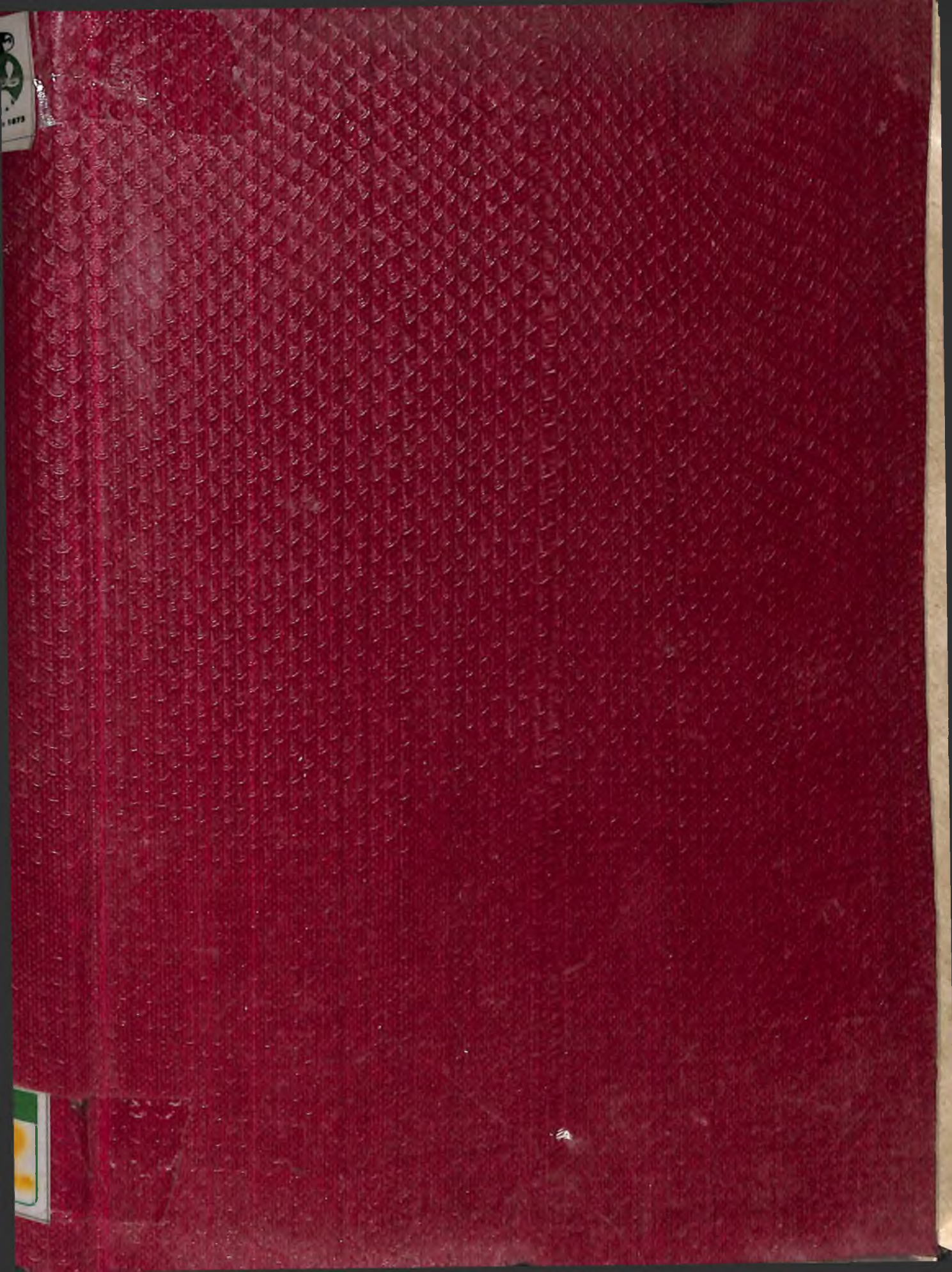




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FOR INDIA AND
ITS DEPENDENCIES

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ALLAN HUME

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CONTENTS OF VOL. IX. 1880.

Nos. 1 to 3.—August.

	Page.
FIRST LIST OF THE BIRDS OF THE SOUTH KONKAN, by G. W. Vidal	1
REMARKS ON SOME SPECIES RECENTLY DESCRIBED BY MR. BROOKS	96
NOTES ON <i>GEOCICHLA INNOTATA</i> , <i>Blyth</i> , by Henry Seebohm	99
<i>GEOCICHLA DISSIMILIS</i> , <i>Blyth</i>	103
THE BIRDS OF THE WESTERN HALF OF THE MALAY PENIN- SULA, Third Notice	107
ADDITIONAL NOTES ON SOME OF OUR INDIAN STONECHATS	133
ADDITIONAL NOTES ON THE BIRDS OF TENASSERIM, AND SPECIALLY ON THOSE OF THE THOUNGYEEN VALLEY, by Captain C. T. Bingham	138
THE "GAME BIRDS OF INDIA," ADDENDA ET CORRIGENDA	198
A FEW REMARKS ON <i>SCHENICOLA PLATYURA</i> , by W. Edwin Brooks	205
NOTES ON THE NIDIFICATION OF CERTAIN SPECIES IN THE NEIGHBOURHOOD OF CHAMAN, S. AFGHANISTAN, by H. E. Barnes	212
ON A NEW SPECIES OF <i>TRIBURA</i> (<i>DUMETICOLA</i>), by Eugene W. Oates, and note on the same, by W. Edwin Brooks...	220
ADDITIONAL NOTES ON <i>ALSEONAX CINEREO-ALBA</i> OR <i>LATIROSTRIS</i> , AND <i>ALSEONAX TERRICOLOR</i> , by W. E. Brooks	225
NOTES—	
<i>Rejected skins to be disposed of</i>	226
<i>Suggested identity of</i> <i>Suya albogularis</i> and <i>S. super-</i> <i>ciliaris</i>	227
<i>Burnesia gracilis</i> , distinct from <i>B. lepida</i>	228
<i>Abornis jerdoni</i> , unquestionably a good species	ib.
<i>Sturnia blythi</i> —its real diagnosis	ib.
Extended range of <i>Goisakius melanolophus</i> in India	230
<i>Chætura caudacuta</i> and <i>C. nudipes</i> probably distinct	ib.
<i>Accipiter gularis</i> , <i>virgatus</i> and <i>stevensoni</i>	231
<i>Hypolais pallida</i> and <i>rama</i>	ib.
Re-discovery of <i>Passer pyrrhonotus</i> , <i>Blyth</i>	232
The Indian <i>Rubecula akahige</i> apud Verreaux, is really the young of <i>Niltava sundara</i>	234
<i>Schenicola platyura</i> , further note: its identity with <i>Catircus apicalis</i> suggested	234

	Page.
<i>Mr. Sharpe's supposed eggs of Leptoptilus javanicus, doubtful</i>	235
LETTERS TO THE EDITOR—	
Birds seen between Suez and Bombay.—H. E. M. JAMES	235
Young of Painted Snipe, swim well.—J. DAVIDSON	236
How the principles of natural (or unnatural) selection are at times carried out—W. E. BROOKS ...	ib.
The Kurrachi Museum <i>Palumbus</i> is <i>casiotis</i> ; breeding of <i>Æsacus recurvirostris</i> in Sindh.—C. SWINHOE	237
Distinctness of <i>Sturnia blythi</i> ; an albinoid specimen of <i>Chrysocolaptes strictus</i> .—E. A. BUTLER...	ib.

No. 4.—November.

A HISTORY OF THE BIRDS OF CEYLON	239
NOTE ON TRIBURA MANDELLI, by W. E. Brooks ...	240
A SECOND LIST OF THE BIRDS OF NORTH-EASTERN CACHAR	241
SCHENICOLA PLATYURUS	260
PUFFINUS CHLORORHYNCHUS	264
STURNIA BLYTHI	267
MÆRGUS SERRATOR	268
ON AN UNDESCRIBED SPECIES OF PHYLLOSCOPUS, by W. Edwin Brooks	272
LOPHOTRIORCHIS KIENERI	273
BIRDS NESTING ON THE EASTERN NARRA—ADDITIONS AND ALTERATIONS, by S. B. Doig	277
NOTES—	
<i>Difficulties connected with the nomenclature of some Asiatic Snipe</i>	283
<i>Acridotheres siamensis</i>	285
<i>Colours of the soft parts in the Mishmi Hill specimens of Ceriornis temminckii</i>	286
<i>Chætura nudipes, again</i>	ib.
<i>Prinia poliocephala not distinct from P. cinereocapilla; the latter possibly only a variety of P. socialis</i>	ib.
<i>Gracupica nigricollis</i>	288
<i>Collocalia brevirostris, Maccllelland, a good and distinct species</i>	289
<i>Reguloides viridipennis, Blyth</i>	290
<i>Garrulax leucogaster, Walden</i>	292
<i>Pica bottanensis, a perfectly distinct species</i>	293
<i>Sturnia incognita, in Tenasserim</i>	295
<i>Acridotheres melanosternus, scarcely in my opinion a valid species</i>	ib
<i>Cyornis poliogenys, Hume</i>	ib



Pterocles coronatus, near Fort Jumrood	Page. 296
Eristomura leucocephala, near Loodhiana, Punjab...	ib.
LETTERS TO THE EDITOR—	
Oalornis tyleri and Chrysococcyx maculatus at Madras.—W. F. DIQUE	298
A reply to Major Swinhoe.—E. A. BUTLER	ib.
Birds Nesting in Southern Travancore.—T. F. BOURDILLON	299
Nidification of Graptocephalus davisoni, Hume.—EUGENE W. OATES	300

Nos. 5 & 6.—September 1881.

THE BIRDS OF GILGIT, by Major John Biddulph (a reprint, with Notes, from the Ibis)	302
A TENTATIVE CATALOGUE OF THE BIRDS OF THE DECCAN AND SOUTH MAHRATTA COUNTRY, by Captain E. A. Butler, H. M.'s 83rd Regt.	367
PASSER PYRRHONOTUS, Blyth	442
DUMETICOLA BRUNNEIROCTUS, Blyth, by W. Edwin Brooks...	445
PERNIS TWEEDALII, Hume, by J. H. Gurney, (Note on a Malayan species of Pernis distinct from P. ptilorhynchus)	446
A LIST OF BIRDS OBSERVED IN THE NEIGHBOURHOOD OF CHAMAN, S. AFGHANISTAN, by H. E. Barnes	449
NOVELTIES —	
Callophasis humiæ, Sp. Nov.	461
Perdicula manipurensis, Sp. Nov.	467
ADDITIONAL NOTES ON THE NIDIFICATION OF BIRDS IN BRITISH BURMA	471
NOTES, CHIEFLY OOLOGICAL, FROM NORTH-WEST CEYLON, by H. Parker, C.E.	475
THE BIRDS OF THE LUCKNOW CIVIL DIVISION, by Geo. Reid (Part I)	491
NOTES—	
Pratincola insignis, from Condah in Oudh	505
Additional species from N. E. Cachar	ib.
Trochalopteron meridionale, of W. Blanford	ib.
LETTERS TO THE EDITOR—	
Albinoids.—W. F. DIQUE	507
Painted Snipe breeding in December.—A. TOMES	508
INDEX ..	i

1891

The following is a list of the names of the persons who have been admitted to the membership of the Society since the last meeting. The names are given in alphabetical order, and the date of admission is given in parentheses. The names are given in full, and the date of admission is given in full. The names are given in full, and the date of admission is given in full.

PREFACE.

THE lamentable delay that has occurred in completing Volume IX has been due to a variety of causes. In the first place, in consequence partly of urgent private affairs and partly of severe and long-continued sickness, my valued friend and collaborateur, Mr. W. Davison, has for the past twelve months been entirely unable to help me in any way, and it will probably be next April before I can look for any further help from him in my museum.

In the second place my explorations of Manipur involved my being on the move from December last year until the end of June of the present year.

In the third place since my return this number has been kept back owing to an intimation from a valued contributor of his being about to despatch a long paper of unusual interest, which should, I considered, be published without delay.

I have never received this promised paper, nor can I learn anything about it, and so am compelled to issue this number without waiting longer for it.

ALLAN HUME.



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STRAY FEATHERS.

Vol. IX.]

AUGUST 1880.

[Nos. 1 & 2.

First List of the Birds of the South Konkan.

By G. W. VIDAL.

It appears to be the orthodox custom that each contributor of a paper to STRAY FEATHERS should commence by offering profuse apologies for its incompleteness and imperfections; should deplore all his sins of omission and commission; should disclaim all knowledge of his subject; deprecate all criticism; and, finally, in a paroxysm of modest confusion, throw the entire responsibility of his work on the devoted head of the Editor, without whose assistance and unremitting reminders, &c., &c., it never could have seen the light. All this goes without the saying, and in my case may be taken for granted.

No account of the birds of the particular tract I am about to describe has, as far as I know, ever been published, excepting a chapter on the Ratnagiri species that I have lately contributed to the *Bombay Provincial Gazetteer*. Mr. Fairbank collected for a few weeks on the eastern frontier of Sávant Vádí,* but he does not appear to have gone over the Ratnagiri Frontier intermediate between Mahableshwar and Sávant Vádí.

I have known the South Konkan Districts for seven years, having been stationed at Ratnagiri from 1869 to 1873, and again from 1877 to the present date. During the first period I made, from an ornithological point of view, little or no use of my time. I shot various birds—Waders, Scratchers and Swimmers—which I had good reason to believe from experience and the teachings of veteran epicureans to be "*aves sapidissimæ in patinâ*." I also collected numerous ornate and bright-coloured specimens to be set up in England. I was invariably accompanied in my annual wanderings by Dr. Jerdon, as personified in his "*Birds of India*," and many an hour have I spent with his help in laboriously and often vainly trying to identify some non-familiar species. But I should as soon have thought in those days of shooting and seriously examining a *Dryococcyz* or a *Phylloscopus* as of throwing stones at my grandmother. For the last three seasons only have I systematically collected all specimens, pretty or plain, clothed with bright silks or stuffs

* *Vide* S. F., IV., 250, *et seq.*

of russet brown, that came within reach. From these collections, containing 242 species, the list has been mainly compiled. During the season of 1877-78 a collection was also made between Ratnagiri and Vijaydurg by Dr. James Armstrong of the Marine Survey. Dr. Armstrong very kindly gave me a list of the species collected by him, including, in the case of the rarer birds, the localities at which they were obtained. I have

- | | |
|---|-------------------------------------|
| 5.— <i>Gyps bengalensis</i> . | 355.— <i>Geocichla citrina</i> . |
| 63.— <i>Syrnium indranee</i> . | 767.— <i>Alauda gulgula</i> . |
| 151.— <i>Palaornis columboides</i> . | 796.— <i>Turtur risoria</i> . |
| 166.— <i>Chrysocolaptes sultaneus</i> . | 952.— <i>Dendrocygna javanica</i> . |
| | 981.— <i>Larus ridibundus</i> . |

thus been able to add nine species noted in the margin, which

I have not myself obtained or preserved specimens of.

I have also been able to add from his list, in the case of many other species, localities from which I have not collected specimens.

In 1878-79 a further considerable collection was made at Ratnagiri, Sávant Vádi, and other parts of the district for Mr. A. J. Crawford, C.S. Mr. Crawford was kind enough to allow me to examine his specimens from time to time, to catalogue them, and send them to Mr. Hume for verification.

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|--------------------------------------|--|
| 16.— <i>Falco chiquera</i> . | 267.— <i>Hemipus picatus</i> . |
| 39.— <i>Spilornis cheela</i> . | 282.— <i>Chaptalia anea</i> . |
| 98.— <i>Cypsellus melba</i> . | 469.— <i>Irena puella</i> . |
| 164.— <i>Fungipicus nanus</i> . | 471.— <i>Oriolus indicus</i> . |
| 203.— <i>Osculus micropterus</i> . | 307.— <i>Larvivora superciliaris</i> . |
| 205.— <i>Hierococcyx varius</i> . | 697.— <i>Amadina malacca</i> . |
| 233.— <i>Cinnyris minima</i> . | 738.— <i>Carpodacus erythrurus</i> . |
| 253.— <i>Dendrophila frontalis</i> . | 793.— <i>Turtur meena</i> . |
| 255.— <i>Upupa ceylonensis</i> . | 794.— <i>Turtur senegalensis</i> . |

852.—*Chottusia gregaria*.

I have thus been able to add to the list 19 other species which I have hitherto fail-

ed to obtain myself. This makes the total number of species, actually collected and preserved, 269. To these I have added six more, which, though not included in any of our collections, I have either shot in former years, or know, beyond all reasonable doubt, to occur. These species are as entered in the

- | | |
|-----------------------------------|---------------------------------------|
| * 4.— <i>Gyps indicus</i> . | 957.— <i>Spatula clypeata</i> . |
| 6.— <i>Neophron ginginianus</i> . | 961.— <i>Chaulelasmus streperus</i> . |
| 911.— <i>Porzana fusca</i> . | 969.— <i>Fuligula nyroca</i> . |

margin. The reasons for their in-

clusion are stated in the list.

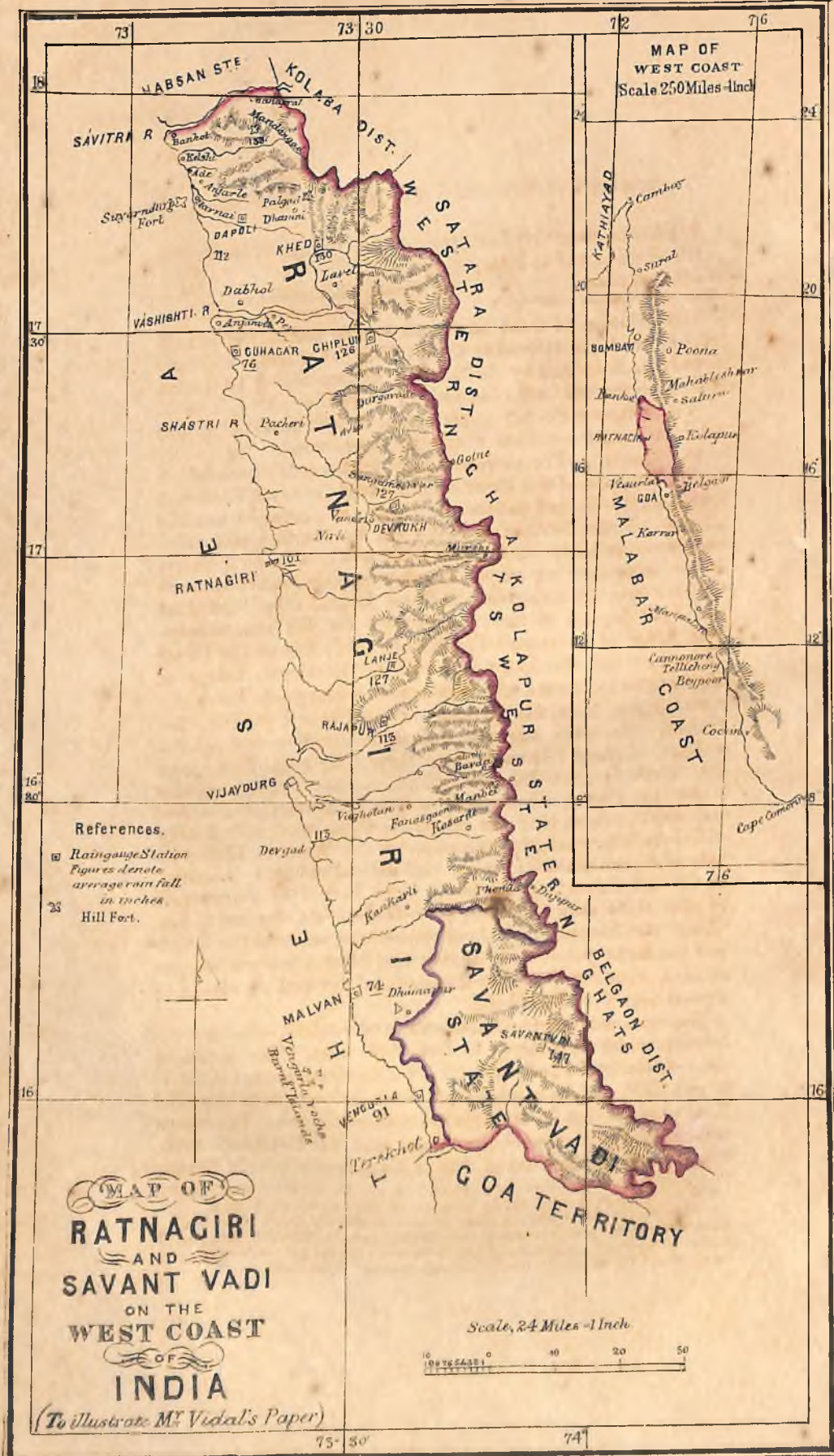
I have also added to the list four species recorded by Mr.

