mind in respect to these latter statements. Around Lachung it was said to occur, but no trace of it was to be had above the snow-line, and there is little doubt that the villagers had reduced its numbers for some miles, beyond the village. It is very probable that it formerly occurred in the afore-mentioned localities even if never numerous, and its disappearance partial or complete, must be put down to persecution. Blanford found it above the level of the forest, 14,000'-15,000' (September). Three ♀ ♀ in wing measurement are 260,267 and 282 respectively.

514. The Crimson Horned Pheasant. Tragopan satyra (L.).

This Pheasant—the 'Monal' of the Paharias, occurs on the Outer Ranges and in the Interior of Sikkim at altitudes of from *7,000'-9,000'*, *March and April*, and probably as low as *6,000' in the Interior during the winter* and ascends to *12,000' in the summer*. A large number of specimens collected have enabled me to fix its breeding habitat at much lower limits than *L. impejanus*. It is very restricted in its zonal distribution but widely spread wherever it has the necessary dense cover. Immature males, assuming the adult plumage, present a patchy appearance with the red and ocellated feathers distributed irregularly on the under surface. Its call resembles the syllables 'wak' repeated several times in a loud pitched tone. Blanford never met with it below 8,000' and bears out its lower distribution zone in comparison with L. *impejanus*. I have had specimens from the above-recorded low limits above Mangan, in the interior. Breeding commences on the Outer Ranges in late March or early April. An oviduct egg has been extracted as early as the 5th of April. Available for comparison : Twenty specimens. The wing of four immature ♂ ♂ measures from 249 (18th March)—260 (5th April), av., 257. 11 adult ♂ ♂ 265-277, av. 270·6. 4 ♀ ♀ 216-245, av. 231. My female skins thus show a decided difference in size, which seems to be the case with the females of some of the other pheasants.

515. The Blood Pheasant. Ithagenes cruentus cruentus (Hardw.).

During the winter it occurs only sparingly on the Singile La Ridge at *10,000'-12,000'*. It is plentiful in the Interior of Sikkim at similar elevations throughout the *winter* keeping well within the snow-line, yet under exceptional stress of weather it is sometimes driven down to the clear ground below; this is more likely to take place on the Outer Ranges towards the end of March, and when this event happens, the males generally announce their arrival, and if it is possible then to surround the patch of dense growth ; their stupidity gives every opportunity to secure them as they do not readily take to flight ; a female was secured alive in this way, 23-3-12. It is somewhat surprising, yet at the same time gratifying to know they exist in substantial numbers along the mountain ranges in the interior ; which is accounted for by their occupying the wilder tracts beyond the villages, as to get at their habitat entails some considerable hard toil.

The flesh is the least appetising of our game birds ; but if considered as a change of diet, when only tinned food is available, can never be entirely spurned. A number of specimens have passed through my hands from various localities in Sikkim. Fifteen specimens, 8 ♂ ♂ and 7 ♀ ♀ are available for comparison. The presence or absence of the blood splashes on the breast apparently has nothing to do with age as the smallest ♂ with a wing of 202, though minus the spurs has some crimson spots, whilst a ♂ with the maximum wing measurement 214, is devoid of any of these markings. A not quite mature ♀, with a wing of 183 shows the minimum measurement ; it has a proportion of the crest feathers, banded with fulvous, which appears to be a sign

of immaturity ; after eliminating three birds which are obviously not fully mature. 6 ♂ ♂ measure in wing 210-214, av. 212·3. 6 ♀ ♀ 187-205, av. 193. The males are very variable in regard to the crimson spots on the breast which may be entirely absent or more or less indicated or heavily splashed; all show a trace of crimson on the upper black band where it meets the lower band behind the eye ; some examples have an almost complete crimson band with traces of crimson on the forehead and lores, or only on the forehead, but in a single example which is also the densest crimson-splashed on the breast, all the black feathers of the forehead and lores are fringed with crimson and, after comparison with the type, is very near to *tibetanus* of Stuart Baker. This bird was obtained along with others—showing all these variations in colour characters. The females vary slightly in the depth of the tone of the ground colour and in a few examples there is a distinct trace of crimson on the lores, under the eye and on the lower posterior portion of the band above the eye.