- | | |
|------------------------------------|------------------------------------|
| 115.— <i>Harpactes fasciatus</i> . | 145.— <i>Tockus griseus</i> . |
| 119.— <i>Mcrops swinhoii</i> . | 198.— <i>Megalama malabarica</i> . |

Fairbank from the eastern

frontier of Sávant Vádi.





The Editor has added four species, three of them from the last batch of skins sent to him, viz. :—

86.—*Hirundo fluvicola*.
845 quat.—*Agialitis asiatica*.

698.—*Amadina rubronigra*.
892.—*Sterna anaetheta*.

The inclusion of these additional species makes the grand-total of the birds entered in the list 284.* Of these, 266 have already been verified by the Editor. The remaining 18 species have been marked in the list with an asterisk.

With these necessary explanations I will pass on to the description of the tract to which the paper relates.

BOUNDARIES.—The narrow strip of west coast littoral, which for the purposes of this Paper I have called the South Konkan,† includes the whole of the British district of Ratnagiri and the adjoining Native State of Sávant Vádí. Its situation with reference to other places on the west coast will be seen by a glance at the accompanying map. Roughly speaking it lies between the 16th and 18th degrees of North Latitude, and the 73rd and 74th degrees of East Longitude. For the last twenty-four miles of its course the Savitri river, one of the *Panch Ganga*, or five streams, which rise in the sacred village of Mahableshwar, forms the northern boundary of Ratnagiri, separating it from the territory of the Habsi or Sidi Chief of Jinjera. On the west the Indian ocean gives our tract a seaboard of about 160 miles, from Bankot or Fort Victoria on the north to Fort Terekhol, which, on the south, separates it from the Portuguese territory of Goa. Except at the north-east angle, where, for a few miles, the adjoining British district of Kolaba intervenes, the watershed of the Western Gháts, or Sáhyádri mountains, forms a well-defined natural boundary on the east throughout the tract. This barrier is overstepped at one point only—the village of Gotne. At the south-east corner the Sávant Vádí State intervenes between the Gháts and the Ratnagiri district, leaving the latter a narrow tongue of land, running down the seaboard and diminishing almost to a point near Fort Terekhol.

The extreme length of the tract is about 165 miles, and the breadth varies from thirty to forty-five miles. The combined area of Ratnagiri and Sávant Vádí is 4,689 square miles, (Ratnagiri 3,789 square miles, Sávant Vádí, 900 square miles). The Ratnagiri district is throughout well populated. The census returns of 1872 shewed the large total of 1,019,136 souls, which gives an average of 268 to the square mile. In Sávant

* When complete the total will doubtless not fall far short of 350.—A. O. H.

† The terms North and South Konkan are sometimes used to denote the parts of the Konkan north and south of Bombay, from the Tapti river to Karwar or Sadasivgarh : but the more usually accepted boundaries of the South Konkan are the Savitri river on the north and Terekhol or Terracoil, on the Goa frontier, on the south.—G. V.

Vádí the population is more sparse, being at the rate of about 170 to the square mile.

ASPECT.—Reserving further statistics for the present, I will pass on to the chief physical features of the tract. In describing any country the highest perfection of art is to convince the reader that he, no less than the writer, has been there. This I cannot expect to accomplish. People who have not seen a country often describe it better than those who have. A peripatetic clergyman and preacher for the S. P. G., who had never so much as crossed the British channel, once delivered an eloquent lecture on South Africa, in a village school in rural England. After an hour of full and graphic descriptions of the scenery, the natives, and their manners and customs, he had fully succeeded in making his simple audience believe *he* had been a spectator of the scenes he described. Their disappointment was keen when they learnt that the lecturer was no more a traveller in ‘furrin’ parts than they themselves were. “Lor, Sir!” said an old crone at the close of the proceedings, “us *did* think now as yu’d bean there yureself.” I have no doubt, if the truth were known, that this untoward revelation prevented the simple folks from contributing half as many halfpence as they otherwise would have done towards providing pocket-handkerchiefs, umbrellas, tooth brushes, hymn books, and other articles, conventionally held to be necessary for the welfare of the heathen blacks.

However, whatever my readers may be disposed to believe, after reading my descriptions, I am painfully aware of the fact that I have been “there,” although this may not help me to paint very clearly the physical features which govern the distribution of species.

If you could steer a balloon straight enough from N.N.W. to S.S.E. or *vice versa*, to traverse the whole length of the tract, and obtain a good bird’s-eye view of its configuration, you would see little else than a congeries of rugged hills too numerous to count, with every variety of contour, traversed in all directions by deeply cut precipitous ravines and valleys, through which the rivers and streams, flowing westwards from the Gháts, have, for ages untold, scoured their tortuous courses. Except in Sávant Vádí, where the jungles have been jealously preserved, you would see betwixt sea and Gháts, from November to June, a monotonous succession of bare hill sides and plateaus of black slag-like rock, almost wholly unrelieved by verdure, and would lament the short-sightedness of previous generations of rulers who sat still and looked on unconcerned, while this wholesale denudation was being gradually and surely effected. You would note, in pleasing contrast, the snug, well-

wooded groves which mark, like oases in a desert, the village sites and homesteads of a patient, thrifty, law-abiding population. You would see that while the valleys and alluvial banks of the rivers are the only really arable land the tract can boast of, picks and hoes have not been idle in bringing under cultivation steep hill slopes and stony plateaus. Wherever the crumbling rock gives two or three inches depth of free soil, there are sown, transplanted and reared, with infinite labour, slender crops of coarse hill grains. Wherever, on the sides or near the base of a rugged hill, a portion of the flood water that scours the slopes in torrents during the rainy season can be gathered and held, there you see rows of tiny terraced rice fields, levelled and banked in with infinite skill and labour. You would marvel at the minuteness of the work, while you admired the patience and care of the cultivator, and would moralise on the struggle for existence which the expenditure of such laborious toil on such unkindly soil betrays. Sir George Wingate, the father of the Bombay Revenue Survey, when he first visited Ratnagiri professionally, placed on record his opinion that the cost of surveying the district would exceed the value of the fee-simple of the entire land. Exaggerated, of course, as this statement was, you would see at once from your balloon that a detailed field survey would be no light work. And, knowing the density of the population, you would at once rightly guess that no part of the district can produce food sufficient for the inhabitants. Large imports of grain are, indeed, an annual necessity, and in the poorer villages on the slopes and spurs of the Ghâts which these imports fail to reach, the frugal hill peasantry, after exhausting their scanty stock of *Harik* (*Paspalum scrobiculatum*), (which, by the way, is rank poison unless specially prepared by steeping in cowdung and water,*) habitually subsist, for several months, *i. e.*, until the next harvest, on wild plantains, roots, and other jungle produce.

The exports of local produce are few, and consist of salt fish, shell lime, fins and maws, of four or five species of sharks and saw fish, cocoanuts, coir fibre, and betelnuts.

The pressure of the population is relieved by an annual migration of some 100,000 able-bodied men to Bombay and other places. Soon after the harvest is reaped, and the fair weather has set in,—leaving a slender store of grain (all that a rack-renting farmer and a grasping money-lender has left untouched) for the women and children, and the old and weakly of both sexes—they wend their way by land or sea to Bombay, returning again to

* A party of Vaghir convicts who escaped, after a serious outbreak, from the Ratnagiri Jail, were caught, after a long hunt, in a state of utter collapse, brought on by eating raw *Harik* plucked from standing crops.

their homes in May with their savings just in time to prepare their fields for the coming monsoon crop. Thus are both ends made to meet. Numbers also of the able-bodied males, Maráthas, Kanbis, Mahars, and Chambhars, enlist in the native army and police, while the Konkani Brahmans, everywhere noted for their keen intelligence, find ready employment in the various public offices in the Presidency. Thus Ratnagiri, which is the nursery of the Bombay Army and the home of thousands of pensioners of all grades, civil and military, pays its way, and, despite the poverty of its fields and pastures, manages to contribute its fair quota to the public revenues.

Returning once more from the people to the land, you will note that riding, save on the beaten tracks, is a game not worth the candle; that you cannot get across country without encountering a succession of loose boulders, high field embankments, and sheets of slippery laterite; that to mount the hills you must have an animal who can walk up and down flights of stone steps and is as sure-footed as a moke. Pigsticking is, of course, an impossibility. No first or last spears have ever been won in Ratnagiri; no right-minded pig would allow such dangers to be encountered for his sake; so if chance should ever locate you in the South Konkan you will, if you are wise, get rid of your valuable Arab, as an *objet de luxe*, and a source of constant anxiety. If you must have a mount, you will, if the Cabul Field Force has left any, get a sturdy Deccan tat, slow and sure; or else will take to "Shank's mare," with the occasional variety for a long march of the country dooly, which, carried by means of cross bars on the heads of jungly rustics, who *insist* on keeping step, will shew you in perfection the poetry of motion and the doubtful "rapture of repose." Or you will, after a few weeks of this sort of thing, avoid the land, and, "all comfort scorning," go from port to port in emotional coasting steamers, and creep in country boats up the tidal creeks.

Lucky will you be if you reach your destination within twelve hours of the time you fondly appointed in your ignorance of tides and the ways of native boatmen. Horrors untold should your servants have neglected to bring an ample store of provisions. When becalmed and tidebound, you rock to and fro through the hottest hours of the day, whistling for a wind that never comes, and singing anything but a peaceful lullaby. Sometimes the monotony is pleasantly relieved by your boat sticking hopelessly in the mud. The boatmen shew an aggravating *nonchalance*, and pass round the hubble-bubble, but make no effort to extricate you. They told you there was no water, but you knew better. You had consulted a tide table, and there you are, and there you must stick for hours.

When the shades of evening are falling, a happy thought strikes you. You will get that cranky little canoe launched with an outrigger tied on to make it steady, and with one man to paddle, and another to do nothing. You will take your gun, and steal up the lagoons on the sides of the creek through forests of mangroves and rushes, and expect, at every wind of its wriggling course, to put up a flock of Teal, Widgeon or Pintails. You recline in the bows with your gun resting on the gunwale, and despite all previous disappointments, you contrive to feel a glow of gentle excitement.

"Man never is, but always to be, blest." All of a sudden the paddle stops. The boatman points mysteriously behind a bed of rushes, not twenty yards a head. He thinks you don't grasp the situation fully, and proceeds to explain in a hoarse stage whisper, "*Sahib*, badak hai!" in tones loud enough to disturb all the birds within half a mile. If he was within reach, you would kick him, but as he isn't, you can only shake your fist, and look unutterable things at him. Luckily, as yet, his indiscreet croaking has not alarmed the duck. By emphatic signs you make him turn the boat close in shore, and proceed cautiously yard by yard. You speculate on the strength of the flock and the number of birds you will drop to each barrel. You come nearer and nearer to the high sedge, and strain your eyes to see what lies behind. You are there, but no duck has yet risen or uttered a quack of alarm. You rise slowly to peer over the heads of the rushes, and decide rapidly that you will have a sitting shot with your first, and a blaze into the brown with your second, when up rise a couple of Pond Herons with a jeering "quawk," and there is that fool of a boatman dancing and gesticulating with a grin of triumph on his face, and shouting "Maro! maro!!" like a fiend, and plainly expressing by his looks that he thinks you are an incomprehensible duffer for not shooting them. This is a damper. Of course there were no Duck, and you resign yourself to your fate with whatever composure you can. It is useless to argue, and you give the wretch a look of withering contempt, and go on as before. There is still half an hour of daylight, and after all there *may* be Duck ahead. You see a flock of Golden Plover on the mud banks, and you let them pass. A Blue Heron rises stiffly fifty yards ahead, followed by a Green Bittern, and a party of Whimbrel, and a trio of noisy Greenshanks. You surprise a party of Cormorants, larking in the water, and bobbing up and down like a lot of charity school children having their annual dip in the sea at Margate. A flock of White Ibis are grazing in the sedge, well within shot. Egrets, Sandpipers and Kingfishers are everywhere, but

your thoughts are not for them. A Rail appears at the edge of the swamp, and before you have time to see what species it belongs to, scuttles back under cover. You know it is useless to try to find it, and the mud on the banks is too deep and black to be attempted without graver provocation. So you creep on through gullet after gullet, and begin to think it quite time you bagged something, and that a few of those Golden Plover you passed would have been better than nothing. In desperation you conceive wicked designs against that Pied Kingfisher who will keep flying backwards and forwards, but you relent when you see him hover so confidently about five yards from the muzzle of your gun.

Talking of *Ceryle rudis* reminds me of a story of a griffin who was always, according to his own account, shooting Snipe at impossible times and places:—"He never could understand," he said, "why men said Snipe were so difficult to hit. He thought there was nothing easier. Of course they went off at a good pace, but you had only to wait till they hovered, and you generally hit them." A few days afterwards it was discovered that this innocent had been for weeks clearing all the rivers of *Ceryle rudis*, in the fond and confident belief that they were "full Snipe." What he thought of the flavour of his game, history does not say. Well, you let off that "hovering" Snipe, and it is too late to land and beat the paddy fields you knew must lie behind that long embankment for real Snipe. At any rate you may as well shoot two or three good specimens of common birds before it gets dark. There are several *Prinias* flitting about in the thorny bushes close by, and perhaps you have not got them from this locality. You have given up the last faint hope of the Duck on this occasion. So you draw your full charges and substitute half ones, and no sooner is this accomplished, then you see something black in the water coming rapidly towards you. Is it a Snake Bird? No, by Jove! it's an Otter. He comes within twenty yards—sees the boat—stops and looks at you with his head well out of water. You may never have such a chance again, but "confound those specimen charges!" Half an ounce of No. 10, driven by a dram and a half of powder, would make no more impression on his sleek little head than a peashooter on a costermonger's. While you fumble in your cartridge bag for an S. S. G., the Otter looks interested and amused; but just as you have succeeded in making the needful preparations for his immediate execution, the knowing little fellow gives a wink and a grin, and down he goes singing,

"I'm a young man from the country,
But you don't get over me."

Up he comes again after a short dive fifty yards the other side of you. As soon as you can get that idiot with the paddle to turn round you give chase. Down goes the Otter again. At last you get a snap shot forty yards off. Off goes your first barrel, and you see the shot strike the water in a wide circle round his poor devoted head. You hear the flapping of many wings, as, startled by the shot, up gets a large flock of Teal from a bed of green rushes, not twenty yards from the boat. You had passed them without disturbing them ten minutes ago. A lovely shot, but hardly worth taking with an S. S. G. Never mind! they will settle again, and you give strict orders to your man not to take his eyes off them till they are down. Besides, you know you hit that Otter, and are determined to bag him. But the leery brute had dived at the flash, and after a fruitless search of some ten minutes, you see him a hundred yards ahead, quietly land on the mud bank, and with a derisive snuffle, canter off, unharmed, into the mangrove swamp. So you give him up. After all what's the good of an Otter? If you had got him, you would only have kept his skin, till, like everything else in this climate, moths and rats had destroyed it.

But now your friend and admirer of the blind Baglas is quite sure that the Teal, after circling round several times, have settled somewhere in the main channel. So, after a circuitous route in and out of all sorts of winding channels, you at length emerge once more in the open river, and there, sure enough, are the Duck well in the middle of the stream with no cover within two hundred yards on either side of them. While you are debating whether you will go straight at them, as if you didn't mean it, in the hopes of a long shot, you see another flock of larger birds, Wigeon or Pintail, close under the lee of the shore, not very far ahead. There is no time to be lost, for the sun

" Now sinks behind yon ridge,
And the usual evening midge
Is settling on the bridge
Of your nose."

There are high rushes close to the waters' edge, for the tide is half way in. So you determine to land and stalk through the slush. You mark the point opposite which the Duck lie and land, dropping all the loose cartridges in your pocket in the mud. As you do so, you tramp along some hundred and fifty yards in about as pitiable a condition as a fly in treacle, except that the mud doesn't taste or smell quite so sweet as the syrup, and suddenly you come to one

of those horrible ditches with mud up to your calves and water up to your waist. However, there is no good stopping. In for a penny, in for a pound, and you flounder through and scramble up the other side. Unfortunately, this bog-trotting cannot be accomplished without noise. Each time you succeed in extricating a leg from the sticky mire, out it comes with a loud pop like a volley of soda water corks. So when you think you are all there, and cautiously raise your head over the rushes, you find the canny Duck have swum well out from shore, and that, instead of being within 30 yards of them, they have put at least double that distance between you and them. There is no time for further manœuvring, so you blaze away merrily with both barrels, and if you are lucky, succeed in bringing down three birds, at least two of which are quite certain to escape. However, one Wigeon is better than nothing; and, with a sense of partial success, you reseat yourself in your canoe, with your legs dangling placidly in the water, by which process you expect, in good time, to relieve yourself of the superincumbent weight of some twenty pounds of clogging mud, and give the word for "home," meaning that delightful yacht, with an awning of plaited palm leaves which keeps out the breeze and lets in the sun, and which is full of creeping things innumerable.

On your way back to your mud-stranded home, you pause as you come across a clump of *chipi* trees in a mangrove swamp and hear a confused chattering. From all directions parties of Egrets, Herons, Crows, Cormorants, Ibis, Snakebirds and Mynas are arriving in quick succession to this common roost. Each new arrival provokes angry remonstrances from those already seated, and the trees begin to groan under the weight. As you come closer, the noise is deafening. Still you can distinguish the different notes, and loud above all, the nagging "caw" of *Corvus splendens*. A solitary Pond Heron comes sneaking up unobtrusively like an amateur casual, and is immediately set upon by a combined force of Crows and Cormorants. He makes a precipitate retreat and falls foul of some large White Egrets, who resent his intrusion as an impertinence. After running the gauntlet for several minutes, he at length gets a footing on a modest perch, on the lowest branch of a tree, and escaping further observation for a time, curls himself up as small as he can, and tries to go to sleep.

Twilight is departing, and you steal up, though not unobserved, under the dark shadow of the trees. You single out a particularly fine White Egret. You fire, and he falls, and

all the host rises simultaneously with frantic screams. You send the intelligent boatman to pick up the bird, with particularly emphatic injunctions *not* to hold the creature by its wings, and *not* to draggle it in the mud. After floundering about the slush, and apparently having an exciting shikar on his account after a wounded bird, he returns with a miserable specimen of *H. garzetta*, wildly clutching both wings together with one hand, and with the other grabbing it firmly by the neck. It is too dark to see anything more, and you paddle back to the boat disgusted, with a lively sense of the vanity of human wishes. The Wigeon are whistling around you, and you hear them rise close ahead, but you cannot see them,

"For on the silent river
The floating star beams quiver,
And now, the saints deliver
You from fleas."

I have been too garrulous already, but the above is an unvarnished picture of the sport you may expect on a Ratnagiri tidal creek in the cold weather, and of the birds you may see, except that you can only get Wigeon in any number on the Vashishti. You might have varied your programme by landing and shooting a few brace of Snipe; and if you had gone up the steep scrubby slopes of the hills that overhang the creek amongst the Corinda bushes (*Carissas corinda*), you would have flushed a few coveys of *Perdicula asiatica*, and if you had hit on the right place *might* have got a Peacock, especially if you had waited till he had gone to roost on the leafless bough of some ghostly silk cotton tree, and had stalked him through the thorny bushes and clinging undergrowth. You would have seen plenty of Bulbuls and Rock Robins, and several parties of *Pyctoris sinensis*, *Malacocercus somervillii*, *Drymoca inornata*, large flocks of *Merops viridis*, numerous Honey-suckers and Ioras, and one or two Magpies, Orioles and Woodpeckers. In the gloaming you would have seen at least two kinds of Goat-suckers, (*C. monticolus* and *asiaticus*), and would have heard the weird sigh of *Ketupa ceylonensis* and the Húhú of *Ascalaphia bengalensis*; and on a tall mango you might have found a nest of *Limnæus cirrhatus*. But I cannot mention any more possibilities without prematurely giving a catalogue of more than half the birds found in the district.