516. The Common or Grey Quail. Coturnix coturnix coturnix (L.).

A cold-season visitor to elevations of from 5,000′-6,000′ on their descent to the plains ; they mostly disappear as it becomes colder with the advancement of this period. Its numbers vary each year and sometimes it may be regarded as plentiful. A few birds are generally to be met with in the roughly cut ' makai ' ' baris ' around Gopaldhara. Unfortunately, very few specimens have been examined and none actually compared, so that it is uncertain whether *C. c. japonica* Temm. and Schieg. is to be also found. This Eastern Quail has been recorded on the evidence of a female skin from Bhotan. In this race ' the adult male has the sides of the head, chin, and throat dull vinous-red without black marks, the female and young male have the feathers of the throat and chin elongate and lanceolate, especially those on the sides of the throat.' (Blanford). Dr. Hartert gives the wing measurement of this form, ♂ 98-102 ; ♀ 100-106, and in the typical form, ♂ 104-115, most 108-111 ; ♀ up to 117. Behar birds are the typical form, but these probably descend to the plains by way of the North-West. *Coturnix coromandelica* (Gm.) has been reported to have been obtained in the Rummam Valley where it may possibly be resident to some extent.

517. The Common Hill-Partridge. Arborophila torqueola (Valenc.).

Recorded " commonest between 5,000′ and 8,000′ or 9,000′, occasionally found at 14,000′." This partridge is, in my experience, much *more plentiful on the Outer Ranges* than it is in the Interior, yet occurring at similar altitudes. It may possibly reach this recorded lowest limit of 5,000′ in the interior, which is however erroneous for the outer ranges, as there is no overlapping in the zonal distributions of this species and *A. rufogularis* where they meet. Neither do they move to any extent during the winter. A fine series secured in the Mai ' Khola ' in East Nepal at elevations of from *7,000′-10,000′ during March and April*, and obtained in the Lachung Valley at 8,000′, ♀ 26-2-20, one of a pair. It breeds at the end of April and in early May. Twenty-three specimens examined : 16 ♂ ♂ wing 144-155, av. 150·5 ; 7 ♀ ♀ wing 136-145, av. 142.

Soft parts : Iris brown ; bill black ; tarsus ochreous-salmon in the male, with a more decided ochreous tinge (dusky salmon-pink) in the female.

518. Blyth's Hill-Partridge. Arborophila rufogularis rufogularis (Blyth).

Recorded from the base of the hills up to 6,000′, which is substantially correct for these hills. I have no definite information of its lowest limits, but it is fairly plentiful in forest around Gopaldhara at from 5,000′-6,000′, where I have obtained many during December to February.

It appears to have a somewhat higher zonal distribution in the Tista Valley where it apparently does not come into competition with *A. torqueola*, as Mr. G. E. Shaw reports it at elevations of from 3,000′-8,400′ below and above Mangpu. This partridge is often to be heard calling before and after rain when I have known this to happen after a thunder-storm as late as the 20th of July. Towards the breeding season they commence to call in the foot-hills around 2,000′ as early as the 21st of January. The chick soon after hatching, actually gives utterance to the identical call of the adult.

Seven eggs are sometimes laid, one such clutch averages, 42×34 ; all are somewhat conoidal, and in three in the same clutch, this character is much pronounced.

Twelve specimens examined : 9 ♂ ♂ Wing 138–149, av. 143·6 ; 3 ♀ ♀ wing 133–142, av. 135·7.

519. The Red-breasted Hill-Partridge. Arborophila mandelli Hume.

Recorded for the Lower hills of Sikkim at elevations of from 1,000′–6,000′. The Tibetan Partridge PERDIX HODGSONIÆ HODGSONIÆ (Hodgs.) is recorded for the Tibetan Plateau, north of Sikkim, strictly not within our limits, but in all probability occurs at extreme elevations in Sikkim.

520. The Tibetan Snow-Cock. Tetraogallus tibetanus ~~tibetanus Gould~~ aquilonifer Meinl3. Bull. B.O.C. V. XLVI. P.P.99-100. April. 1926.

Recorded for very high tracts in Sikkim and as rarely descending below 15,000′ in summer. Blanford refers to a Captain Chamer having obtained it at Phalung near the Kangra Lama Pasa.

521. The Snow-Partridge. Lerwa lerwa (Hodgs.).

Recorded for the Himalayas from Kashmir to Bhotan and farther east at elevations of 10,000′–14,000′ in summer ; lower in winter. Reported to have been obtained formerly on the Singile La Ridge between Sandakphu and Phalut but these records require confirmation. Blanford met with it at Thangu and Yumthang. (September and early October). Not seen below 17,000′ by the Mount Everest Expedition.

522. The Himalayan Bustard-Quail. Turnix pugnax ocellatus Blyth.

Recorded for the ' Eastern Himalayas, ascends to 7,000′ '. Occurs at moderate elevations in the foot-hills and breeds around Gopaldhara during ' the rains '. Gammie mentions it as equally common from 2,000′–4,000′ breeding in May and June on the eastern side of the Darjeeling district. Gopaldhara, 28-5-23, ♀ taken with clutch of four eggs. Soft parts : Iris white ; bill pale plumbeous, culmen and tip of both mandibles horny, base of upper mandible whitish ; tarsus pale plumbeous, claws yellowish.

523. The Little Button-Quail. Turnix dussumieri (Temm.).

Recorded for the ' Lower Himalayas up to about 6,000′,' though not represented in the National Collection from the Sikkim Himalaya.

524. The Indian Button-Quail. Turnix tanki tanki Blyth.

Recorded for the ' Himalayas up to about 4,000′,' Bhutan Duars, etc.

525. The Ruddy Crake. Porzana fusca bakeri Hart.

Recorded ' Lower Himalayas, probably occurs in Sikkim.' No authentic data of its occurrence in these hills are known to me.

526. Elwes's Crake. Porzana bicolor Walden.

When I was in camp at Kalo Pokhari, 10,160′, on the Nepal-Sikkim Frontier, 22-5-12, two ♂ ♂ and one ♀ were brought in by some Paharias, who said they had been captured at an extreme height between 12,000′ and 13,000′. I did not place full reliance on their word, as the tarn or ' pokhari ' where they were likely to have been obtained was probably not at this extreme height, but might well have been a long distance from my camp in Nepal ; these birds were taken alive. Obtained below Nagri, 4,250′ circ. in the Rungbong Valley, ♀ 27-3-18 (F. S. Boileau) ; an oviduct egg was extracted from this bird. Four specimens examined : ♂ Wing 113–116 ; ♀ wing 110–117.

Soft parts : Iris crimson ; orbits, venetian red ; bill, sap-green, dusky grey at tip with a tinge of venetian-red at the base of both mandibles, inside gape slaty colour ; tarsus dull lobster or venetian-red, dusky at front ; claws, horny.

527. The Eastern Moorhen. Gallinula chloropus parvifrons Blyth.

Certain to occur at plains-levels, which remark also applies to the following.

528. The Purple Moorhen. Poryphyrio poliocephalus poliocepahlus (Lath.).

529. The Red-wattled Lapwing. Sarcogrammus indicus indicus (Bodd.).

Obtained by Mr. G. E. Shaw at an elevation of 500′ at the foot of the hills.

530. The Indian Spur-winged Plover. Hoplopterus ventralis (Wagl.).

This Plover occurs at low elevations along the Tista River.

531. The White-tailed Lapwing. Chetusia leucura. (Licht.).

Recorded for Sikkim. Unknown to me.

532. The Eastern Golden Plover. Pluvialis dominicus fulvus. (Gm.).

I have seen this Plover in open country at the foot of the hills, Sukna, 28-2-15*, observed a party of twelve to twenty settle on the east side of the Railway line. Some of the Ringed-plover (*Charadius*) are certain to occur in the bed of the Tista River and possibly also in the minor rivers.