Returning to the balloon, and once more looking all round, you would see that coursing would be almost as hopeless an amusement as pigsticking, that it would be dangerous to man and beast, and cruel to dogs, not to mention hares and foxes.

So you will break up your stud of greyhounds as soon as ever you are in orders for the South Konkan.

If your weather-eye is open you will also see that a good rifle would be rather an unnecessary embarrassment, on the summit of the Ghâts, a day's journey from any camp in Ratnagiri or Sávant Vádí; there are of course a few localities where bears, sambhar, and an occasional bison may be seen; but the lowlands of the South Konkan hold no big game, and very little small. A few panthers rove about the country, and kill goats and dogs, and lie up by day in the thick temple groves, but they are hard to find, and the natives are unused to marking and tracking. Hyænas are found on the rocky slopes of the highest hills, and pig are plentiful in one or two localities on the hills, which overhang the creeks, where the jungle is still moderately thick, and in the hot weather habitually come down from the hills at low tide to wallow in the mangrove swamps. Four-horned antelope (*Tetraceros quadricornis*) range from coast to Ghâts in suitable places, preferring open country and thin scrub to thick jungle, while barking deer (*Cervulus mantjac* or *vaginalis*) are found in the denser ravines and thickets at the base of the Ghâts. Otters are plentiful on the coast and up the tidal creeks. Hares are scarce, and not worth the trouble of beating for.

But though the larger mammalia are badly represented, reptiles of all kinds, from *Crocodylus palustris* to *Calotes versicolor*, are plentiful. Ratnagiri has the unenviable reputation of being the snakiest place in the Bombay presidency, not so much for the variety of species found there, as for the excessive abundance of that wicked little Viper (*Echis carinata*).

In 1862, within eight days, (December 2nd to 10th) 115,921 nominally venomous snakes, at least 90 per cent. of which were *Echis carinata*, were destroyed at a reward of two annas a snake, and during the rainy months they are still more plentiful, or, to speak more correctly, more often seen. In October last, within ten days, upwards of a thousand of these little pests were brought to me, all alive and kicking, packed in earthen chatties, with loose cocoanut shells for stoppers. But as these are the pages of STRAY FEATHERS and not *Stray Scales*, (an ophiological journal of the future), I will not trouble my readers further on the subject of snakes, but will refer them, if they care for further particulars of *Echis carinata*, to the *Asian* of the 28th October 1879. Luckily the "Phúrsas" keep pretty close to their own homes under the large boulders on the rocky hills, and do not often enter human habitations.

As you sail along you will see very little pasture, save coarse rank grass, and will note the absence of sheep, and the leanness of the stunted kine. Goats alone of the domestic animals contrive to pick up a decent subsistence, browsing contentedly on the few forlorn leaves that sprout through the crevices of the rocks. The few sheep that are brought down from the Gháts to the large towns rapidly deteriorate. Horses lose bloom and condition, and buffaloes give less and thinner milk. So when you visit the South Konkan you must make up your mind to be satisfied with a diet of fish and fowl, prawns, crabs, and oysters, and Alphonse mangoes during the season. Beef you will never get, and if wise you will avoid goat mutton.

COAST LINE.—You will see as you proceed that the coast line is everywhere rocky and dangerous, more particularly so between Malvan and Vengurla. Bold bluff headlands of black rock, bare and gaunt, jut into the sea in close, but irregular, succession. Behind these promontories, and scarcely discernible from the track of coasting craft, lie numerous snug bays and coves edged with white sand. In the more exposed portions of the bays the sand is blown into low hills or dunes, covered with sea pinks (*Spinifex squarrosus*), and sand convolvulus (*C. pes-capræ*) with here and there a madder bush and a rough fence to landwards of screw pines (*Pandanus odoratissimus*), and other shrubs that flourish in a sandy soil. In places cocoanuts are grown in these drifts, but the attempt is not usually successful. The dunes shift so continually with the action of the coast currents and northerly breezes, that they ill repay the expenditure of capital. Years hence they will probably be covered with forests of Casuarina trees.

In places where the hills recede, rich levels of alluvial silt, brought down by the rivers, are found, wherein are made good rice fields and productive cocoanut gardens. Every ten miles or so is a river or a backwater, large enough to form a safe port for a small native craft during the north-west breezes. There are, however, but few harbours open during the south-west monsoon. The water near shore has a good average depth, but the mouths of all the larger rivers, with the notable exception of Vijaydurg, are blocked by formidable bars, which, at all times difficult to navigate, are during the rainy seasons impassable. The estuaries of the principal rivers are flanked by numerous sandbanks, where they meet the ocean's wave, and further inland, with large stretches of mud flats and salt marshes. The tidal gulleets and backwaters are fringed with mangrove swamps of varying extent, thickly covered with *Bruguiera theedi* and other *Rhizophoraceæ*, and peopled

with Herons, Egrets, Rails, Kingfishers, and Mud Fish. A larger area of land has, in these localities, been reclaimed by earth and masonry embankments, and converted into valuable rice fields and excellent Snipe grounds, although, owing to the soil being always impregnated with salt in these *Khārvat* lands, the coarser kinds of rice can alone be produced.

The coast villages, which are situated either on beds of littoral concrete in all the sheltered nooks and bays, or in more marshy soil at the estuaries of the creeks, are very picturesque, if we except the clusters of filthy overcrowded fishermen's huts, which are crammed together at each available landing place, with all the intermediate spaces blocked up by confused heaps of boats, spars, fishing tackle and putrid fish. The houses are built in one or two long lines following the contour of the beach. The better sort are tiled and made of substantial laterite, while the poorer are content with thatched roofs and walls of deep red mud. But rich or poor, each house stands in its own little plot of garden, densely shaded by cocoa and betel palms, and the white flowered Alexandrian laurel (*Calophyllum inophyllum*) which grows so luxuriantly on the coast, and is so valuable for its oil, and the timber it yields for boat building. Such villages, although the air is steamy and close under the dense shade, are a pleasing contrast to the dreary, treeless villages of the Deccan, with their colourless mud huts, and the hideous spectral walls which enclose them.

Besides the above trees, there are found in more or less profusion in all the maritime villages, mangoes, tamarinds, jacks, bhendis (*Thespesia populnea*), banyans, pipals, silk-cotton trees (*Bombax malabaricum*), coral trees (*Erythrina indica*), wild mangostins (*Garcinia purpurea*), cashews (*Anacardium occidentale*), and more rarely jujube trees (*Zizyphus jujuba*), and feathery horse radish trees (*Moringa pterygosperma*); wild date trees (*Phoenix sylvestris*), and the Palmyra palm (*Borassus flabelliformis*) are almost unknown throughout the tract, but the raimād (*Caryota urens*) is common in places. The cashewnut again is more abundant and more highly cultivated in the south of the tract than in the north; about Malvan and Vengorla it is indeed the commonest tree you see, being reared in extensive orchards. These well-wooded coast villages attract naturally a considerable variety of arboreal birds. Minivets (*P. perigrinus*), Drongo Shrikes (*B. atra* and *longicaudata*), Babblers (*M. somervillei*), Bulbuls (*O. fuscicaudata* and *M. hamorrhous*), Orioles (*O. melanocepalus*), Magpie, Robins, Pipits (*A. trivialis*), Mynas (*A. fuscus*), Weaver Birds, Amandavads (*A. striata*), Coucals, Koels and Paroquets perhaps the commonest species met with, not counting Crows,

Kites and Shikras. Outside these shady villages the coast line is bare and rugged, and the trees are few and far between, though here and there, where a sprinkling of crumbling red earth contrasts with the weather-beaten rocks, you see patches of stunted brushwood.

The headlands which guard the approaches to the larger rivers are uniformly crowned, as indeed are all the larger hills and coigns of vantage inland, with the ruins of old Marátha forts. There are as many of these grand old strongholds, as there are days in the year. The majority were either built, restored, or added to by the great Sivaji Bhonsle, two hundred odd years ago. Many have interesting histories attached to them, and some, such as Suvamdurg (the golden fort) and Vijaydurg, are closely associated with British deeds of prowess in old times when the coast was overrun by the piratical Grabs and Gallivats of the Angrias and the Sávants of Vádí. Two of these forts, Suvamdurg off Harnai, and Sindhudurg off Malvan, are built on rocky islands separated from the mainland by narrow channels.

Between Malvan and Vengorla are a number of rocks and reefs of all sizes, called the Burnt Islands, the *uheos queimados* of the Portuguese, one of which, lying some six miles from the nearest mainland, is celebrated as a breeding haunt of *Collocalia unicolor*. Swallows, Swifts, and Crag Martins (*H. erythropygia*, *C. affinis*, and *P. concolor*) are abundant about all the rocky headlands at the base of the cliffs, and travelling up the more open portions of the coast, you see, in addition to the usual shore birds, Gulls and Terns, behind almost every other boulder a *Thamnobia fulicata* and an occasional Blue Rock Thrush, while every now and then a grand old Sea Eagle (*Haliaeetus leucogaster*) beats up the shore, and with a mighty rush plunges on an unsuspecting *Hydrophis*. Brahminy Kites, too, are common about all the coast villages, and are skilful crab-catchers and occasionally, but not often, you may see a Perigrine.

INLAND TRACTS.—Above the beach, at the summit of the cliffs, you will see an irregular, but withal well-defined belt, of laterite, running parallel to the coast, and stretching inland for from fifteen to twenty or more miles. This part of the country is a series of raised peaks and plateaus, capped with sheets and boulders of the black slag-like Konkan laterite, and cut through by innumerable streams and watercourses. The dismal barrenness of the uplands is, in great part, redeemed by the well-wooded fertile valleys which divide the table lands. Some of these ravines are mere rocky beds of mountain torrents, dry, save in the monsoon; but through the larger valleys wind the tidal rivers, leaving on their banks rich beds of alluvial silt for rice

fields and cocoanut gardens. So abruptly does their course change from point to point that they appear like land-locked lakes, until the passing of a hill reveals the channel at right angles to its former course.

The laterite resting unconformably on the trap, covers a very large area of the South Konkan, and is in places of great thickness. It extends in one continuous sheet from Bankot to Malvan, the trap being exposed in the coast section, only in the deepest cuttings and at the base of the cliffs. From Malvan southwards and in Sávant Vádí the laterite still crops up, but in irregular outliers; near the coast metamorphic rocks, granites and quartzites, not found north, are freely exposed in Malvan, Vengorla and Sávant Vádí, relieving with their greyer tints the obtrusive reds and blacks of the laterite. But the latter is everywhere the prevailing rock, which gives a tone to the whole country. Whether the Konkan laterite is, as some assert, the product of decomposed trappean rock, or whether, as others argue, on apparently better evidence it is of purely sedimentary origin, is still a vexed question which the geologists must settle. It varies, however, much in its character, being harder and more compact to the north, and softer and more mixed with shales, clay, and conglomerate in the south. The best that can be said of it is, that although it doesn't always cut quite like new cheese, it is, as a rule, easily quarried and cut into large slabs; and that though not always quite watertight, it is a cheap third-rate building stone, well suited to the needs of the population. But if the pillars of your verandah be made of laterite, be sure, unless you wish the first heavy shower of rain to stain everything within reach with a fast red brown colour, to have them coated with chunam.

These laterite plateaus, which in some places are level, in others undulating, have a general elevation of from 200 to 300 feet, and a gentle but perceptible rise to the east. They are dreary, black, weather-stained wastes, monotonous to a degree, and indescribably depressing to your spirits until you catch beyond them lovely peeps of wooded valleys and winding rivers in the ravines below. Throughout the greater part of the year there is no vegetation to be seen on the table lands but cactus bushes and a few stunted trees; but during the rains, as if by a miracle, all the crevices between the rocks are filled with a wealth of maiden hair and parsley fern, while caladiums, arums, lilies, (*Gloriosa superba*) and other plants and creepers springing up in all directions, convert these wilds into a botanists' paradise. The "flame of the forest" bursts into flower on all the slopes, while the purple larkspur and wild balsams cover the level uplands. Grass, coarse and rank, but refreshing in its greenness, sprouts everywhere. In all the

small basins or depressions which occur here and there on the tops of the laterite hills, you see diminutive rice crops, and wherever the crumbling of the laterite gives a few inches of stiff ferruginous soil, a few stalks of *Nachni* (*Eleusine coracana*), *Vari* (*Panicum miliare*), *Harik* (*Paspalum scrobiculatum*), and the golden-blossomed *Til* (*Guizotia oleifera*) may be seen. To rear these slender crops a vast amount of labour is expended. Soil is frequently brought from a distance to fill into the cavities of the rocks. All the dry brushwood and grass available is collected and burnt on the surface of the fields. Cow dung, goat's dung, decayed fish, and any other manure procurable is added to the ashes. Then, after repeated ploughings and harrowings and brushings, the seeds are sown in a carefully prepared nursery, and the seedlings afterwards transplanted with incredible labour. On the steeper slopes, where ploughs are out of the question, and where men can scarcely crawl, the pick is used instead, and the seed sown broadcast, after the usual burning of grass and brushwood.

Of course the same change, though to a lesser degree perhaps, is observed everywhere after the monsoon has set in. In the towns and villages the old laterite walls become covered with thick masses of ferns—the baked rice fields in the valleys are transformed into cool green terraces—the deciduous trees, leafless and withered during the hot weather, are again clothed with fresh verdure, while rills and cascades innumerable splutter down every hill side.

The species of birds which abound most on the laterite tablelands near the coast are *Spizalauda malabarica* and *Pyrrhulauda grisea*. Doves (*Turtur suratensis*), Shrikes (*L. erythronotus*), Buschats (*Pratincola caprata* and *indica*) are also common, and of course *Buchanga atra* is everywhere. Courier, Plovers, Yellow Wattled Lapwings are found occasionally, and Stone Plovers rarely, while flocks of Golden Plover habitually resort to these stony uplands at high tide during the cold weather.

Between the seaboard, where the laterite crops so plentifully to the surface, and the pure trap range of the Ghâts, lies an intermediate belt where both trap and laterite are irregularly exposed. This portion of the country is less rocky than near the coast, and more undulating, while the hills are higher and less bare. The uplands are more generally cultivated, and the valleys are, on the other hand, less fertile; as near the coast, the village homesteads, lying in the glades and hollows, are well wooded with mango, tamarind and jack trees. But the general aspect of the country is, during the dry season, hardly less rugged and sterile than the seaboard.

The evergreen trees of the coast, cocoanuts, betelnuts and Alexandrian laurels are, to a great extent, replaced by deciduous trees, such as the "Ain" (*Terminalia glabra*), the "Kinjal," (*Terminalia paniculata*), and in a few localities by puny teak (*Tectona grandis*). The burning of the grass and brushwood for ash manure on all the uplands and hill sides gives the whole country side a blackened and withered appearance, intensified by the leafless pollarded trees, which everywhere meet your eye. But even here there are dotted about pleasant groves marking the shrines of some rustic deity, where, from ages past, no branch or stick has been suffered to be cut. These sacred groves are seldom of large extent, but often present a mass of luxuriant vegetation. Overhead are lofty trees, such as the Sâtvin (*Alstonia scholaris*) and the Bêl (*Marmelos ægle*), overgrown with creepers, ferns, and orchids, while numerous parasites, trailing in long, graceful festoons, join tree to tree with endless links. Below is a mass of tangled bush and scrub, dense thickets, penetrable only by one of two narrow paths which lead from either end to the rude temple which lies thus hidden in the inner depths of the grove.

Grand places are these groves for Woodpeckers of all sorts, Barbets, Ioras, Tits (*M. aplonotus* and *Z. palpebrosa*), Thrushes and Blackbirds (*G. cyanotis* and *M. nigropileus*), Blue Redbreasts, (*Cyornis tickelli*), Green Pigeon, and many another birds. Wherever you see on hill side or valley a particularly thick patch of jungle, you may be sure it is a *dévran* or temple grove. Fortunately, they are pretty common, especially in the inland tracts. With the exception of about 2,000 acres of teak plantations near Dapuli, and a few small reserves in the Malvan sub-division, there are no forests worth the name throughout the Ratnagiri district, though a considerable area of sheet rock, and almost perpendicular trap scarp has, with a pleasant irony, been declared by the Government to be forest reserve. In Sâvant Vâdi, however, as before explained, the jungles have been very strictly preserved; and, although there is little timber of any value in them, the well-wooded hills and dales shew a refreshing contrast to the generally denuded condition of Ratnagiri.

On the tops of some of the highest hills between Ghâts and sea, there are, here and there, patches of evergreen jungle, where birds and plants, usually associated with the higher ranges of the Ghâts, are found; but the earth-hunger, which over population causes, leaves but a small part of these hills to nature. On the steepest slopes up to the very scarp

the jungle is cleared and burnt by the hungry peasant. Their inaccessibility to man alone has hitherto preserved what trees and bushes still protect the head waters and gathering grounds of the South Konkan rivers. Tons and tons of soil are thus annually washed down the hill sides into the river beds, and so the tidal creeks, the chief highways of the district, silt up, and merchants grumble, as old-established wharfs and quays become, year by year, accessible only to boats of smaller and still smaller draught. In old days, when the South Konkan was undoubtedly a forest tract, large country crafts could work up with the tide, and load with ease, at many places, where now nothing but a flat-bottomed tub or a small canoe can approach. This is, as I hear, a native friend remark, "one of the baneful effects of civilisation." It is a drawback certainly, and only to be repaired by keeping steadily in view for many long years what a high official used to call mysteriously "the higher objects of the Forest Department." But on the other hand it must be acknowledged that, though much material wealth has been buried in the process, a howling wilderness has been transformed into a peaceful and fairly prosperous tract.

GHAT RANGE.—From all parts of the tract the scarp line of the Western Gháts bounds the eastern horizon, forming a conspicuous inland cliff, varying from two to three thousand feet in height. The belt of lowland at the foot of the Gháts, broken up by the countless spurs and knolls, thrown out westwards from the main range, and intersected at every point by precipitous ravines and rocky river beds, is a rough bit of country to get over. The grand old hills rise almost sheer in places from base to crest like a giant wall, majestic and impregnable, in an endless vista of peaks, bluffs and headlands. The hills which form the main range are easily distinguishable from any of the spurs that roughen the surface of the country from the western face to the sea. The forest on the lower slopes and at the foot of the range is seldom thick, except in the more sheltered gorges, or where small patches have been preserved round rude hill temples. On the higher slopes immediately below the massive scarps, where a goat can scarcely climb, and even the hardy hill peasant fears to tread, there are patches of evergreen jungle, where you may hear the cocks crowing, the loud call of the Green Barbet, the whistle of the "lazy school boy" (*Myiophonus horsfieldi*), the song of the Sháma, and the clear ringing notes of the Scimitar Babbler. But it is not till you reach the summit of the range, and cross the watershed into the highlands or Konkan Ghát Mahta that you see thick and con-

tinuous belts of evergreen forests, and feel yourself fairly amongst the mountain fauna.

A large area of the western slopes, inaccessible as they seem, is annually under cultivation, and burnt hill sides and withered saplings reveals, but too clearly, the ruthless work of axe and fire. But above all this amongst forests of Anjan (*Memecylon edule*), Jambuls (*Eugenia jambolana* and *salicifolia*), Jasund (*Antiaris saccidora*), Géla (*Randia dumetorum*), Hirda (*Terminalia chebula*), Wild Jack (*Artocarpus hirsuta*) and other evergreens, you are alone with nature, in a very pleasant kind of way. And when you gaze from some giddy precipice on the steamy littoral below you, with its endless confusion of bare brown hills, stretching mistily to the west, its fire blackened fields, and its rivers like tangled threads; and when a glowing sunset reveals the far ocean as a faint streak in the dim horizon, and bathes the hills in liquid violet, you admire the grandeur of the scene, but devoutly hope, especially if the hot weather has set in, that you may never never return to that abyss of moistened heat below.

The change from the languor of the Konkan to the bracing air of the Western Gháts is, in fact, "too awfully jolly." The scenery of the Ghát range, as you climb the crests of any of the passes, is glorious, and with trailing mosses and orchids overhead, and Brachen and silver fern under your feet, you feel, if you are not a discontented misanthrope, with a liver, or a grievance, an ecstasy of exhilaration.