After making a further examination of my Assam material, which is now available for comparison; there can be little doubt that two forms of this genus breed at all events in the river-beds at the base of the hills on North Lakhimpur, Upper Assam, though probably, only sparingly, and the eggs yet remain to be discovered. I have recorded obtaining *placidus* in July, ♂ 7-7-04 and two ♂ ♂ obtained on 7-1-11 are in breeding plumage with the testes well advanced in development. These specimens were secured in the bed of the Dejoo River where there was ample scope and suitable gravelly stretches of ground for nidification in the cold weather'. The other bird is evidently *jerdoni* with a wing measurement far in deficit of the true cold-weather migrant: a ♂ obtained on the Subansiri at Hessamara, 31-12-05, wing 103, is in full breeding plumage; whilst another example obtained on the Runganuddi, ♂ 6-5-04, wing 100, is in similar plumage, but showing signs of moult. Three specimens obtained at Gogaldhubi bhil, ♀ 8-12-05, wing 115; ♀ 11-12-05, wing 116; ♂ 18-12-05, wing 114, are in winter plumage and are evidently the typical form *dubius* to which I refer a ♀ obtained on the Dibru River at Rungagora on 15-4-03, wing 107·5; though this example has assumed the summer plumage with the exception of the black ear-coverts. I am confident that a systematic search from January to March will eventually prove my surmise to be correct in respect to these breeding birds. The fact that Ringed-plover occur at the same period of the year in both summer and winter plumage, if not remarkable, is of interest. The winter migrants appear to frequent the soft, muddy ground around the 'bhils' in company with other numerous non-resident waders and not the sandy beds of the rivers, then occupied by the breeding race.

533. The Green Sandpiper. Tringa ochropus. (L.).

This sandpiper commonly occurs in all hill rivers at low elevations. Others of this genus are certain to be found if sought for.

534. The Ibis-bill. Ibidorhyncha struthersii Vig.

Recorded by Blanford from the interier of Sikkim at 12,000′ at Yematong (Yumthang) in September. It has been obtained during 'the cold weather' in the Tista and Great Rangit River beds. I saw it frequently on the Raidak River in January, in small parties. It evidently *occurs on all the rivers of the Eastern Himalayas at the foot of the hills in the winter.*

535. The Woodcock. Scolopax rusticola rusticola L. 'Simkukra' Paharia.

The Woodcock is widely distributed at moderate elevations in the cold-season, though they apparently do not extend into the plains, as was the case in Upper Assam. In the Rungbong Valley it does not appear to be as plentiful as formerly. It is partial to strips of ground under cardamom cultivation along the 'kholas', when the soft soil at the edge of the running water, wherever these birds have taken up their quarters, is pitted with probings. They arrive at Gopaldhara in late September or early October, 3,500′, 30-10-14*. One noted at evening flying south, evidently intent on settling, and another observed the next day during the evening. A pair were often to be seen at Lachung, 8,800′, in early March 1920, in the bed of a small water course overgrown with scrub vegetation, during the frosty days; at early morning they came out more into the open.

536. The Wood-Snipe. Capella nemoricola (Hodgs.).

The generic name *Gallinago* is discarded for the earlier name *Capella* of Frenzel which takes precedence over the former.

Recorded as breeding at 7,000′–12,000′ in the Himalayas. A few are obtained in the Rungbong Valley nearly every ' cold weather.' Previous to the draining of the ' pokhari' at Mirik, this locality must have been a sanctuary for numerous Warblers, Rails and Snipe. Mr. G. E. Shaw has obtained it at Mangpu 3,500′–4000′.

537. The Pintail Snipe. Capella stenura (Bp.).

This Snipe occurs at moderate elevations, though I anticipate the majority of the birds descend to lower limits which is apparently the case also with the Fantail Snipe.

538. The Himalayan Solitary Snipe. Capella solitaria (Hodgs.).

Very few specimens are shot of this rare Snipe. I observed a pair on Tonglo at 10,000′, a short distance below the summit level on the Nepal side of the Frontier in the bed of a mountain stream in January 1912. I am indebted to Mr. A. J. H. Tietkins for a ♀ which he obtained at Tukdah on the 14-11-21. wing, 160. Iris hazel; tarsus pale yellowish-olivaceous. This snipe is recorded at 9,000′–15,000′ or higher at the breeding season. Inglis obtained a ♂ in the Rungbong ' jhora ' at Sukna, 9-12-19.

539. The Indian Shag. Pahalacrocorax fuscicollis Steph.

This is evidently the cormorant or Shag which commonly occurs on all the large rivers; it has been frequently observed on the Tista River. On the Raidak River observations pointed to this species. Probably the Large Cormorant occurs, but no specimens have been obtained to settle this point beyond doubt.

540. The Great White-bellied Heron. Ardea insignis Hodgs.

Observed on a few occasions on the Tista River below Birik, when it kept well over to the uninhabited left bank, with little chance of molestation.

541. The Cattle Egret. Bubulcus ibis coromandus (Bodd.).

Commonly occurs at low elevations.