On the other hand I must confess that as regards birds I have always been more or less disappointed in my rambles in the higher Ghát ranges. I could name at least a dozen species which I know to occur in the Western Gháts, but of which, time after time, I have failed to get the slightest glimpse. Perhaps one expects too much both in variety and abundance of species, but it is disappointing when you are particularly anxious to get a *Harpactes fasciatus*, a *Dendrophila frontalis*, a *Xantholaema malabarica*, a *Hemicircus canente*, or an *Irena puella*, to see nothing but a few parties of *Pycioris sinensis* and *Alcippe poiocephala*, and many *Pratincola caprata* and other common species which you need not have climbed so high to get.

The changes, in both animal and vegetable forms is, in fact, not nearly so great as you approach the higher elevations of the Gháts from the west or Konkan side, as from the east or Deccan side. There are very few species characteristic of the Ghát region which are not found on the western slopes, as well as on the crest of the range; and many of these birds, as the localities entered in my list will shew, descend the Gháts and appear in wooded tracts near the sea. On the other hand very few,

if any, of the hill species ever descend eastwards to the dry Deccan plains. The western Green Barbets, the Spotted Dove, the Rose-headed Paroquet, the Jungle Myna, and the Red-whiskered Bulbuls, which are seldom if ever seen at any distance to the east of the main range, are yet more or less common throughout the sub-ghát littoral, from the sea to the Gháts. Numbers of similar instances might be quoted. The comparatively heavy rainfall of the Konkan, as compared with the Deccan, is obviously the true explanation of this difference in forms. As Mr. Hume pointed out in his article in *STRAY FEATHERS* (Vol. VII., p. 502) "the average rainfall is the most potential factor in determining the distribution of species where birds are concerned." The whole of the Konkan, from the coast to the summit of the Sáhyádri Range, falls within the moist zones of 70 inches and upwards rainfall. The eastern slopes and spurs of the great Ghát range, before reaching which the rain clouds have spent their fiercest force, belong to the intermediate zones, wherein the rainfall ranges from 50 to 70 inches. The dry zone, of between 15 and 30 inches rainfall, is reached a few miles east of the main range, where the spurs subside into the Deccan plains.

The Gháts are crossed at intervals by steep mountain passes, the least precipitous of which are passable by pack bullocks. During the last twenty years much has been done in improving the communication of the district. At three of these passes in the Ratnagiri and Sávant Vádí districts good cart roads have been made. The Kambhārli Ghát road brings the old port of Chiplun on the Vashishti river in direct communication with Karád and the cotton districts between Sattara and Kolapur. The Phonda Ghát road places Kolapur and Nipani in communication with the Ratnagiri ports of Rájapur, Vijaydurg, Devgad and Malvan, while the Ambola Ghát road provides an easy outlet from Belgaum to the coast at Vengorla. During the fair season there is an active traffic along all these roads. Cotton, food grains, molasses, ghi, gall nuts, oil nuts, turmeric, chillies, tobacco, and other produce of the Deccan passes over the Gháts, to be shipped at the nearest Ratnagiri ports for Bombay and the Malabar Coast, while by the reverse route piece goods and metals are carried from Bombay to the Deccan districts. Ordinarily no food grains are sent eastwards, but during the famine of 1876-77 about 90,000 tons of grain were poured into the affected tracts of the Deccan. A fourth cart road passing over the Amba Ghát direct from Kolapur to Ratnagiri is now under construction, and the new road from Mahableshwar to Mhar, at the head of the Savitri river, connects the Northern Ratnagiri districts with Sattara.

All the principal towns in Ratnagiri are situated either on the coast or at the heads of the tidal creeks. Chiplun, Rajapur and Vengorla are, however, the only towns having any considerable trade.

To return to the configuration of the country once more, and for the last time, you will no doubt wonder, as you see the ocean on one side and the great Sáhyádri Range running parallel to it, as a huge inland cliff, whether the sea has receded from the Gháts, or whether the denudation of the Konkan has been accomplished by rain and rivers alone. Geologists, as far as I can learn, are still in doubt on the point, and the true history of this little portion of the earth's crust still remains to be written. As the subject is important I cannot do better than quote Mr. Blanford. He says* :—"It is impossible to see this cliff (the Sáhyádri Range) without speculating on the possibility of its origin being due to marine action. A depression of about 1,000 to 1,500 feet would leave the crest of the Sáhyádri everywhere, at least 500 feet above the sea, with a few spurs jutting out of capes, and such plateaux as Matheran remaining as islands; all the lower hills would be covered. It is true that in India at the present day sea cliffs are rare and exceptional, but this fact is due to the circumstance that the large quantity of detritus, brought from the interior by rivers, tends to protect the coast. As the drainage from the crest of the Gháts is eastwards, no rivers, and only very small streams, would have run into the sea from the Sáhyádri, and cliffs would necessarily have been formed. Of course any marine denudation of the Konkan must have taken place at a sufficiently distant date for the surface of the country and the form of the cliffs to have been greatly modified by subærial denudation, after the period of elevation above the sea.

"There are two difficulties to be accounted for in supposing that the Sáhyádri scarp is an ancient line of sea cliffs. One is the circumstance that if the Konkan was beneath the sea, whilst the cliffs were being cut, marine deposits must have formed to a considerable extent; none of these deposits have, however, hitherto been detected. The other difficulty is the irregularity of level at the base of the scarp. As the surface of the sea is uniform in height, it always cuts back a line of cliffs from a horizontal coast line. Further research is necessary before it can be stated either that marine deposits are wanting in the Konkan, or that no trace of an original shore line can be detected; and it is certain that both marine

* Articles on the Geology of portions of the Bombay Presidency, written for the *Bombay Gazetteer*, 1878.

deposits and the line of coast would tend to be rapidly obliterated in a country where the rainfall is so heavy as it is along the western face of the Sáhyádri range. Such a scarp, as that of the Sáhyádri, might probably be formed by fresh water denudation alone, for somewhat similar cliffs may be traced north of the Nerbudda, along the edge of the Malvan plateau, and there is no reason to suppose that marine denudation has aided in their formation. The chief peculiarity, indeed, in favour of a marine origin in the case of the Sáhyádri scarp is its approximate parallelism throughout so great a distance with the present coast line.

"There is, however, one curious circumstance which tends strongly to suggest that the cliffs of the Konkan are of marine origin. Upon all the precipices of the Sáhyádri, and on the steep sides of Matheran, and probably on other plateaux, a kind of mollusc is found so closely resembling in shell, animal, and habits one of the *Littorinæ*, or periwinkles of the Indian coast, that it is difficult to believe that the two forms have not the same origin. The Sáhyádri shell (*Cremnoconchus sáhyádrænsis*) differs, in fact, from such forms as *Littorina malaccana*, chiefly in having a greenish epidermis like other fresh-water mollusca. The *Littorina* lives on the face of the rocks above high water mark, where the spray of the sea only reaches it occasionally, and it frequently remains dry and torpid for weeks, perhaps for months at a time. *Cremnoconchus* similarly remains attached to the dry rock for more than half the year, and is only recalled to active life in the rainy season, when water trickles down the cliffs. It is far from improbable that the *Cremnoconchus* is the altered descendant of a *Littorina* which inhabited the cliffs of the Western Gháts when they were washed by the sea. Besides *Cremnoconchus*, two other species of the same genus exist, all like the type, confined, so far as is known, to the cliffs of the Sáhyádri range and its immediate neighbourhood.

"Whichever view be adopted, whether the denudation of the Konkan be ascribed to rain and streams, or to the action of the sea, supplemented by subærial (fresh water) agencies, it is clear that all this low ground has been carved out from the original Deccan plateau, which must, originally, have extended westward to the neighbourhood of the present coast. A thickness of at least 4,000 feet of rock, and probably considerably more, has been removed by one agency or another from the surface of the Konkan Valleys."

Mr. Blanford, it will be seen, does not commit himself to either view. It may not be uninteresting to note here the popular Hindu tradition as to the origin of the Konkan.

Vishnu, in his incarnation of Parasrá́m, had, with boundless generosity, given away, little by little, all the land in the Deccan to pious Brahmans, till he had no spot whereon to rest his head. He then went to the edge of the Sáhyádri cliff, which was then washed by the sea, and called on Varuna, the god of the ocean, to yield him up a space of dry land. Varuna, who had a grudge against Parasrá́m, refused; and the latter determined to use his miraculous power, and compel the ocean to recede, so he took his bow and arrow and shot a shaft into the sea, with the command that the waves should retire to the spot where the arrow fell. Originally he intended that the arrow should travel for 40 koss, or about 100 miles, but this intention was partially frustrated by the craftiness of Varuna. Shortly before this episode, the ocean deity had taken compassion on a carpenter bee which had fallen into the sea, and had carefully restored it to dry land. On divining Parasrá́m's intention Varuna at once bethought him of the bee, and pressed it the night before the day fixed for the miracle, to bore a hole through the string of Parasrá́m's bow. The grateful bee accepted the office with alacrity, and performed his task so well, that when the eventful moment came, the string snapped, and the shaft, instead of flying 100 miles, fell within about 50 miles of the cliffs. To this point, and no further the waves receded, and Parasrá́m took up his abode in the narrow strip thus reclaimed, and called after him in Hindu books *Parasrá́m Khé́ter*. His head-quarters were at the village of Pédhe or Parasrá́m on a high hill overhanging the Vashishti river, nearly opposite the town of Chiplun. This place is also celebrated as the birthplace of the powerful sect of Chitpávan or Konkani Brahmans.

No detailed account of the numerous hills is necessary for the purpose of this paper. Here and there, detached from the main Ghát range, are hills almost rivalling in height the Sáhyádri scarp, but they are few and far between. Close to Khed, at the north-east angle of the district, are three isolated hills of considerable height, rising in a line parallel to the Sáhyádri chain, and separated from it by a narrow valley. These are the hill forts of Mahipatgad, Somargad, and Rasalgad. All are strongly fortified, and the first faces Makarandgad, the well-known saddleback of visitors to Mahableshwar. Mandangad, to the north of Dapuli, fourteen miles from the sea, though of lower elevation, is a conspicuous land mark for many miles round, and its higher slopes are fairly covered with jungle. The only other hill worth mentioning is Máchal, lying close to, but detached from, the Gháts by a narrow gorge, east of Ratnagiri. Unlike most of the Konkan hills, which are

capped by narrow ridges, Máchal is crowned by a broad open plateau, some 2,500 feet above the sea.

The following table shews approximately the elevations of some of the localities where collections have been made :—

Approximate Elevations.

Dapuli	... 800 feet	6 miles from coast.
Mandangad	... 1,500 "	15 " " "
Ratnagiri Fort	... 300 "	Coast.
Bánda	... 2,200 "	Ghát range.
Mánbet	... 1,800 "	Do. a mile or two east of watershed.
Dajipur	... 1,600 "	Khind at top of Phonda Pass.
Phonda	... 2,000 "	Top of ghát.
Múrshi	... 2,200 "	Top of Amba ghát.
Sávant Vádí	... 355 "	17 miles from coast.

RAINFALL.—I subjoin a table showing the average rainfall for the last ten years at each of the registering stations in the district. As a general rule it will be seen that the rainfall, all other conditions equal, is heavier or lighter according as the station is further from or nearer to the Gháts. The exceptions are Sávant Vádí and Mandangad. The proportionately higher rainfall of the former, is, I believe, sufficiently accounted for by the heavy jungles which surround it; while Mandangad, although nearer the coast, has a much greater elevation than any of the other inland stations from which observations have been recorded.

AVERAGE RAINFALL.—

Coast Stations—

Gahagar	 76 inches.
Ratnagiri	 101 "
Devgad	 113 "
Malvan	 74 "
Vengorla	 91 "

Inland Stations—

Mandangad	 133 inches, 15 miles from coast.
Dapuli	 112 " 6 " " "
Khed	 130 " 18 " " "
Chiplun	 126 " 24 " " "
Sangameshvar	 127 " 20 " " "
Lanje	 127 " 20 " " "
Rajapur	 113 " 15 " " "
Sávant Vádí	 147 " 17 " " "

The humidity of the Ratnagiri station is relatively great. According to the formula used by the Meteorological Reporter, the average means at 10 hours in 1878 was 64·75 per cent., and at 16 hours or 4 P.M. 69·66 per cent.

Thermometer readings at Ratnagiri from 1871 to 1878 shew the mean annual temperature to be 81°55', and the range between the greatest and least monthly means 9°12'. The mean annual temperature of Dapuli from 1871 to 1877 has been recorded 76°21', or rather more than 5 degrees lower

than Ratnagiri. The temperature at Vengorla in the south is very slightly in excess of that of Ratnagiri.

On the sea coast, and for some miles inland, as far as the sea breeze penetrates, the climate is very equable though enervating and relaxing, extremes of heat and cold being never felt. Further inland, and at the foot of the Gháts, both days and nights during March, April, and May are oppressively hot. The sea breeze passes high over head, and the heat is further intensified by the refraction of the great trap scarp of the Sâhyâdri Range.

DISTRIBUTION.—The total number of specimens as yet collected is too small, I am afraid, to warrant any definite conclusions as to the distribution of the various species within the limits of the small tract under notice. I have, however, entered in the list the exact localities at which the various species have been either shot and preserved, or found breeding. The entry of these localities does not necessarily denote that the species is restricted to these specified places. I have endeavoured, as far as I can, in my remarks regarding each species, to give all the information I possess as regards its distribution. But in the case of the rarer species, this information is necessarily meagre and inconclusive. In order to show the distribution as clearly as is possible I have divided the tract into three longitudinal belts. In the first I include all the places on the sea coast or its immediate neighbourhood where specimens have been collected. The second division I call the central inland belt extending from a line drawn parallel to, and about eight miles distant from, the coast to the foot of the Western Gháts. The last belt includes all the area from the summit to the base of the Gháts. For convenience of reference I append a key to all the localities mentioned in the paper, arranged in order from north to south, according to these three divisions. By the aid of this key and the accompanying map the position of any locality mentioned can be at once fixed. The characteristic features of each belt are also briefly summarised. In the list of the species all the coast localities are printed on the left hand side of the page, those of the inland central belt in the middle, and the places in the Ghát range on the right, so that it can be seen at a glance in which parts of the tract from east to west any species has been obtained.

After some consideration I thought this would be the best plan, since narrow as the tract is in comparison with its length, its physical features vary more from west to east than from north to south. This arrangement will show, though imperfectly, the vertical range of the species according to elevation, from the sea level up to about 2,500 feet. There are, for

instance, many forest-loving species, which are not as a rule found outside the Ghát region. They keep to the evergreen jungles on the slopes and spurs of the mountains, rarely crossing the belt of low and comparatively bare plain country which intervenes between the foot of the range and the Gháts. Where such species are found near the coast their presence is usually to be accounted for by continuous belts of jungles stretching from the spurs of the Gháts westwards to the sea. To the north of Ratnagiri no such jungles are found, and consequently the species most characteristic of the hill region are there rarely found near the coast. In the south, throughout the well-wooded Sávant Vádí State, such links occur, and many of the hill species there find their way to the coast at Malvan or Vengorla. The most prominent instances of this are, *Myiophonus horsfieldi*, *Pitta brachyura*, *Petrophila cinclorhynchus*, *Alcippe poiocephala*, *Pomatorhinus horsfieldi*. All these species have been found on the coast either at Malvan or Vengorla, but have not been found west of the Ghát range in the country north of Ratnagiri. Other Ghát species, such as *Pericrocotus flammeus*, *Hypsipetes ganeesa*, and *Criniger ictericus*, although not found anywhere on the coast, descend the Western Gháts to Sávant Vádí, to a point intermediate between the sea and the foot of the range.

To make the distribution perfectly clear, however, it would be necessary to divide the district into two or more lateral zones from north to south; but my collections from the south have not been sufficiently exhaustive to make such a division so useful as it otherwise might be.

It is, however, worthy of note that of the 284 species entered in the list, the following 18 species have as yet only been obtained at the extreme south of the tract, in the Sávant Vádí forests or the neighbouring districts of Malvan and Vengorla.

39. <i>Spilornis cheela</i> .	216. <i>Rhopodytes viridirostris</i> .
81. <i>Ninox lugubris</i> .	239. <i>Dicaeum concolor</i> .
98. <i>Cypsellus melba</i> .	253. <i>Dendrophila frontalis</i> .
103. <i>Collocalia unicolor</i> .	269. <i>Volvocivora melaschista</i> .
118. <i>Merops philippinus</i> .	281. <i>Buchanga caerulea</i> .
130. <i>Halcyon pileata</i> .	285. <i>Dissemurus paradiseus</i> .
202. <i>Cuculus sonnerati</i> .	286. <i>Chibia hottentotta</i> .
208. <i>Cacomantis passerinus</i> .	287. <i>Artamus fuscus</i> .
213. <i>Coccyzus coromandus</i> .	469. <i>Irena puella</i> .

Several of these no doubt occur to the north of Sávant Vádí, and their having escaped notice elsewhere may of course be accidental; but I believe that the Sávant Vádí jungles, and their outskirts will be found to be the northern limit, on the west coast of *Cypsellus melba*, *Collocalia unicolor*, *Merops*

philippinus, *Rhopodytes viridirostris*, *Dendrophila frontalis*, *Dissemurus paradiseus*, *Chibia hottentotta*, and *Irena puella*, to which may be added *Harpactes fasciatus*, *Merops swinhoii*, *Xantholæma malabarica*, recorded by Mr. Fairbank from Sâvant Vâdi.—(S. F., IV., pp 254, 255.)

Conversely there are many species entered in the list, which, although comparatively common from Ratnagiri northwards, have not yet been recorded from the south of the tract. This is in great part due, no doubt, to the meagreness of our collections from the south as compared with those made in the north. It is, however, possible that some of these species reach their southern limit, somewhere in the northern half of the tract.

With these remarks, which I fear will have tired out all possible readers long ere they have reached the end, I will now go on with the list of species found, and will only add in conclusion, the saving clause or declaration invariably attached to official bills, "errors and omissions excepted."

Key to places entered in the map from north to south.

SEABOARD.

CENTRAL INLAND
BELT.

GHAT RANGE.

Headlands bare and rocky. Bays fringed between cliffs and sea with dense gardens of cocoa and betel palms. Estuaries bordered with mud flats, salt marshes, and thick mangrove swamps. At the summit of the cliffs rugged and bare hills, and rocky plateaus. Valleys deeply cut and more or less tree covered. Cultivation in most part restricted to valleys and alluvial deposits on banks of tidal rivers.

Hill sides bare or clad with thin scrub and pollarded trees, except in Sâvant Vâdi, where the forests are strictly conserved. Valleys fairly wooded and village sites everywhere well shaded with mango, jack, tamarind, banyan, pipal, cashewnut and other trees. Country more undulating than near the coast, and less rocky.

From base to watershed. Country broken up by countless spurs and deep ravines. Jungle thick and evergreen on sheltered slopes, and in the valleys, thin on the sides exposed to the S. W. monsoon.

Bankot.
Kelshi.
Ade.
Anjarle.
Harnai.
Suvamdurg Fort.
Dabhol.
Anjanvel.
Pêvé, 6 miles inland.
Guhâgar.
Pâchéri, 6 miles inland.
Ratnagiri.
Vijaydurg.
Dêvgad.
Mâlvan.
Vengorla.

Mahapral.
Mandangad.
Palgad.
Dhamni.
Dapuli.
Khed.
Lavel.
Chiplun.
Aroli.
Sangameshvar.
Vandri.
Nivli.
Lanje.
Râjapur.
Vâghotan.
Tanasgaon.
Kankavli.
Dhâmâpur.
Sâvant Vâdi.

Durga Vâdi.
Gotnc.
Dêvrûkh.
Mûrshi.
Bâvda.
Manbet.
Kasarde.
Phonda.
Dâjipur.

List of Species.

2.—*Otogyps calvus*, Scop.

Ratnagiri.		
Malvan.		

Rare. Dr. Armstrong got a specimen from Ratnagiri, and I have one from Malvan.

4.*—*Gyps indicus*,† Scop.

Common, especially in the large coast villages; but I have found no breeding places in the district.

5.*—*Pseudogyps bengalensis*, Gm.

The common Vulture of the South Konkan breeds from October to January. Nests are usually found in mango or silk cotton (*Bombax malabaricum*) trees. As a rule not more than one nest is seen on each tree, but I once found within a few feet of each other on the same tree a nest of this species and of *Neophron ginginianus*.