542. The Little Green Heron. Butorides striatus javanicus (Horsf.).

This species frequents the Rungbong River up to at least 3,600′ and possibly right up to the head of the valley. Obtained below Turzum on 15-2-20 (O. Lindgren), and Mr. G. E. Shaw has also secured it in the Tista Valley at an elevation of 1,400′.

543. The Barred-headed Goose. Anser indicus (Lath.).

This goose has occurred in the Rammam River, from whence Mr. H. P. P. Barrett has shown me a specimen obtained out of a small party in ' the cold weather.' The following records refer to unidentified geese on the upward migration: Sandakpu, 11,929′, summit level, Nepal-Sikkim Frontier 2-3-12. Fourteen geese passed overhead going north; on reaching the summit, they paused in their flight after an apparent momentary impulse; as they quickly assumed their accustomed V formation and again headed north. At their oncoming I was located below a spur on the wind-ward side of the mountain; and thus was unable to follow their movements, after they passed my field of vision. 7-3-12. From sixty to seventy geese passed overhead at an immense altitude cackling at the time. On reaching the summit they dispersed into three parties, of which, the two outer gaggles were much the more numerous, probably to unite again once the direction was decided upon, though I could not follow out this conclusion. They were heading north, in the same direction generally as the previous lot, which would take them over the ' Everlasting Snows.' Every appearance of hot weather in the plains yet on 15-4-12, the worst snow-storm during this winter was experienced, which lasted for several days.

Jalpaiguri (Plains of N. Bengal), 27-2-15*. Two huge migrations of geese occurred this morning heading north in a leisurely manner; the second congregation consisted of several V shaped companies which appeared to intersect each other at many points as to cause an apparent break in their formation, but on careful observation this proved not to be the case; the white plumage was enhanced at certain strokes of the wing in the strong light.

Gopaldhara, 4,720′, 11-4-16, 10 a.m. Geese estimated between three and four hundred leisurely wending their flight in a northerly direction ; another lot passed over at evening 7 p.m.

12-4-16, 10 a.m. On this occasion I estimated about one hundred geese to pass overhead, going north.

544. The Ruddy Sheldrake. Casarca ferruginea (Pall.).

Kalo Pokhari, 10,160′, Nepal-Sikkim Frontier, 28-3-12. A pair of Brahminy Duck passed over Sandakpu this morning, heavy north-west and north-east gales accompanied with falls of snow the following two days. 1-4-12. This afternoon during a heavy, dense mist I heard these birds in evident distress at their inability to find their bearings ; they failed to negotiate the ridge, as their cries became fainter as they retreated down the valley. They migrate in pairs and keep in close company at all times. Blanford records a pair on the lake Bidan near the Jelep-la in the Cho La Range when one was shot by Elwes (August).

545. The Gadwall. Anas strepera L.

The Gadwall is to be found on occasions in small parties on the large rivers before the upward migration commences.

546. The Wigeon. Anas penelope L.

Obtained on the upward migration in the Lachung River on 8-3-20, ♀ during a bad spell of weather, when the birds were forced to seek shelter in the river-bed at an elevation of 8,700′.

Soft parts : ♀ Iris brown ; tarsus greenish-plumbeous ; bill slaty-blue, nail, black, terminal portion.

547. The Pintail. Anas acuta acuta L.

Two ♂ ♂ obtained on 8-3-20 in the bed of the Lachung River on the same occasion as the previous records were obtained out of a small party. One bird was ' rolling in fat ', but the stomach only contained small seeds. There had been a heavy snow-storm at this time.

548. The Eastern Goosander. Mergus merganser orientalis Gould.

Recorded, ' summer in pairs at 10,000′ and upwards on the Himalayas.' They commonly occur at the foot of the hills on all fair-sized rivers and may be seen for a long way up the Tista River. When in the Gorges they almost clip the water in flight, while on their return at evening, to the more open water in the plains they fly at a considerable height and with rapidity, generally in a well-separated cluster and it requires accurate shooting to bring a bird down. Unless it can be put to some useful purpose ; there is no object served in such a wanton act, as this handsome Duck is every bit a part of the attractions which go to complete many an entrancing picture of wild-life. On numerous occasions have I watched them busy at work diving in the clear, flowing water or resting contentedly at mid-day, allowing the current to carry them on its course. While it is no unusual sight to see a group sunning themselves in shallow water, when every now and then, they assume an erect position with much beating of the wings.