6.*—*Neophron ginginianus*, Lath.

Rather scarce, both on the coast and inland. I have seldom seen more than one pair in any one place below the Ghâts. Above the Ghâts in Sattara it is, I think, the commonest of all the Vultures. The only two nests I have found in this district contained two young ones each in January, and were both built in forks of mango trees.

8.—*Falco peregrinus*, Gm.

Suvamdurg Fort.		Gotne.
Vijaydurg.		

Rare. Its favourite haunts are the perpendicular scarps of the Sâhyâdris, and the ruined island forts on the coast.

16.—*Falco chiquera*, Daud.

Ratnagiri.		
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The only pair I have yet seen in the district were shot at Ratnagiri in October 1878. The species is common in the Deccan plains, but doesn't appear to descend below the Ghâts, except on rare occasions.

17.—*Cerchneis tinnunculus*, Lin.

Ratnagiri.		Palgad.
Malvan.		Sâvant Vâdi.

† The species here referred to is most likely to be *Gyps pallens*, No. 4 bis, of the Tentative List. Unfortunately no specimens have been sent for identification.—Ed., S.F.

Common in the cold weather throughout the tract, especially on the more open and undulating plains.

23.—*Astur badius*, Gm.

Kelshi.	Savant Vádi.	Dévrukh.
Ratnagiri.		
Málvan.		

Common everywhere about villages and groves of trees. Breeds in March and April.

31.—*Hieraetus pennatus*, Gm.

Guhágar.	Palgad.	
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21st January 1879, *Male*.—Length, 19; wing, 15; tail, 8; tarsus, $2\frac{1}{2}$; mid toe and claw, $2\frac{1}{2}$.

16th March 1879, *Male*.—Length, $20\frac{1}{2}$; wing, $15\frac{1}{2}$; tail, 9; mid toe and claw, $2\frac{1}{2}$; irides golden; cere yellow.

Rare. I have not seen it in this district, except at the localities mentioned.

35.—*Limnaetus cirrhatus*, Gm.

Kelshi.	Mahapral.	
Guhágar.	Mandangad.	
Póvó.	Palgad.	
Ratnagiri.	Dhámni.	
	Dapuli.	
	Khed.	

1st May 1878, *Adult Male*.—Length, $25\frac{1}{2}$; wing, 16; tail, $11\frac{1}{2}$.

15th February 1878, *Adult Male*.—Length, 28; wing, 16; tarsus, 4; mid toe and claw, 3.

18th January 1879, *Adult Male*.—Length, $25\frac{1}{2}$; wing, $16\frac{1}{4}$.

21st February 1878, *Young Female*.—Length, $29\frac{1}{2}$; expanse, 49; wing, $15\frac{1}{2}$; tail, $11\frac{1}{2}$; tarsus, 4; mid toe and claw, 3; (breast almost pure white.)

Irides from pale straw colour to deep yellow; bill black; cere and feet yellow; the breast markings vary considerably. In young birds the breast is pure white, or with a few faint central streaks or spots at the sides and on the flanks. In adults the white breast is more than half covered by large dark brown lozenge-shaped spots. Between these phases of plumage every gradation is met. The shade of the upper plumage similarly varies from pale rufescent brown to dark hair brown.*

A young bird which I took from the nest on the 1st April 1879, apparently about five weeks old, had the feathers of the back and upper parts pale wood brown with whitish margins; the head was paler still and slightly rufescent; the white

* See also the Editor's remarks, S.F., IV., 358.

margins of the feathers widening towards the forehead which was grisly white; the irides were in this bird pale bluish grey; the cere as well as the bill was black, and the legs were pale chrome yellow; the breast and under parts were pure white, save a few brown streaks at the sides and on the flanks; the crest was half developed.

This is the commonest Eagle in the district, but I have found it more abundant to the north than to the south. It ranges from the Coast to the Ghâts, keeping to well-wooded tracts at all elevations. I have seen it strike at Bush Quail, and unsuccessfully chasing Green Pigeon from tree to tree. I have also seen it in the act of killing a small viper, drawing itself up to its full height with its head back, and its crest lowered like the ears of a vicious horse, and its feet well to the front, clawing and striking the snake with great vigour, but keeping it at a safe distance from any vulnerable part. I have heard also of one having been seen attacking a mongoose, but I cannot vouch for this. On taking a nest from a tamarind tree close to a house on the sea beach at Guhagar, I was told that the old birds had carried off successively four young kittens from the premises.

The Crested Hawk Eagle breeds in this district from December to April, January being the favourite month. The nests are large, and comparatively deep stick structures, loosely put together with the twigs hanging down untidily. They are always profusely lined with green mango leaves. They are built very high up, as a rule, in forks of trees; any large tree serves the purpose. I have found nests in banyan, tamarind, wild fig (*Ficus glomerata*), and bél trees (*Egle marmelos*); but the great majority were in mango trees. The old birds make no attempt to defend their nests. Out of 32 nests examined, none contained more than one egg or one young bird. The average of 25 eggs measured gives a length of 2.63 with a breadth of 2.04. The largest egg measured 3×2.1 , and the smallest 2.25×1.85 . In shape they vary greatly, but the usual type is a moderate oval, pointed at the smaller end. The colour is a dull greenish white, sometimes unspotted, and sometimes faintly streaked at the larger end with reddish brown. The texture is comparatively smooth, but devoid of all gloss. The lining is, of course, pale green.

39.—*Spilornis cheela*, *Lath.*

| Sávant Vádí. |

A single specimen was obtained at Sávant Vádí. It appears to be replaced throughout the district, at all events north of Ratnagiri, by the smaller form *S. melanotis*, Jerd.

39bis.—*Spilornis melanotis*, Jerd.

Guhdgar.	Mandangad.
Ratnagiri.	Palgad.
	Aroli.
	Vághotan.

5th December 1879, *Male*.—Length, 27; wing, $17\frac{1}{2}$.

18th December 1877, *Female*.—Length, 27; expanse, 57; wing, $18\frac{1}{2}$; tail, 12; tarsus, $4\frac{1}{2}$; mid toe and claw, $2\frac{3}{4}$; hind toe and claw, $2\frac{1}{8}$.

24th January 1879, *Female*.—Length, 26; wing, 17.

Cere, orbital skin and legs yellow; irides orange; bill bluish, black at tip.

Common north of Ratnagiri, but less often seen than *Limnaëtus cirrhatus*. Frequents damp ground, and may often be seen perched on low trees near muddy rice fields, watching for frogs. I have seen sometimes three or four together thus engaged; occasionally, but more rarely it is found in the dry uplands and in hill side jungle.

The only eggs of this species I have, were taken from two nests on the 18th and 20th March. They measure, respectively, 2·75 by 2·25, and 2·65 by 2·12, and are broad white ovals slightly pointed at the small end, streaked all over with reddish brown, and with a confluent cap of the same shade at the large end.

40.—*Pandion haliaëtus*, Lin.

Vijaydurg.	Chiplun.
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Common in the cold weather on the coast, and up the large tidal rivers.

43.—*Haliaëtus leucogaster*, Gm.

Bankot.	
Kelsbi.	
Ade.	
Anjarle.	
Harnai.	
Dabhol.	
Guhagar.	
Ratnagiri.	

Common throughout the sea board, occasionally strays a few miles inland up the larger creeks, but is most often seen about the fishing villages at the estuaries.

When once paired, these Eagles make the tree, on which they have built their nest, their permanent head-quarters all the year round, returning to the tree after each foraging trip with great regularity, and using the nest as a larder and a refuse pit for fish and snake bones and other waste food. Once when the young birds of the season had long since left

the nest, I found a half-eaten fowl in it freshly killed. At night they roost, whether breeding or not, close to the nest. The young are very soon driven off after they are able to shift for themselves.

They breed in October, November and December. The earliest egg I have was taken on the 21st October, and the latest, hard-set and just ready to hatch out, on the 16th December. All the nests I have seen, about twelve, have been in trees. They are gigantic platforms, built of strong thick sticks fully five feet in diameter, with a comparatively slight depression in the centre. The same nests are used, year after year, a few sticks being added each year by way of repairs. There is a well-known nest on the fork of two horizontal branches of an old banyan tree, overhanging the massive walls of the ruined island fort of Suvamdurg. I first saw this eyrie in 1869. How ancient it was then I don't know, but ten years later, in October 1879, it had two fresh eggs in it. At this particular place the old birds are very wild and wary, but where, as frequently happens, they build in large trees in the midst of houses and cocoanut gardens, they become very familiar and are not easily disturbed. Their loud, clanging note, when close over head, is almost deafening, and is audible at the distance of a mile or more.

In all the nests that I have taken, containing single eggs, the eggs have been fresh; and wherever the eggs were hard-set, or there were young birds, the number was two. The eggs are greenish white, unspotted, and rather smooth but with no gloss, with a pale green or *eau de nil* lining. The average of six eggs measured gives a length of 2.81, and a breadth of 2.07, the largest egg measuring 3 by 2.06 and the smallest 2.71 by 2.04.

48.—*Butastur teesa*, *Frankl.*

| Palgad,
| Lánje.

Scarce. Only found as yet at the places indicated which are midway between the sea and the Gháts.

51.—*Circus macrurus*, *S. G. Gm.*

Ratnagiri.

| Palgad.
| Dapuli.

5th February 1879, *Male*.—Length, $17\frac{1}{2}$; wing, $13\frac{1}{2}$; tarsus, 3.

31st January 1879, *Female*.—Length, 19; wing, $14\frac{1}{4}$; tarsus, 3; tail, 9.

Common from October to April on all the more open parts of the tract.

54.—*Circus æruginosus*, *Lin.*

Málvan.	Dapuli.	
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Rare. Not observed elsewhere.

14th February 1879, *Male*.—Length, $20\frac{1}{2}$; wing, 16; tarsus, $3\frac{1}{2}$.

3rd March 1880, *Male*.—Length, $19\frac{1}{2}$; wing, $15\frac{3}{4}$; tail, $9\frac{1}{4}$; tarsus, $3\frac{3}{4}$; mid toe and claw, $2\frac{1}{4}$; cere, irides and feet yellow; bill blue black.

The only specimens obtained were shot on the edges of wet paddy fields.

55.—*Haliastur indus*, *Bodd.*

Kelshi.	Palgad.	
Harnai.		
Bankot.		
Guhagar.		
Ratnagiri.		

Common about all the large rivers both inland and on the coast. No food seems to come amiss to it. Day after day from a seaside bungalow have I watched a pair of these birds catching crabs on the rocks at low tide. Swooping down they seize the crab, and bearing it aloft, pick the shell clean and drop it. On the wing, I have also often seen them hawking on the dry rocky uplands, when the southern Crown Crest and the little Finch Lark (*P. grisea*) have young broods, and have more than once seen them pounce on these unprotected fledgelings.

Breeds from the middle of January to the end of March. Prefers cocoanut trees on the coast, and mango trees inland. Deserts its nest on the slightest provocation.

56.—*Milvus govinda*, *Sykes.*

Kelshi.	Palgad.	
Ade.	Khed.	
Guhagar.		

Abundant everywhere. Swarms at all the fishing villages on the coast and at inland towns, such as Khed, where there is a constant traffic in putrid fish.

Breeds from January to March.

60.—*Strix javanica*, *Gm.*

Mahapral.	
Palgad.	
Khed.	

Not common, but I have seen it at Ratnagiri as well as at the localities given above.

I found a nest with four young ones, in a hole, high up in the wall of a house at Khed. I kept two of the young ones who were

very wild and vicious. One, who was shut up in a cage with a young *Syrnium ocellatum*, quite as large and nearly as old as itself, killed and ate a large portion of its cage fellow one night. After this exploit I packed it off with other young Owls to the Victoria Gardens at Bombay.

63.*—*Syrnium indranee*, Sykes.

| Fanasgaon. |

I have not found the Brown Wood Owl myself, but I saw a single specimen in Dr. Armstrong's collection, which he had got at Fanasgaon, twenty miles inland from Vijaydurg.

65.—*Syrnium ocellatum*, Less.

| Palgad.
Aroli. |

Not common, but occurs here and there in the northern districts in mango clumps and well-wooded village homesteads inland. I have not yet seen it on the coast.

Three nests were found in January with two young birds or two eggs in each, all in hollows of mango trees. The four young birds which I kept for some weeks were, when first taken from the nest, white all over with black pencillings, with no rufous colouring. They were very gentle and good tempered, except with dogs and strangers; but the wing bones, whether from want of proper food or not, I cannot say, were exceedingly brittle, and before they were six weeks old each bird had had at least one of its wings fractured or dislocated. Cockroaches, lizards and grasshoppers were their favourite food. Cooked meat they ate, if hungry, but didn't much care for. Notwithstanding their damaged wing bones they were very active, and would climb up tent ropes, using their beaks like parrots.

69.—*Bubo bengalensis*, Frankl.

Kelshi. | Palgad.
Ratnagiri. | Dhānni. |

Rather common on the rocky hill sides overhanging the tidal creeks. Two nests were found in January, both in fissures between steep boulders on the sides of hills. In one nest there were five, and in one only two young birds. One of the nests faced due east, a fact worth mentioning, as Captain G. F. L. Marshall (*vide* "Nests and Eggs," page 62) has pointed out that (in Northern India) these birds almost invariably select a cliff facing westward. The young thrive well in confinement, but are decidedly bad tempered.

72.—Ketupa ceylonensis, Gm.

Kelshi.
Guhagar.
Ratnagiri.

Palgad.
Khed.

9th January 1878, *Female*.—Length, 23; expanse, 48; wing, 16; tail, $8\frac{1}{4}$; tarsus, $3\frac{1}{2}$; mid toe and claw, 3.

25th February 1878, *Female*.—Length, 21; wing, 16; tail, 8; weight, $3\frac{3}{4}$ lbs.

Common both on the coast and inland, wherever there are shady groves and large trees near water. Apparently less common towards the south of the district.

Nine nests found from January to March, all in hollows or depressions of mango trees, one or two eggs or young birds in each. One abnormally long egg I have measures 2.55 by 1.87. These Owls also do well in captivity, and are quiet and tractable. I kept one until it was nearly a year old, when I made it over to the Victoria Gardens in Bombay. It never once, by night or day, uttered the dismal and unearthly sigh of its species, but like other Owls, when alarmed, it snapped its mandibles and hissed like an engine blowing off steam. It liked fresh raw meat, mice and small birds, apparently, quite as well as fish.

74sept.—Scops brucii, Hume.

| Khed. |

9th January 1879, *Female*.—Length, $8\frac{1}{2}$; wing, $6\frac{1}{2}$. Irides, straw yellow.

I got a single specimen at the locality mentioned which I failed at the time to discriminate. I have not found it elsewhere.

75quat.—Scops malabaricus, Jerd.

Pévé.
Ratnagiri.
Málvan.
Vengorlu.

Palgad.
Dapuli.
Khed.
Sávant Vádi.

Measurements in the flesh:—

Four Males.—Length, $7\frac{1}{2}$ to 8; wing, $5\frac{5}{8}$ to $6\frac{1}{8}$; tail, $2\frac{1}{2}$.

Four Females.—Length, 8 to $8\frac{1}{4}$; wing, $5\frac{3}{4}$ to 6; tail, $2\frac{1}{2}$ to $2\frac{3}{4}$.

Bill horny; feet fleshy grey; irides from light yellow in the young birds in the greyer plumage, to deep orange in the adults in rufous plumage; the tarsal feathers are unbarred, and the fourth quill exceeds the third by one-eighth of an inch.

The above measurements, which were carefully taken, correspond as near as possible with those given by Mr. Hume in his Scrap Book, page 402.

The Malabar Scops is common in the north of the Ratnagiri district, but less so as far as my present experience goes in the south. It is entirely nocturnal, but its low, subdued call after nightfall easily betrays its haunts. I have found it in holes of trees in houses, and in nooks in dry wells.

All the nests, six in number, I have found were got in January and February, in holes of mango and jack trees. Three appears to be the maximum number of eggs. In two instances two hard-set eggs were found. None of the nests contained any lining but rotten tonchwood. One nest within ten feet of the ground contained three hard-set eggs, on which the female was sitting. The male, who was caught in a similar hole in an adjoining tree, made no attempt whatever to claw or bite, but submitted to his fate with great meekness. The eggs are in shape and size almost exactly similar to those of *Carine brama*, but they are decidedly more glossy, and have a more creamy tinge. The average dimensions of seven eggs measured were 1.34 by 1.13.

[Mr. Sharpe, it will be remembered, unites this species with *Scops bakhamoena*, Penn. The very large series of it that, thanks to Mr. Vidal and others, I now possess, enables me to assert positively that, unless a vast number of other species, which he retains, are also to be suppressed, *malabaricus* must be retained. The rich, rufous, buff tint which always characterizes the adults of this race, distinguishes them at a glance from the widely-spread *bakhamoena*. It is far more difficult to separate them from many specimens of both *lempigi* (I mean the Malayan *lempigi*) and *lettia*.

But if, besides my proposition, above quoted by Mr. Vidal, that rainfall is the most important factor in this part of the world in determining distribution, it be further admitted that where a species (in many families at any rate) occurs in both a scanty and a heavy rainfall region, the inhabitants of the former are pale (often silvery), and of the latter dark (and generally rufous), and that the size of races is influenced by these conditions also, then I should have no difficulty in uniting, not only *bakhamoena* and *malabaricus*, but a great many other supposed species—just as we do now unite the pale and silvery and dark and rufescent forms of *Syrnium nivicolium* and *Glaucidium brodii*, from the N. W. Himalayas on the one hand and Sikhim on the other. And this, although the extraordinary difference in colour in the two races of the former is so persistent, that during more than ten years Mr. Mandelli never succeeded in getting a pale specimen in Sikhim, and I never succeeded in getting a dark or at all rufous one in the North-West.

But until it be generally admitted that the striking differences in colour and to a less extent in size, due to differences in rainfall, are *not* of specific value, (and at present *hundreds* of species have been founded on such differences), we must, I think, retain *malabaricus* as a distinct species.—A. O. H.]

76.—*Carine brama*, Tem.

Vengorla.	Palgad. Lanje. Dhamapur.	Phonda.
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Rare to the north of the tract, but comparatively common to the south about Vengorla.

Two nests found in January and February, one in an "ain" tree (*Terminalia glabra*), and one in a cocoanut tree, in one four hard-set eggs, and in the other two fresh eggs. Two other nests in February with, in each, three fresh eggs.

16th January 1879, *Female*.—Length, $8\frac{1}{4}$; wing, $6\frac{1}{4}$; tail, 3; tarsus, $1\frac{1}{4}$. Irides yellow.

78.—*Glaucidium malabaricum*, Bly.

Kelshi. Vengorla.	Dapuli. Khed. Chiplun. Lanje. Rajapur. Vaghnotan. Fanasgaon. Savant Vadi.	Dévrukh. Kasarde.
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Sex.	Length.	Wing.	Tail.	Tarsus.	Soft parts.
Four Males	$7\frac{3}{4}$ to $8\frac{1}{4}$	5 to $5\frac{3}{16}$	$2\frac{1}{4}$ to 3	1	Feet greenish yellow to green; cere greenish; bill greenish horny; irides yellow.
Four Females	8 to $8\frac{1}{4}$	$5\frac{1}{16}$ to $5\frac{1}{4}$	$2\frac{3}{4}$	1	

Rather common throughout the district in well-wooded parts. Calls loudly by day as well as night. I have seen one, in the full blaze of the sun, make a sudden dash out of a tree at a *Phylloscopus* I had shot, and which was fluttering slowly to the ground.

My shikaree brought me two fresh eggs with the parent birds on the 14th April.

Dr. Armstrong also got a nest in March with three eggs, scarcely distinguishable, as far as I could judge, from those of *Carine brama*, in size, shape, tone, or texture.