549. The Indian Little Grebe. Podiceps ruficollies capensis Salvad.

It is generally conceded that the Grebe which Mandelli obtained in Sikkim and described by Blanford as *P. albescens* is an albino ; which record probably refers to this species.

Note.—A number of additional records have been inserted since the compilation of this paper bringing it up to date 31st August, 1923.

H. S.

Gorsakius melanolophus
Mangpu, below on 29th April 1931
seen at short range
1st record for Sikkim

NOTES ON THE BIRDS OF THE SIKKIM HIMALAYAS

Additions and Corrections

Volume XXIX

P. 504, line 20 from the bottom. Additional matter having been inserted in my MS., this sentence should read ' Since the first volume of Oates's *Fauna* was published in 1889, our knowledge has advanced from several bases, excepting in regard to Pterylography, i.e., the study of the Pterylosis (the distribution of the feather-tracts (*pterylæ*), in opposition to the featherless interspaces (*apteria*), which is of importance in nestling birds as an aid to classification, a branch of Ornithology.'

P. 507, line 10 from the bottom. *Delete* ' which ' *after* ' Suthoras ' ; and *delete* the ' semicolon ' *after* ' *and.*' My MS reads : ' Crow-Tits and Suthoras are just as dependent on reed and bamboo-growth, — as Nutcrackers, Crossbills, ~~and~~ are generally considered as occurring exclusively in the pine forests.'

Delete the brackets enclosing the name of the describer of the bird in Nos. 1, 2, 3, 4, 8, 11, 14, 18, 22, 24, 26, 27, 39, 41, 46, 47, 48, 49, 51, 53, 55, 56, 57, 59, 60, 62, 67, 68, 70, 71, 72, 74, 75, 76, 77, 81, 83, 85, 86, 89, 91, 92, 93, 96, 131, 133, 143, as the generic name employed is that in his original description.

P. 515, line 5 from the top. *Delete* ' A.' and read : ' Chelura '. Transfer ' A ' to p. 517, line 4 from the top, and *read* ' A flock.'

No. 11. *Nucifraga hemispilla* is possibly best treated as a distinct species with its own group of forms ; especially as ' multipunctata ' occupies an intervening area between ' caryocatactes ' and ' hemispila ', and is a good species.

No. 15. *Read* ' PARUS MONTICOLUS LEPCHARUM, Meinertzhagen. *Bull. B.O.C.* vol. xlvi, p. 96, April 1926.'

No. 16. *Read* ' AEGITHALISCUS CONCINNA RUBRICAPILLUS, Ticehurst. *Bull. B.O.C.* vol. xlvi, p. 22, October 1925.'

No. 17. In the original description IOUSCHISTOS.

No. 24. *Read* ' AEMODIUS '.

P. 726, line 20 from the bottom. *Delete* ' 14.6.'

P. 727, line 6 from the bottom. *For* ' Second Reference " 3,600 feet ", *read* " 3,800 feet. "

No. 32. CŒRULATUS.

No. 39. *Substitute* ' Hodgson ' *for* ' Oates.'

No. 41. *Substitute* ' Blyth ' *for* ' Hodgson.'

No. 50. XIPHIRHYNCHUS should be valid yet not confused with the genus *Xiphorhynchus*.

No. 67. *Substitute* ' Blyth ' *for* ' Hodgson.'

P. 735, line 1, SIBIINÆ.

No. 72. The Hoary Bar-wing. *Substitute* ' Gould ' *for* ' Hodgson.'

No. 82. LEIOTHRIX LUTEA CALIPYGA.

P. 737, line 1 from the bottom, ' Calipyga.'

P. 739, line 16 from the bottom. *Insert after* ' under ', ' each ' ; line 7, ' Flower-pecker.'

No. 93. In original description. IGNOTINCA.

No. 104. SITTA CASTANEIVENTRIS CINNAMOVENTRIS, Blyth.

No. 108. MACROCERCUS.

P. 1009, line 7 from the bottom. *Delete* ' many ' and *substitute* ' and '.

P. 1010, line 21 from the top. *P. rufonuchalis beavani* and *P. d. dichrous.*

No. 125. *Read* ' PNŒPYGA ALBIVENTER ' Hodgson, *J. A. S. B.*, February 1837. See Kinnear, *Bull. B. O. C.*, vol. xlv, p. 9.'

No. 126. PNŒPYGA.

No. 127. *Read* ' REGULUS REGULUS SIKKIMENSIS, Meintz.
Bull. B. O. C. vol. xlvi, p. 97, April 1926.'

No. 128. *Read* ' CEPHALOPYRUS FLAMMICEPS SATURATUS, Whistler.
Bull. B. O. C. vol. xlv, p. 15, October 1924.

No. 133. ATROGULARIS.

No. 137. AEDON.

P. 1021, bottom line. *Delete* ' hills ' and *insert*, ' this.'

P. 1022, line 11 from the top. *Delete* ' Ibis ' and *insert*, ' Ibid.'

P. 1023, line 14 from the bottom. *Delete* ' is ' and *insert* ' was '

P. 1026, line 15 from the bottom. *Delete* ' steel transparent.'

P. 1029, line 5 from the top. *After* ' Sikkim ' *add*, ' in the National Collection.' Line 13, ♂, April 4, 1912.

vol. xxx, page 56, line 6 from the top. *Delete* ' 5,' *Read* ' ♂ March 30. 1918.'

P. 57, line 3 from the top : *Caryota.*

No. 182. Most probably best treated as a good species. In Tonkin, both *indicus* and *tenuirostris* occur at similar levels during the breeding season *indicus* being confined to the heavily forested region, while *tenuirostris* occupies the surrounding tracts of a more open character.

Page 60, line 5 from the bottom. *Read* ' ♀ † October 2, 1919.'

Page 61, line 7 from the top.' † Four '

No. 203. *Read* ' CYORNIS MELANOLEUCA, Blyth. = *Muscicapa collini*, Roths *Bull. B. O. C.*, vol. xlv, pp. 89, 90.'

Page 62. For ' *C. blythi* ', read ' *C. melanoleuca.*'

Page 65, line 30 from the top. *Read* ' 10,160 feet.'

Page 66, line 10 from the top. TERPSIPHONE.

No. 222. *Read* ' This Chat which ascends the hills of the outer ranges in Sikkim, to breed at moderate elevations, is provisionally retained under *indica* ; but my two specimens are very diminutive : wing, ♂ 66·5 ; ♀ 64 mm. It is represented in the National Collection by many other similar specimens from Sikkim.'

No. 223. *Read* ' The Turkestan Bush-Chat. SAXICOLA PRZEWALSKII (Pleske).' I relegate all specimens of this cold weather migrant to the Plains of Assam and the outer hills of Sikkim under *przewalskii*. My specimens are certainly not *stejnegeri*. Both *przewalskii* and *stejnegeri* breed in the mountains of Tonkin with somewhat similar zonal distributions, or at all events of a none too excessive variation, *stejnegeri* being confined mainly to lower limits. For this reason I retain *przewalskii* as a good species. I regard the breeding Chat from Yunnan as nearer to *stejnegeri* than *indica*, whereals *przewalskii* is certain to breed as the Tonkin specimen with eggs which I obtained was collected on the Yunnan frontier.

No. 229. IMMACULATUS.

No. 238. Güldenstadt.

Page 355, line 22 from the bottom. To '*Oriolus traillii*' also add 'the male of *Irena puella*.'

Nos. 281, 282. LAISCOPUS.

No. 284. *Substitute* 'Moore' *for* 'Hodgson.'

No. 290. I follow Whistler and treat this Grosbeak as a good species. *Ibid.* vol. XXX, pp. 701-2.

No. 297. LOXIA.

Page 372, line 24 from the bottom. *Delete* 'more' and *insert* 'were.'

Page 377, line 26 from the top. *alboides*.

No. 411. FUCIPHAGA.

No. 421. SPARVERIOIDES.

No. 459. GYPÆTUS.

No. 461. HIERAÆTUS.

No. 464. SPIZÆTUS.

Page 884, line 25 from the bottom. *Ilerda*.

Page 887, line 30 from the bottom. 'diminishing'.

Line 26, 'depredations'.

Line 17, 'smashed.'

Page 888, line 5 from the top. rocky.'

Line 2 from the bottom : 'has.'

No. 520. *Read* 'TETRAOGALLUS TIBETANUS AQUILONIFER, Meintz. *Bull. B. O. C.*, vol. xlvi, pp. 99, 100, April 1926.'

H. S.