Note.—The specimens sent to Mr. Hume from Kelshi and Khed in the north of the district were, I thought, referable to *G. radiatum*. Mr. Hume, however, pointed out that they were intermediate in form between *radiatum* and *malabaricum*, but nearer to the latter, though almost as close to *radiatum*. I have not been able to detect any marked and constant differences between these skins and others subsequently obtained to the south of the district, or again between these and other skins in Dr. Armstrong's and Mr. Crawford's collections. Individuals certainly vary a little. The light bars on the back and rump in some pale to a dingy white, while in others they retain a tinge of fulvous. In some the tarsal plumes are creamy yellow, unbarred in front, and with a few dusky spots at the sides; in others they are strongly barred with dusky and pale rufous. In some the tips of all the tail-feathers and the outer webs of the outer feathers are sullied with faint rufous, while in others they are pure white. Similarly the rufous tint on the head, neck, breast, and hind neck varies in warmth and intensity in individuals, but it would, I think, be quite impossible to separate any of the skins in my present collection from north to south. Comparing the Ratnagiri skins as a body with a specimen sent me by Mr. Hume from Raipur as a typical *radiatum*, the former are certainly more warmly tinted throughout. The transverse bars of the head, nape, and hind neck are slightly narrower, and more rufous than in *radiatum*; there is less white about the scapulars in the Ratnagiri skins; the black bars of the tail-feathers are, as a rule, decidedly deeper in hue, contrasting more strongly with the white ones; the primaries also are more distinctly marked and barred than in *radiatum*, the rufous being richer in hue and the dark parts a shade deeper; the throat and breast are also more rufous, and the barring of the abdomen and lower parts is narrower, and more regular than in *radiatum*. These are all the distinctions I can make out. In size they are identical. In fact, the *radiatum* looks like a washed out and faded copy of our Ratnagiri birds. Mr. Hume, in his Scrap Book (p. 411), notes the difference in tint between *radiatum* from the north, and the same species from the south of India, the northern birds being more rufous, and the southern more grey. I cannot help thinking that ultimately it will be found that *malabaricum* is inseparable from *radiatum* as a species, the warmer tints of the former being due to climatic causes only. A humid climate, such as the Konkans and Malabar has, as will I think be admitted, a general tendency to darken and impart a deeper hue to the plumage of birds, the fur of animals, and even the pigment which underlies the human

cuticle. Many instances of this might be quoted. The Editor, after examining the first batch of skins I sent him from this district, was struck by the comparative darkness and brilliancy of the plumage of many of the species. In particular the specimens of *Perdicula asiatica* were said to be "so dark as to be almost a distinct species." Of course this and other similar instances do not prove that the two *Glaucidia* are one and the same species.

Before *G. malabaricum* can be suppressed still closer connecting links must be found than even these Ratnagiri birds afford. But that such links exist seems highly probable, and I hope that Mr. Hume will be able to get a sufficiently large series of representatives of this genus from all parts to enable him to settle the point authoritatively.

Since writing the above, I have read an article in the *Nineteenth Century* of January 1880, on the "Origin of Species and Genera," by Mr. A. R. Wallace, which contains some remarks bearing very closely on the point above discussed. In reviewing the work of Mr. T. A. Allen in Eastern North America, and his elaborate observations as to the variations between individuals of the same species, as to tint, distributions of colours, and markings, &c., Mr. Wallace remarks :—

"Colour also varies greatly in correspondence to latitude and longitude. Dark coloured birds are said to become blacker towards the south; in others the red or yellow bands become deeper; while in those transversely banded the dark bands become broader and the light ones narrower. Those with white spots or bands have them smaller in the south, and sometimes lose them altogether. These differences are sometimes so great that the extreme northern and southern forms might be considered distinct species, were it not for the perfect gradation of intermediate types in the intervening localities. There is also an increase of intensity of colour from east to west, as exhibited by the same or by closely-allied representative species inhabiting the Atlantic and Pacific coasts respectively. In the desert plains of the interior, however, the colours are paler than on either coast."

The great variation in forms in India with reference to physical conditions—a subject which opens out a vast field of inquiry hitherto but imperfectly explored—will no doubt furnish a close parallel to the case of America. *Picus maharattensis*, whose breast assumes a darker hue on the west coast, is a striking instance of intensification of colour from east to west. The case of *Perdicula asiatica*, noticed above, is another good illustration, while a good example of similar change from north to south is furnished by *Acridothera tristis*, Lin., of India, which becomes the doubtful

species *A. melanosternus*, Legge, in Ceylon. Careful observation will, no doubt, disclose scores of similar instances.

[The above quotation shows, I think, how entirely even the greatest authorities have failed to grasp the point I have so often urged, *viz.*, that the variation in depth and intensity of colour has nothing to do with latitude and longitude, but depends on rainfall. If they could (or would) only realize this, they would perceive that it explains at once an enormous number of the variations in tint, which have puzzled ornithologists.

IT IS NOT A QUESTION OF EAST OR WEST, NORTH OR SOUTH ; IT IS THE AVERAGE RAINFALL AND AVERAGE HUMIDITY THAT MAINLY DETERMINE INTENSITY OF COLOR, IN THE ADULTS OF NON-MIGRATORY, BUT WIDELY EXTENDED SPECIES.

To return, however, to this particular species. This *Glaucidium* is a very good instance of the variation in color due to differences in the amount of rainfall. Take a specimen from Allahabad, where the rainfall is under 40 and the atmosphere normally dry, and you have *radiatum* without a trace of rufous. Take another from Anjange in Travancore, where the rainfall is very heavy and the atmosphere always humid—painfully so to my feelings—and you have *malabaricum* with the entire head and upper back densely overlaid with chestnut rufous, and with the rest of the plumage, especially the wing-lining, tinted in many places with the same hue.

Between these two forms, almost exactly mid-way as regards coloration, lie all these Ratnagiri birds, of which Mr. Vidal has procured me a huge series. Precisely similar to these are specimens from Kalodoongi, at the foot of the Kumaon Hills, where the average rainfall and humidity are almost precisely the same as in Ratnagiri.

But one point has to be noticed. It would appear that it is only, as time runs on, that moisture operates to darken and intensify plumage to its fullest extent ; the birds of the year, whether of *Scops malabaricus*, *Glaucidium brodiei* (in Sikhim), *Syrnium nivicolum*, (in Sikhim), or *Glaucidium malabaricum*, are invariably much paler, and less rufous than the adults, and the older the birds grow the more deeply colored they become in the heavy rainfall tracts, while in the scanty rainfall, and *a fortiori* desert regions, they become paler as they advance in years.

Wallace says: "Dark colored birds are said to become blacker towards the south," and so they do, if that south happens to be a well-watered region ; but it is just the contrary if it be a dry and desert locality. Greater southing, greater heat, *per se* in no way affect color—dry heat pales, damp heat intensifies.

Light, of course, operates as an auxiliary, and intensifies the action of humidity, or the converse; and the palest and the darkest forms will be found in tropical deserts and tropical swamps. I do not think that heat has anything directly to say to the matter, but as practically in nature greater intensity of light for the year round is accompanied by a higher average temperature, it may often appear to be a factor, and indirectly, in so far as in well-watered regions it increases the humidity of the atmosphere, it no doubt is so. But the primary cause of these variations in tint is, I believe, a difference in the average rainfall and average humidity of the atmosphere. Generally the two go together, but by no means invariably. In Simla the rainfall is over 60 inches, often much more; but during the major portion of the year the atmosphere is dry to a degree, and the birds are pale. Again, there are many localities in the Terai where the rainfall scarcely exceeds 40, where, owing to perennial swamps, fed by the distant-wooded hills, and the high average temperature, the atmosphere is always more or less laden with moisture, and there the colours of birds are more intense.

But it is useless to pursue this question further here. Suffice it to say that the Ratnagiri *Glaucidium* is *radiatum*, only half transformed by increased moisture into *malabaricum*.—A. O. H.]

81.—*Ninox lugubris*, Tick.

Vengorla.

22nd February 1880, Male.—Length, 11; wing, $8\frac{1}{2}$; tarsus, $1\frac{1}{8}$; tail, 5. Cere green; bill dusky with pale tip; feet yellow; irides golden.

Single specimen obtained in a cocoanut garden.

I had some difficulty in fixing this bird, and I may be wrong in calling it *lugubris*. The tail is pale grey, tipped with dirty rufescent white—one of the characteristics, according to Mr. Sharpe (*vide* S. F., IV., 285) of *lugubris*. But the head is not grey but dark brown and concolorous with the back as in *scutulata*. The axillaries are as in *lugubris*, barred white and brown. I have no other specimens to compare it with, but it evidently cannot be classified according to the points given by Mr. Sharpe.

[This must be accepted as *lugubris*, but Mr. Vidal's remarks are correct; the diagnosis given by Mr. Sharpe often fails; from many parts of the country forms are sent quite intermediate between *lugubris* and *scutulata*, and the more I see of these *Ninox*, the more I incline to the belief that they will have hereafter to be extensively "lumped."—A. O. H.]

82.—*Hirundo rustica*, *Lin.*

Ratnagiri. | |

Came to Ratnagiri in large numbers in November 1879. I have not seen it elsewhere, but may have overlooked it.

84.—*Hirundo filifera*, *Steph.*

Ratnagiri. | Khed. |
Pévé. | |

Seen also at Malvan and Dhamapur in the south, and Bankot in the north. Nowhere common, though associating in considerable flights.

85.—*Hirundo erythropygia*, *Sykes.*

Harnaí. | Mahapral. |
Palgad. | |

Common and generally distributed. Breeds in the hot weather on the cliffs and under eaves of houses.

[86.—*Hirundo fluvicola*, *Jerd.*

| Dhamapur. |

A single specimen of this species killed at Dhamapur, 12th February 1880, was contained in Mr. Vidal's last batch of specimens, sent with this paper.—A. O. H.]

90.—*Ptyonoprogne concolor*, *Sykes.*

Bankot. | |
Kelshi. | |
Harnaí. | |
Pévé. | |
Guhágar. | |
Ratnagiri. | |

Common on the coast, and for a few miles inland. I have found nests on the cliffs in February, March and April, and under the eaves of a bungalow in August.

98.—*Cypsellus melba*, *Lin.*

| Sávant Vadi. |

Our specimens were got from Sávant Vadi. Hitherto I have not seen the Alpine Swift north of Málvan, nor have I shot it within the limits of the Ratnagiri district. But between Malvan and Vengorla, and for many miles inland, numbers are to be seen every evening at sunset, flying very high, and all apparently travelling southwards. I have not found any roosting or breeding places in these parts. Are they bound for the falls of Gairsoppa in North Kanara, where, as we know from Jerdon, they roost and congregate? Captain Butler tells me that *C. melba* passes over Belgaum (75 miles east of Vengorla) in

hundreds, every evening flying due west, and every morning flying due east. This confirms Jerdon's statement "that such of these Swifts as have been questing at great distances from their roosting haunts, fly first towards the coast, and then make their way along the sea side, picking up stragglers from other regions on their way to the cliffs of Gairsoppa, or other similar precipices.

100.—Cypsellus affinis, J. E. Gr.

Suvamdurg.
Ratnagiri.

Common throughout the seaboard. Nests found in February and April in clusters on the island fort of Suvamdurg and the rocky cliffs on the coast. Once in May I found and caught a pair of these Swifts, apparently roosting only, in a mud retort-shaped nest under the eaves of a bungalow, which was evidently the handiwork of *Hirundo erythropygia*.

102.—Cypsellus batassiensis, J. E. Gr.

Bankot.
Ratnagiri.

Seen also in large numbers at Málvan and Vengorla. I only know at present of two Palmyra palms (*Borassus flabelliformis*) in the whole district, one at Bankot and one at Malvan. At Bankot, in April, I saw a pair of these Swifts flying out of the solitary Palmyra but found no nests. At Málvan, in January and February, I saw numbers flying in and out of the leaves of the one tree there. They must have had nests, but the tree was very high, and I could get no one to climb it. There are no Palmyras at Ratnagiri, and as the species is common there, about the cocoanut and betelnut gardens, it is probable that, as Mr. Davidson noted in Mysore, (*vide* S. F., VII., 172), they nest here in betelnut, if not in cocoanut palms also. There are certainly fifty times too many birds at Malvan to find accommodation in the one Palmyra palm, though it is evidently a favourite haunt.

103.—Collocalia unicolor, Jerd.

Vengorla Rocks
or
Burnt Islands.

This species, as Jerdon says, is found at one of the group of rocks which lie between Vengorla and Málvan, some five or six miles from the mainland, and breeds there regularly every year. The right to collect the nests is annually sold by auction, and realises on an average about Rs. 30. Two trips are made by the farmer—the first towards the end of February,

and the second about the first week in April. The first harvest yields about 14lbs., and the second from 28 to 42lbs. Either the yield was overstated by Jerdon, or else the number of birds has greatly diminished since he wrote ; half a hundredweight is now the maximum outturn.

None of the nests I have ever got from the Vengorla rocks are pure white. In April 1878 I sent my shikaree, to bring nests, eggs and birds, and he returned with specimens of all three. The birds were all *Collocalia*, and the nests all mixed with grass and feathers, the saliva being pure only where the nest is attached to the rock, and on the rim of the saucer. The nests vary a good deal in size and shape. They are very shallow, seldom deeper than half an inch, and have a diameter of about two inches. Externally the saliva, freely mixed with grass and feathers, is smooth and coagulated. Inside the cup it forms a net-work of fine shreds. They look at a little distance exactly like deep oyster shells with one side flattened, the saliva, where it is smoothed down, having a pearly appearance. As this batch of nests was collected about a week after the farmer had paid his last visit to the rocks to the season, and had presumably left no nests worth taking, and as the natives, who ought to have known, persisted in saying that pure white nests were to be had at the first take, I could come to no definite conclusion about the matter. However, in February 1880, I sent my man again to the rocks, with the farmer's people. They were there for three days, and returned on the 28th with about 12 or 14lbs. of nests which I examined. These nests were undoubtedly *first* nests, as not a single egg had been laid. *All* were quite as impure and mixed with grass and feathers as those I had got in the preceding April, when there were eggs or young birds in every nest. The farmer still held out that white nests are sometimes got. Of course it is possible that a few pairs of *spodiopygia* may breed in the same cave, but none of the specimens got were of this species, and I think it is highly improbable that they occur. Determined to sift the matter as closely as possible, I sent my shikaree again with the farmer's people for the April take. He spent three days on the rocks, from the 7th to 9th April, and returned with about two dozen of the purest and comparatively whitest nests that were found on this occasion, as well as eggs and specimens of *Collocalia*. The nests were *all* mixed with grass and feathers precisely as before.

The evidence, therefore, is now pretty complete, and shews conclusively that this *Collocalia* does not make pure white nests at any rate in this locality. The Vengorla nests are all despatched to Goa in the first instance, but I have not yet ascer-

tained their ultimate destination. Commercially, they must rank as a very third sort commodity. The nests I got in February were literally swarming with common bugs.

The rock is very difficult to get at. It can only be approached by a small boat on account of the reefs, and owing to the constant swell during the north-west winds, a landing can only be effected at night, and even then with difficulty. The caves where the Swiftlets breed opens on a narrow ledge of rock, with a steep drop into the sea, which cannot be climbed from below. To get to the cave you have to scramble up the cliff from the landing place, and be lowered on to the ledge some forty or fifty feet by ropes. Hitherto I have shirked any personal investigation of the mysteries of the cave. From the description given to me it appears to run in about 30 or 40 yards from the sea. The entrance is said to be about 20 to 24 feet broad, and the height of the cave to be from 40 to 50 feet. The nests are glued to the rocks close together at a height of from 10 to 20 feet from the ground, and are always out of hand's reach. My shikaree, who collected about seven dozen eggs, fresh and hard-set, said he never found more than two in a nest.

Whether the birds remain at the rocks all the year round I cannot find out for certain. They were there in large numbers in December 1879. The farmer says that they leave the rocks in the south-west monsoon, and come for shelter to the cliffs on the mainland which may or not be true. It is certain, however, that no one has ever yet visited the rocks during the monsoon. Even the lighthouse people on an adjoining rock are completely cut off from all communication with the mainland from June to September. This inaccessibility is especially unfortunate, as Mr. Hume, on visiting the rocks in January 1875 on his trip to the Laccadives and West Coast, found convincing evidence in the shape of fragments of eggs, &c., that they are a regular breeding place for Terns, and perhaps some of the larger *Laridæ*. It is singular that Mr. Hume found no traces during his visit of the Swiftlets, no birds and no fragments of nests. Did he visit *all* the rocks? I cannot help thinking he must have overlooked the particular haunt of the *Collocalias*. Last December my shikaree—the same man who had brought me nests, eggs and birds in the preceding year, and must know the species well—visited the rocks and reported that there were hundreds flying about. Nor does the contractor seem to make a clean sweep of all the nests, as last year I obtained several perfect ones, as good as any he has since shewn me, after he had paid his last visit to the island for the season. I fancy Mr. Hume must have gone to the wrong

cave, more especially as he mentions the presence of the Pigeons, which, I am told, do not inhabit the same cave as the Swiftlets.

[I certainly failed to find this smaller cave, but I rowed all about amongst the larger rocks, and failed to see a single Swiftlet. Had there been a dozen even about the rocks at the time I visited them (February 4th) between the hours of 10 A.M. and 5 P.M., the whole of which time I spent either rowing in amongst or clambering over the rocks, I must have seen them. But it has to be noted that Jerdon tells us that he similarly, at Pigeon Island, failed to see a single bird; but was told by a native that they would return by 8 or 9 P.M., which native that night actually caught numbers of the birds on their return, so that my failure to see any may have been due solely to their being away in quest of food.

Mr. Vidal's investigations are important. It will be remembered that the Marquess of Tweeddale united the present species *unicolor*, and the species I identified as *spodiopygia*, (and other equally distinct species according to my view) under the name, at one time, of *francica*, at another of *fuciphaga*. As explained, S. F., I., 294, I did not consider the name *fuciphaga*, which refers to some species of "*cauda rotundata*" applicable to any known species. This, however, was a matter of no moment; the real point at issue was the specific distinctness of the two forms above referred to. To me it seemed impossible for any one who had watched the two in life, or who even carefully examined a good series of both, to doubt this fact; but as an additional proof of the distinctness of the two I asserted that in every instance in which we had found them breeding, the nests of *unicolor* had been composed of moss, grass feathers and the like, cemented together by saliva, while those of *spodiopygia* were snowy white and entirely composed of saliva. But the flaw in this argument admittedly was, that I had only obtained the nests of *unicolor* far inland, in the Nilghiris and other hills of Southern India, while I had only procured those of *spodiopygia* on the sea coast or on islands. It might be that *unicolor*, when living in similar situations, would assume the different tint of plumage and whitey brown rump of *spodiopygia*, and also construct the pure white nests. But now here on the Vengorla rocks, miles out at sea, we have *unicolor* absolutely identical with specimens from the Nilghiris, and practically identical with those from the Himalayas (though there is just a shade of difference in the colour of these last), and constructing nests mixed with straw and feathers, precisely similar to those that they make hundreds of miles inland.

Whatever opinions may be formed as to the correct scientific titles for the two forms, it seems to me impossible for any one to dispute henceforth their specific distinctness.—A. O. H.]

104.—*Dendrochelidon coronata*, Tick.

Mahapral.	Durga Vádi.
Mandangud.	Kásarde.
Fanasgaon.	
Sávant Vádi.	

13th April 1878, *Male*.—Length, $9\frac{1}{4}$; wing, $6\frac{1}{4}$; tail, $5\frac{1}{2}$.
Generally distributed from Coast to Gháts. Nowhere abundant.

107.—*Caprimulgus indicus*, Lath.

Guhágar.	Dévrukh.
Vengorla.	

Less common than *asiaticus* and *monticolus*. I shot a female measuring, length, 11; wing, $7\frac{1}{2}$, in a thick temple forest at Guhagar, perched at 9 A.M., on the branch of a tree some 25 feet from the ground.

112.—*Caprimulgus asiaticus*, Lath.

Guhágar.	Dhám pur.
Málvan.	
Vengorla.	

Common, especially in gardens on the Coast.

114.—*Caprimulgus monticolus*, Frankl.

Kelshi.	Palgad.
Málvan.	Dapuli.
	Khed.

Common here and there in scrub jungle, but is not generally distributed.

115*.—*Harpactes fasciatus*, Forst.

Sávant Vádi.

Mr. Fairbank (S. F., IV., 254) records this species from "the woods of Sávant Vádi in the Konkan." I was disappointed in not coming across any specimens.

117.—*Merops viridis*, Lin.

Kelshi.	
Ratnagiri.	

Abundant everywhere.

117.—*Merops philippinus*, Lin.

	Dhāmāpur.*	
	Sāvant Vādī.	

Confined to the south of the district. I found it common about the summer rice fields irrigated by the Dhāmāpur tank.

119.*—*Merops swinhoii*, Hume.

	Sāvant Vādī.	
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Recorded from the "sides and bases of Goa and Sāvant Vādī hills" by Mr. Fairbank (S. F., IV., 254). I did not obtain any specimens at Sāvant Vādī itself, which is intermediate between the sea and the base of the hills.

123.—*Coracias indica*, Lin.

	Khed.	
	Chiplun.	
	Aroli.	
	Sāvant Vādī.	

Tolerably common inland in well-wooded country, but very much less so near the coast. Breeds in March.

127.—*Pelargopsis gural*, Pearson.

Mālvān.		Rājapur.	
		Dhāmāpur.	

Rare. Has also been seen at Ratnagiri, but not as yet north of that place.

[This *Pelargopsis* on the West Coast has the entire cap, nape and ear coverts, a *really dark* brown, very different to the pale (in some cases whitey) brown, of specimens from most other parts of India. The two forms are quite as distinct as several that Mr. Sharpe has admitted in his famous work as separate species, but I believe he himself considers that in any future revision of the genus a good deal of "lumping" will be necessary.—A. O. H.]

129.—*Halcyon smyrnensis*, Lin.

Ratnagiri.		Mahapral.	
Mālvān.		Mandangad.	
Vengorla.			

Generally distributed but not common. Avoids large tidal rivers, and prefers secluded jungle streams. Often found in dry jungles at some distance from water.

130.—*Halcyon pileata*, Bodd.

Mālvān.			
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As yet I have only got two specimens of this Kingfisher at the locality specified. Jerdon notes its occurrence at Telli-

* Capt. Bingham tells me that he has found this species not uncommon about Vengorla in January.—Ed., S. F.

cherry. I can find no other record of its occurrence on the West Coast.

18th January 1880, *Female*.—Wing, $4\frac{3}{4}$; tail, $3\frac{1}{2}$; bill, $2\frac{1}{2}$.

Bill red; irides brown; legs and feet red with dusky bars.

132.—Halcyon chloris, Bodd.

Kelshi.

Ratnagiri.

Hitherto obtained only at the places named, though I have seen it on the Vashishti river, midway between the two (*vide* S. F., VII., 168, and VIII., 414). At both places I found it scarce. It frequents the thick mangrove swamps which fringe the estuaries of the creeks, and feeds at low tide on the mud flats.

134.—Alcedo bengalensis, Gm.

Ratnagiri.

Khed.

Exceedingly abundant everywhere, and more especially so on the tidal creeks.

136.—Ceryle rudis, Lin.

Ratnagiri.

Khed.

Common throughout, but appears, as a rule, to prefer fresh to tidal waters.

140.—Dichoceros cavatus, Shaw.

Dévrukh.

Mánbet.

6th November 1879, *Male*.—Length, 50; wing, 20; tail, 17; tarsus, 3; bill from gape (straight), $9\frac{1}{4}$; perpendicular height of casque and bill, 4; length of casque, $6\frac{1}{2}$; breadth of casque, $3\frac{1}{8}$; from base of casque to tip of bill, 14. Irides, deep crimson; legs and feet fleshy grey.

Found along the base and on the slopes of the Sāhyādri range, extending as far north as Khed, north latitude, $17^{\circ}45'$, where in years gone by I have shot it, and probably much further. Although not often seen far from the Ghāts, it occasionally strays towards the Coast, and I have on several occasions seen it at Dapuli, within five or six miles of the sea. At Dévrukh I saw a great number feeding on ripe banyan berries, and I once shot one with a snake, a young dhāman (*Ptyas mucosus*) in its mouth. I have found no nests, but have been told that it breeds at Poladpur, in the Kolaba district, twenty miles north of Khed.

141.—*Hydrocissa coronata*, *Bodd.*

								Aroli.	Dévrukh.	
								Fanasgaon.	Kasarde.	
Sex.	Date.	Length.	Wing.	Tail.	Height of casque.	Length of casque	Bill from gape.	SOFT PARTS.		
								Irides.	Legs and feet.	Gular skin.
♂.	4th Nov. 1879.	37	13½	14	4½	9½	7½	Orange Red.	Grey.	Kid White.
♀.		34	13	13½	3½	6½	6½	Brown.	Grey.	Kid White.

Found inland in the belt of wooded country at the foot of the Gháts. Does not extend, I believe, as far north as *D. cavatus*, nor is it found near the Coast.

[These may be considered typical examples of *coronata*, as they are precisely similar to those from the Malabar Coast further south. Comparing a large series of these western birds with an equally large one from Raipur and Chota Nagpore on the east, I find that these latter have the casques even more compressed, and in birds of like age advancing further along the culmen to the point. I can detect no other constant difference.—A. O. H.]

145.*—*Tockus griseus*, *Lath.*

| Sávant Vádi. |

In his "Popular List of the Birds of the Maratha country," compiled for the *Bombay Gazetteer*, and published at the Government Central Press in 1876, Mr. Fairbank mentions having obtained this species at Sávant Vádi.

148.—*Palæornis torquatus*, *Bodd.*

Pévé.

Ratnagiri.

| Dhámni.

| Sávant Vádi. |

Plentiful, but somewhat locally distributed. Less common than *P. purpureus*.

149.—*Palæornis purpureus*, *P. L. S. Müll.*

Bankot.

Ratnagiri.

| Dapuli.

| Sávant Vádi. |

Generally distributed and very plentiful.

151.—*Palæornis columboides*, Vig.

| | Bávda.

Appears to be restricted to the Sáhýádri forests, and the western slopes of the Gháts. Dr. Armstrong procured it at Bávda, and it is tolerably common near Mahableshtar.

153.—*Loriculus vernalis*, Sparrm.

Ratnagiri.		Dapuli.	
		Rájapur.	
		Sávant Vádí.	

Plentiful here and there both on the Coast and inland, but rather locally distributed.

160.—*Picus mahrattensis*, Lath.

Bankot.		Dhámni.		Kasarde.
Kelshi.		Khed.		
Pévé.		Vághotan.		
		Sávant Vádí.		

Generally distributed, but rather scarce. This, says Mr. Hume, is the darker breasted West Coast race.

9th March 1878, Male.—Length, $7\frac{1}{2}$; wing, 4; bill at front, $\frac{7}{8}$. Irides red.

[This is another species, the depth of colouration of which varies all over the country according to the comparative average humidity of the locality. Comparing some of the richest and feeblest colored, they might well be considered distinct species.—A. O. H.]

164.—*Yungipicus nanus*, Vig.

| Sávant Vádí. | Bávda, 2,000 feet.

Restricted to the Gháts and the heavy forests at the base, such as Sávant Vádí.

[I identified these specimens, only a little further south. *Y. gymnophthalmus* occurs on the Gháts, and I had expected to find this species, and not *nanus*, in Ratnagiri.—A. O. H.]

166.*—*Chrysocolaptes sultaneus*, Hodgs.

Ratnagiri. | |

One or two specimens were got by Dr. Armstrong at or near Ratnagiri. I have not yet met with the species.

[This is not at all likely to be *sultaneus*; it will most probably prove to be *strictus*, Horsf. (= *delesserti*, Malh. *apud auct.*) vide S. F., VIII., 154.—A. O. H.]

167.—*Chrysocolaptes festivus*, Bodd.

Ratnagiri.		Vághotan.		Kasarde.
		Fanasgaon.		

Rare. The specimens, with the exception of one I got at Ratnagiri, were all got by Dr. Armstrong. I have not seen the species north of Ratnagiri.

179.—*Micropternus gularis*, Jerd.

Pévé.
Guhagar.

Mandangad.
Savant Vádi.

I obtained in 1878, at Mandangad, at the extreme north of the district, a single specimen (female), which I sent to Mr. Hume as *gularis*, and which he passed as such without comment. In 1879 I sent three specimens (one male and two females) from Guhagar and Pévé, thirty miles south. These, Mr. Hume said, were intermediate between *gularis* and *phæocephus*, but nearer the former. On comparing the Mandangad specimen again with one from Pévé, which most nearly approximates to *gularis*, I find that the throat feathers of the former are slightly darker, but the difference is barely perceptible. This species also appears, therefore, to be intermediate and not typical *gularis*. To settle the point a large series of skins is necessary, but unfortunately the bird is decidedly scarce. It may prove ultimately that *gularis* is not a good species.

Mandangad, 1st May 1878, Female:—Length, $9\frac{3}{4}$; wing, 5; tail, $2\frac{3}{4}$.

[Two specimens obtained by Dr. Armstrong in the Ratnagiri district are, like those mentioned above, far from typical, having the gular stripe very light colored, the feathers scarcely darker than those of the breast. But I have already (S. F., V., 472 *et seq.*) shown that the species of this genus vary greatly from district to district, and we must, I think, accept the Ratnagiri birds as *gularis*.—A. O. H.]

181.—*Brachypternus puncticollis*, Malh.

Guhagar.
Ratnagiri.
Málvan.

Palgad.
Dapuli.
Chiplun.
Aroli.
Nivli.
Lánje.
Rájapur.
Fanasaon.
Savant Vádi.

The commonest Woodpecker in the district, and generally distributed. These birds are true *puncticollis*, and were described by Mr. Hume as the most typical birds of the species he had seen.

193bis.—*Megalæma inornata*, Wald.

Gubágar.		Nivli.	
Ratnagiri.		Rájapur.	

Found in well-wooded villages on the Coast, but perhaps more common inland and at the foot of the Gháts.

194.—*Megalæma viridis*, Bodd.

		Dévrukh.
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7th November 1879, *Male*.—Length, 9; wing, 4; bill at front, $\frac{3}{8}$.

Our only specimens as yet have been got from Devrukh, a well-wooded village at the foot of the Gháts, where it is common, but it no doubt ranges all down the Ghát line.

197.—*Xantholæma hæmacephala*, Müll.

Kelshi.		Khed.	
Ratnagiri.		Sávant Vádi.	

Abundant everywhere. Breeds in February.

198.*—*Megalæma malabarica*, Bly.

	Sávant Vádi.	
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Recorded from the Sávant Vádi forests by Mr. Fairbank (S.F., IV., 255). I failed to obtain any specimens.

201.—*Cuculus poliocephalus*, Lath.

		Dévrukh.
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5th November 1879, *Male*.—Young bird. Length, $9\frac{3}{4}$; wings, $5\frac{3}{8}$; tail, 5; bill at front, $\frac{5}{8}$; bill from gape, nearly 1; tarsus, $\frac{3}{4}$. Irides brown; orbits, legs and feet yellow; bill black, pale below; yellow at gape; wings reach to within two inches of tail.

A single specimen obtained. Does not entirely correspond with Jerdon's description. There is no trace of a green gloss. The outer tail feathers have white spots on *both* webs. The chin, throat and breast are spotted with white, ashy and rusty, and the head is spotted with white, but possibly I have not discriminated the species correctly.

[It is a young bird and an indifferent specimen, but I believe it has been correctly identified.—A. O. H.]

202.—*Cuculus sonnerati*, Lath.

Málvan.		
Vengorla.		

21st February 1880, *Female*.—Length, $9\frac{1}{4}$; wing, $4\frac{3}{4}$; tarsus, $\frac{3}{4}$; tail, $4\frac{1}{2}$; bill at front, $\frac{3}{4}$; from gape, $1\frac{1}{2}$. Irides brown; legs greenish grey; bill dusky; tail feathers not tipped with white; orbits grey.

Single specimen obtained at each of the localities noted.

203.—*Cuculus micropterus*, *Gould*.

Ratnagiri

A single specimen obtained at Ratnagiri in October.

205.—*Hierococcyx varius*, *Vahl*.

| Sávant Vádi.

| Dévrukh.

Rare.

208.—*Cacomantes passerinus*, *Vahl*.

Vengorla.

21st February 1880, *Male*.—Length, $8\frac{1}{2}$; wing, $4\frac{5}{8}$; tarsus, $\frac{3}{4}$; tail, $4\frac{1}{2}$; bill at front, $\frac{5}{8}$; from gape, 1. Irides red; legs and feet brownish yellow; bill black, red at gape; under tail coverts ashy, almost concolorous with breast, but slightly paler.

25th February 1880, *Female*.—Length, $8\frac{1}{4}$; wing, $4\frac{9}{16}$; tail, $4\frac{3}{8}$; tarsus, $\frac{3}{4}$; bill from gape nearly 1 inch; at front, $\frac{3}{4}$. Soft parts as in the male. This specimen had the under tail coverts pure white.

Only two specimens obtained.

212.—*Coccytes jacobinus*, *Bodd*.

|

| Dévrukh.

Rare. Has been seen also at Dapuli and on the summit of the Amba Ghát in the Kolapur district.

213.—*Coccytes coromandus*, *Lin*.

| Sávant Vádi.

|

A single specimen procured.

2nd January 1880, *Male*.—Wing, $6\frac{1}{2}$; tail, 9.

214.—*Eudynamis honorata*, *Lin*.

Ratnagiri.

| Dapuli.

Málvan.

| Khed.

Common in well-wooded tracts from Coast to Gháts.

216.—*Rhopodytes viridirostris*, *Jerd*.

Malvan.

24th January 1880, *Male*.—Length, 16; wing, $5\frac{1}{2}$; tail, $9\frac{1}{2}$; tarsus, $1\frac{1}{2}$; bill at front, 1. Bill green; orbital skin pale whitish blue; irides red; legs and feet dark green.

Rare. I found a few pairs in thin bush jungle on a hill side near Málvan, on the Coast. Not observed elsewhere. The female is rather smaller, the wings measuring from $5\frac{1}{16}$ to $5\frac{1}{4}$ inches.

217.—*Centrococcyx rufipennis*, Ill.

Kelshi.	Dapuli	Dévrukh.
Pévé.	Khed.	

Common. "True *rufipennis*," writes Mr. Hume, "with the black interscapulary region."

219.—*Taccocua leschenaulti*, Less.

Pévé.	Mandangad.	Durga Vádi.
Málvan.		

1st May 1878, *Female*.—Length, $17\frac{1}{2}$; wing, 6; tail, 9; tarsus, $1\frac{1}{2}$. Irides brown.

Rare. Found in hill side jungle. I obtained a nest with a single fresh egg on the 8th April. The nest, a thick loose cup of sticks and leaves, was in a fork of a *jambul* (*Eugenia jambolana*) tree, about 12 feet from the ground. The egg cavity, about six inches in diameter, and very slightly depressed, was profusely lined with green *jambul* leaves. The egg is a dull glossless white oval.

The specimens obtained at Pévé and Málvan were found some five or six miles inland.

226.—*Æthopyga vigorsi*, Sykes.

Kelshi.	Mahapral.	Gotre.
Ratnugiri.	Dapuli.	Bávda.
	Rájpur.	
	Sávant Vádi.	
	Bávda.	

Distributed from the Gháts to the gardens on the Coast, but scarce.

232.—*Cinnyris zeylonica*, Lin.

Kelshi.	Mahapral.
Pévé.	Palgad.
Guhágar.	
Ratnagiri.	
Málvan.	

Common and generally distributed. Nests found with eggs in January, March, April and September.

233.—*Cinnyris minima*, Sykes.

Sávant Vádi.	Bávda.
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Found sparingly on the western slopes of the Gháts. Common in the Sávant Vádi forests.

234.—*Cinnyris asiatica*, Lath.

Kelshi.	Khed.
Pévé.	Lánje.
	Sávant Vádi.

Common in hill side scrub jungle, and gardens throughout the district.

Nest found in April.

235.—*Cinnyris lotenia*, *Lin.*

Kelshi.

Ratnagiri.

Rare.

238.—*Dicaeum erythrorhynchus*, *Lath.*

Pévé.

Ratnagiri.

Durga Vádi.

4th April 1879.—Length, $3\frac{3}{8}$; wing, $1\frac{7}{8}$; tail, $\frac{7}{8}$; tarsus, $\frac{1}{10}$; bill, $\frac{3}{8}$. Bill fleshy; tip dusky; irides brown; legs dark plumbeous (unsexed specimen.)

Rare. Appears to replace *D. concolor* north of Ratnagiri.

239.—*Dicaeum concolor*, *Jerd.*

| Sávant Vádi.

Common at Sávant Vádi, where, I think, it replaces *D. erythrorhynchus*.

240.—*Piprisoma agile*, *Tick.*

| Dhámápur.
Sávant Vádi.

| Dévruk.

Rare.

253.—*Dendrophila frontalis*, *Horsf.*

| Sávant Vádi.

A single specimen obtained.

254.—*Upupa epops*, *Lin.*

Ratnagiri.

| Palgad.
Dapuli.
Vághotan.

| Dévruk.

Common in the cold weather in groves of trees.

255.—*Upupa ceylonensis*, *Reich.*

Less common than *U. epops*.

257.—*Lanius erythronotus*, *Vig.*

Ratnagiri.

| Khed.

Common everywhere.

260.—*Lanius vittatus*, Valenc.

Palgad.

Bánda.
Mánbet.
Dājipur.

16th January 1879, Female.—Length, $7\frac{1}{4}$; wing, $3\frac{1}{2}$; tail, $3\frac{1}{2}$. Irides dark brown.

Rare. Not found on the Coast.

265.—*Tephrodornis pondicerianus*, Gm.Ratnagiri.
Málvan.Mahapral.
Mandangad.
Vandri.

Common, as also at Sávant Vádi. Nest found with three hard-set eggs on the 18th February, low down in a mango tree. Nest a very neat compact cup of grasses and fibres, woven throughout with spiders' webs. Eggs greyish white, with brown and inky purple spots.

267.—*Hemipus picatus*, Sykes.Rājapur.
Sávant Vádi.

Rare. I have not myself found the little Pied Shrike; but there were a few from each of the localities named in Mr. Crawford's collection.

268.—*Volvocivora sykesi*, Strickl.Kelshi.
Guhágar.
Ratnagiri.
Vengorla.Mandangad.
Khed.
Rājapur.
Sávant Vádi.

Not common; only found in well-wooded parts.

269.—*Volvocivora melaschista*, Hodgs.

Sávant Vádi.

Rare. Only two specimens obtained.

270.—*Graucalus macii*, Less.Kelshi.
Guhágar.Khed.
Rājapur.

Common. Breeds in February and March.

272.—*Pericrocotus flammeus*, Forst.Lánje.
Rājapur.
Sávant Vádi.Durga Vádi.
Devrukh.
Máreshi.
Kasardi.

Common at the foot of the Gháts, and the well-wooded parts of the central belt. Not found on the Coast.

276.—*Pericrocotus perigrinus*, *Lin.*

Kelshi.	Khed.
Ratnagiri.	Sávant Vádí.
Malvan.	

Common everywhere.

[This is the richly colored form which occurs in all humid regions, strangely different from the pale races of the semi-desert tracts. See also S. F., V., 179.—A. O. H.]

278.—*Buchanga atra*, *Herm.*

Pévé.	Mahapral.
Ratnagiri.	

Abundant. Breeds in May.

280.—*Buchanga longicaudata*, *Hay.*

Ratnagiri.	Khed.
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Very common about all well-wooded villages from Coast to Gháts.

281.—*Buchanga cærulescens*, *Lin.*

Sávant Vádí.

Very common in the Sávant Vádí jungles. I have not yet found it in the Ratnagiri district, but Dr. Armstrong had a specimen which he got somewhere between Ratnagiri and Sávant Vádí.

282.—*Chaptia ænea*, *Vieill.*

Sávant Vádí.	Bánda.
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Very rare. Not observed elsewhere in the district.

285.—*Dissemurus paradiseus*, *Lin.*

Vengorla.	Sávant Vádí.
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Three Males.—Length, 22 to 25 (to end of outer tail feathers); wing, 6 to $6\frac{3}{8}$; tail to end of middle feathers, 6 to $6\frac{7}{8}$; tail to end of outer feathers, 14 to 18.

Three Females.—Length, 22 to 24; wing, 6 to $6\frac{1}{8}$; tail to end of middle feathers, 6 to $6\frac{3}{4}$; to end of outer feather, 14 to 16.

Does not extend north of Sávant Vádí, where it is rather common. A nest was found in the first week of April.

286.—*Chibia hottentotta*, *Lin.*

Sávant Vádí.

Four Females.—Length, 11 to 12; wing, $6\frac{1}{8}$ to $6\frac{5}{8}$; tail, 5 to $5\frac{5}{8}$; bill at front, $1\frac{1}{4}$; tarsus, 1.

Not uncommon in the forests of Sávant Vádí, which appear however to be its northern limit.

287.—*Artamus fuscus*, Vieill.

Vengorla.		
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Rare. Not observed elsewhere in the district.

288.—*Muscipeta paradisi*, Lin.

Kelshi.		Khed.	
Guhágar.		Dhámápur.	
Ratnagiri.		Sávant Vádí.	

Generally distributed. Scarce near the Coast. Plentiful in the Sávant Vádí forests. One specimen, a white male, has *three* uropygial feathers, twelve inches long!

290.—*Hypothymis azurea*, Bodd.

Bankot.		Mandangad.	
Ratnagiri.		Khed.	
		Lánje.	
		Sávant Vádí.	

Scarce, except at Sávant Vádí, where it is comparatively common.

293.—*Leucocerca leucogaster*, Cuv.

Guhágar.		Dapuli.	
Ratnagiri.		Khed.	
Málván.			

Very plentiful on the Coast and central inland tracts. Appears to replace *L. aureola*. The latter may occur in the Ghát range. I have not hitherto found it on the western slopes, but have perhaps overlooked it.

297.—*Alseonax latirostris*.

Ratnagiri.		Khed.	
		Vághotan.	
		Dhámápur.	
		Sávant Vádí.	

Rare in the north, and comparatively common in the south of the tract.

301.—*Stoporala melanops*, Vig.

Kelshi.		Sávant Vádí.		Dévrukhi.
Ratnagiri.				
Vengorla.				

Common in the Sávant Vádí and Ghát jungles, but scarce near the Coast.

306.—*Cyornis tickelli*, Bly.

Guhágar.	Palgad.
Ratnagiri.	Dapuli.
	Sávant Vádi.

Not uncommon in the cold weather in well-wooded places.

323 bis.—*Erythrosterna parva*, Bechst.

Khed.	Dévrukh.
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Scarce, but is seen now and then in the cold weather. Leaves early before the breast of the male turns red.

342.—*Myiophoneus horsfieldi*, Vig.

Vengorla.	Vághotan.	Dévrukh.
	Fanasgaon.	Bánda.
	Sávant Vádi.	Kasarde.

5th November 1879, Female.—Length, 11; wing, $5\frac{3}{4}$; tail, 4; tarsus, $1\frac{5}{8}$.

Vengorla is the only locality on the Coast in which I have met this species, but it is tolerably common in the Ghát range, and in the southern central belt, in suitable localities.

345.—*Pitta brachyura*, Lin.

Malvan.	Fanasgaon.	Durga Vádi.
	Dhamapur.	Dévrukh.

Found rarely in gardens near the Coast, and more commonly in the Ghát jungles. Scarce in the north, more common in the south of the tract.

351.—*Cyanocinclus cyanus*, Lin.

Kelshi.	Khed.
Ratnagiri.	

Not very common, but solitary individuals are always to be seen in the cold weather on the rocky cliffs by the sea side and on the stony hills inland.

353.—*Petrophila cinclorhyncha*, Vig.

Vengorla.	Sávant Vád.	Bánda.
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Very common about Sávant Vádi in the cold weather. It is also common about Mahableshwar on the north-east of Ratnagiri. It appears, like many other forest-loving birds, to stick to the Ghát range throughout the northern and barer parts of Ratnagiri, and to approach the Coast only in the south through the well-wooded jungles of Sávant Vádi.

354.—*Geocichla cyanotis*, *Jard and Selb.*

Bankot.	Dapuli.	Dévruckh.
Anjanvel.	Khed.	
Pévé.	Sávant Vádí.	
Guhágar.		
Málvan.		

Common in gardens and scrub jungle throughout the tract. Breeds during the rainy months. The nests, which I have not taken myself, have been described to me by Mr. A. Jardine of Dapuli, who has collected a large number of these Thrushes' eggs, as follows:—"The nest is made of roots, twigs, and grass, with a good deal of mud. The egg cavity is about five and half inches in diameter, and from two to three inches deep. The nest is generally placed in the fork of a tree low down. The highest I ever saw was about fifteen feet from the ground in a kinjal tree, but they are mostly found in mango trees. When the Thrushes have young, they will not let anyone go near the nest, but come flying at you, and peck like fun." The eggs vary greatly in colour and markings, presenting two or three very distinct types.

355.—*Geocichla citrina*, *Lath.*

Amongst a lot of skins from Ratnagiri and Burmah, which Dr. J. Armstrong kindly gave me, I found a single specimen of *G. citrina*. It was not ticketed, but the sex and date were endorsed on the paper cone in which it was wrapped. From the date (5th January 1878) the specimen must have been got somewhere in the Ratnagiri district, where Dr. Armstrong was then working, unless by accident the cover has been changed. As *G. citrina* occurs at Amherst, whence several of the birds in the same box had been collected, I at first thought it possible that some mistake had been made. A few days afterwards, however, I met Dr. Armstrong, and he assured me that he had got both *G. cyanotis* and *G. citrina*, while in the Ratnagiri district, though he could not remember the exact localities, and further that he had never got a single specimen of *citrina* at Amherst. There can, therefore, be no doubt as to the occurrence of this species in the South Konkan. It must, however, be very rare. I have never seen it myself, nor does Mr. Fairbank appear to have got it anywhere on the western Ghát range from Khandalla to Goa, nor is it entered in Messrs. Davidson and Wenden's list. On the other hand, its occurrence in the Konkan is noted in a list* compiled by Major J. H. Lloyd.

* Natural History of the Konkan. Printed at the Government Central Press, Bombay, 1876.

359.—*Merula nigropilea*, Lafr.

Kelshi.	Mandangad.	Dévrukh.
Pévé	Dapuli.	Bánda.
Ratnagiri.	Khed.	Phonda.
Málvan	Fanasgaon.	
	Sávant Vádi.	

Common everywhere in groves and gardens, both on the Coast and inland.

355.—*Pyctoris sinensis*, Gm.

Kelshi.	Palgad.	Dévrukh.
Málvan.	Fanasgaon.	Múrshi.
		Kesarde.

Common here and there in hill side bush jungle in small parties.

389.—*Alcippe poiocephala*, Jerd.

Málvan.	Rájapur.	
	Dhāmāpur.	
	Sávant Vádi.	

I have not seen this species north of Rájapur. But as it is common, according to Dr. Fairbank, at Mahableshwar, it is probable that it occurs throughout on the western slopes and bases of the Gháts, and does not approach the Coast except through Sávant Vádi.

398.—*Dumetia albogularis*, Bly.

Guhágar.	Rájapur.	
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Scarce throughout the tract. Its distribution is probably similar to that of *Alcippe poiocephala*. I have found it plentiful at Mahableshwar, but did not see a single specimen in Sávant Vádi.

399.—*Pellorneum ruficeps*, Sws.

Kelshi.	Mandangad.	
	Sávant Vádi.	

Met with in small parties here and there, like *D. albogularis*, but is scarce and very locally distributed, away from the Ghát range.

404.—*Pomatorhinus horsfieldi*, Sykes.

Málvan.		Durga Vádi.
Vengorla.		

27th December 1878, *Male*.—Length, 9; wing, $3\frac{3}{4}$; tail, 4; tarsus, $1\frac{1}{4}$; bill at front, $1\frac{1}{8}$.

Common at Mahableshwar and along the Ghát ranges. I have not found it near the coast in the north of the district;

but like many other species it makes its appearance on the sea board through the jungles of Sávant Vádi.

435.—*Malacocercus somervillii*, Sykes.

Bankot.
Guhágar.
Ratnagiri.

Dapuli.
Khed.
Rájapur.
Vághotan.
Sávant Vádi.

Múrshi.
Máubat.

3rd February 1879, *Two Males*.—Length, 10 ; wing, 4 and $4\frac{1}{8}$.
Irides yellowish white.

Abundant. As far as I have yet observed remains typical from north to south. Breeds in the rainy months.

446.—*Hypsipetes ganeesa*.

| Sávant Vádi.

| Dévrukh.

Rare. Not found away from the Ghát range except at Sávant Vádi.

450.—*Criniger ictericus*, Strickl.

| Sávant Vádi.

| Bávda.

Scarce, though associating in moderate sized flocks. Distribution similar to *Hypsipetes ganeesa*.

452.—*Ixus luteolus*, Less.

Vijaydurg.
Málvan.
Vengorla.

This species is so rare in this district that I cannot ascertain its precise distribution. As yet our only specimens have been obtained on the Coast to the south of the tract, and I have also found some near the sea at Goa. It appears to avoid the Ghát range, as Mr. Fairbank, although he found it near the Gatprabha river, in the Belgaum district, did not come across it on the hills of the Goa frontier (S. F., IV., 258).

460 bis.—*Otocompsa fuscicaudata*, Gould.

Kelshi.
Ratnagiri.

| Sávant Vádi.

Very common throughout in bush jungle, gardens and groves.

462.—*Molpastes hæmorrhous*, Gm.

Kelshi.
Ratnagiri.

Abundant everywhere. Breeds in April and again in September.

463.—*Phyllornis jerdoni*, *Blyth*.

Kelshi.	Mahapral.	Múrshi.
Pévé.	Fanasgaon.	Kesarde.
Ratnagiri.	Sávant Vádi.	

Common and generally distributed from Coast to Gháts.

468.—*Iora tiphia*, *Lin.*

Kelshi.	Palgad.
Guhágur.	Khed.
Ratnagiri.	Vandri.
	Lánje.

Both forms, *tiphia* and *zeylonica*, are common throughout the tract. Breeds in March and April.

469.—*Irena puella*, *Lath.*

Sávant Vádi.	
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Very rare. A single specimen was obtained by Mr. Crawford's shikaree at Sávant Vádi.

470.—*Oriolus kundoo*, *Sykes*.

Ratnagiri.	Mandangad.	Dévrukh.
	Khed.	
	Sávant Vádi.	

Found sparingly. Not so common as *O. melanocephalus*. East of the Ghát range, in Sattara, *kundoo* is the common species, while *melanocephalus* is very rarely seen.

471.—*Oriolus indicus*, *Jerd.*

	Dévrukh.
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Very rare. Single specimen obtained. Dr. Fairbank has also recorded it from Sávant Vádi.

472.—*Oriolus melanocephalus*, *Lin.*

Kelshi.	Mandangad.	Dévrukh.
Ratnagiri.	Khed.	
Mátrau.	Sávant Vádi.	

Very common everywhere, from the Coast to the summit of the Gháts. It is gradually replaced east of the Ghát range by *O. kundoo*. This is evidently the species which Mr. Fairbank (S. F., IV., 259) calls *ceylonensis*,* and states to be found in the Konkan and on the western declivities of the Sáhyádri from Khandala to Goa.

* The name *CEYLONENSIS* was applied to the southern form, but the name *melanocephalus* was also originally applied to this, though later usually restricted to the northern one. But as a matter of fact, as anyone may prove who takes the trouble to examine a really large series from *all* parts of the empire, the two forms are not specifically separable, and Capt. Legge's proposed name for the northern form must be suppressed.—ED., S. F.

475.—*Copsychus saularis*, *Lin.*Kelshi.
Ratnagiri.Dapuli.
Khed.

Very common throughout. Breeds in May and June. One nest I found with four eggs in the hole of a tree was lined profusely with the dry leaves of the Casuarina tree.

476.—*Cercotrichas macrura*, *Gm.*Rájapur.
Sávant Vádi.

Rare. Seen also at Devrukh under the Gháts. Not found near the Coast, but I have seen so few that I cannot determine its exact distribution within the district.

479.—*Thamnobia fulicata*, *Lin.*Bankot.
Kelshi.
Pévé.
Guhágar.
Ratnagiri.

Khed.

Common everywhere on the bare and rocky hill sides and about villages. Breeds in March and April, in crevices between the boulders, or rocky hill sides.

481.—*Pratincola capratus*, *Lin.*

Pévé.

Khed.
Sávant Vádi.

Very common inland, and under the Gháts in scrub-clad hill sides. Less common on the Coast. Breeds in April.

483.—*Pratincola indicus*, *Bly.*

Ratnagiri.

Palgad.
Dapuli.
Khed.
Fanagaon.

Common in the cold weather in open country.

497.—*Ruticilla rufiventris*, *Vieill.*Palgad
Chiplun.

A cold weather visitant, and decidedly rare in the South Konkan.

507.—*Larvivora superciliaris*, *Jerd.*

Gotne.

A single specimen obtained in the Ghát jungles by Mr. Crawford's shikaree.

514.—*Cyanecula suecica*, *Lin.*

| Palgad. |

Only seen on one occasion on the banks of a grassy nullah.

515.—*Acrocephalus stentorius*, *Hemp. and Ehr.*

Málvan.		Khed.	
Vengorla.			

Rare.

516.—*Acrocephalus dumetorum*, *Bly.*

Kelshi.		Chiplun.	
Pévé.		Sávant Vádi.	
Guhágar.			
Ratnagiri.			

Common in the cold weather in trees and hedges.

530.—*Orthotomus sutorius*, *Penn.*

Bankot.		Khed.
Pévé.		
Ratnagiri.		

Common in gardens and hedgerows.

16th March 1878, *Female*.—Length, $4\frac{1}{2}$; wing, $1\frac{3}{4}$; tail, $1\frac{3}{4}$; tarsus, $\frac{3}{4}$; bill at front, $\frac{1}{2}$. Irides reddish yellow.

534.—*Prinia socialis*, *Sykes.*

Pévé. |

Rare. I have only found it in the locality mentioned, amongst some thorny bushes in a mangrove swamp.

538.—*Prinia hodgsoni*, *Bly.*

Ratnagiri.		Mandangad.		Dévrukh.
Pévé.		Palgad.		

Common in mangrove swamps, reeds, hedgerows, thickets, and bush jungle throughout the district. Breeds during the rainy months.

539.—*Cisticola cursitans*, *Frankl.*

| Khed. |

Found sparingly in open grass country in the cold weather.

543.—*Drymoeca inornata*, *Sykes.*

Kelshi.		Palgad.	
Pévé.			

Common throughout the tract.

544 bis.—*Drymœca rufescens*, Hume.

Bankot.
Guhagar.
Ratnagiri.

Palgad.

Found here and there in bush and scrub jungle, but not so common as *D. inornata*. One specimen (unsexed) measured :—

Length, $6\frac{1}{2}$; wing, $2\frac{1}{2}$; tarsus, $\frac{7}{8}$; tail, $3\frac{1}{2}$. Irides brownish yellow.

546.—*Drymœca neglecta*, Jerd.

| Khed. |

A single specimen obtained in January in long grass on the banks of a nullah measured (unsexed) :—

Length, 6; wing, $2\frac{1}{8}$; tail, $2\frac{3}{4}$; tarsus, $\frac{7}{8}$. Legs fleshy pinkish in front, yellowish behind; bill horny above, fleshy below; irides yellowish brown.

553 bis.—*Hypolais caligata*, Lichst.

| Khed. |

A single specimen only procured in long reeds close to a hot spring.

559.—*Phylloscopus nitidus*, Bly.

Ratnagiri. |

Common at Ratnagiri, where several specimens in bright plumage were got in October.

560.—*Phylloscopus viridanus*, Bly.

Pévé. |

Khed.
Dhāmāpur. |

Appears to be equally common as *nitidus*. But I have shot very few specimens, and did not at first discriminate the two species.

563.—*Reguloides occipitalis*, Jerd.

Ratnagiri. |

| Dévrukh.

Not common as far as my present limited observation of the species goes.

589.—*Motacilla maderaspatensis*, Gm.

Kelshi.
Ratnagiri. |

Not very common; more often seen on the Coast than inland.

591 *bis*.—*Motacilla dukhunensis*, *Sykes*.

Máivan. | Khed. |

Common inland in the cold weather; less common near the Coast.

592.—*Calobates melanope*, *Pall*.

Bankot. |
Ratnagiri. |

Occurs near the Coast in the cold weather, but is not very common.

593.—*Budytes cinereocapilla*, *Savi*.

Kelshi. |

This, or an allied form, is common in rice fields throughout the tract in the cold weather. But the only specimen I preserved was rather doubtfully accepted by Mr. Hume as *cinereocapilla*.

595.—*Limonidromus indicus*, *Gm*.

Vengorla. | Rájapur. |

21st February 1880, *Male*.—Length, $6\frac{5}{8}$; wing, $3\frac{5}{16}$; tail, $2\frac{5}{8}$; tarsus, $\frac{3}{4}$; bill at front, $\frac{1}{2}$.

Rare.

597.—*Anthus trivialis*, *Lin*.

| Khed.
| Dhámápur. |

Common in groves and gardens. If *maculatus* occurs I have hitherto overlooked it.

600.—*Corydalla rufula*, *Vieill*.

Pévé. | Mahapral. |

Common in rice fields and grassy plains.

631.—*Zosterops palpebrosa*, *Tem*.

| Khed.
| Sávant Vádi. |

Seen occasionally in thick groves and forests in small parties, but is decidedly scarce.

648.—*Machlolophus aplonotus*, *Bly*.

Guhágar. | Mahapral.
Ratnagiri. | Khed.
| Sávant Vádi. |

Not uncommon in well-wooded parts, either on the Coast or inland. Always found in small flocks. I was astonished on

one occasion to see one of these sprightly little tits catch and dispose of a huge hairy caterpillar, tearing it up piecemeal.

660.—*Corvus macrorhynchus*, Wagl.

Guhágar.		Dapuli.	•	
		Khed.		

Oppressively common. Divides the land with *splendens*. Breeds from March to May.

663.—*Corvus splendens*, Vieill.

Guhágar.		Mahapral.	
Pévé.		Dapuli.	
		Aroli.	
		Sangameshvar.	

More numerous on the whole than *macrorhynchus*, though in some villages the latter has a monopoly. Has two broods, the first in March and April and the second in November and December.

674.—*Dendrocitta rufa*, Scop.

Kelshi.		Palgad.	
Pévé.		Dapuli.	
Ratnagiri.			

Common about all well-wooded villages from Coast to Gháts. Breeds in April.

684.—*Acridotheres tristis*, Lin.

	Palgad.	
	Dapuli.	
	Rájapur.	

Plentiful in certain places, but not nearly so common or so widely distributed as *fuscus*.

7th February 1879, Female.—Length, 10; wing, $5\frac{3}{8}$; bill at front, $\frac{3}{4}$. Irides brown, with white spots.

686.—*Acridotheres fuscus*, Wagl.

Bankot.		Dapuli.	
Kelshi.			
Anjanvel.			
Guhágar.			
Ratnagiri.			

Exceedingly common. Breeds in May. The irides of all I. have seen were pale slate blue. A male measured:—Length, $9\frac{1}{2}$; wing, 5; tail, 3.

687.—*Sturnia pagodarum*, Gm.

Guhágar.			
Ratnagiri.			
Málvan.			
Scarce.			

16th March 1879, *Female*.—Length, 8; wing, $4\frac{1}{4}$; tail, $2\frac{1}{2}$; tarsus, 1. Irides pale yellow; bill blue at base, yellow at tip; legs yellow; orbital skin bluish white.

688.—*Sturnia malabarica*, Gm.

Kelshi.		Sárant Vádi.	
Pévé.			
Ratnagiri.			

Common at times in certain localities, but capriciously distributed. The head is always grey, and never white as in *blythi*.*

690.—*Pastor roseus*, Lin.

Bankot.		Palgad.		Dévruk.
Kelshi.		Dapuli.		

Common, though not seen in such immense flocks as in the Deccan. Always to be seen on silk cotton trees when in blossom, picking insects out of the flowers.

694.—*Ploceus philippinus*, Lin.

Ratnagiri.		Mahapral.	
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Very common, especially near the Coast. Roosts in large flocks in the stunted bushes growing in the tidal swamps. Breeds about August and September. On the Coast the nests are usually found on cocoanut trees. While inland the *bér* (*Zizyphus jujuba*), the *khair* (*Acacia catechu*), and bamboos are favourite sites. Moults in October.

697.—*Amadina malacca*, Lin.

Ratnagiri.			
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I found a small party of black-headed Munias at Ratnagiri in October in a mangrove swamp. I have not seen them elsewhere.

[698.—*Amadina rubronigra*, Hodgs.

Two specimens of this species, collected by Dr. Armstrong in the Ratnagiri district, were contained in the last batch of skins sent for identification.—A. O. H.]

699.—*Amadina punctulata*, Lin.

		Palgad.	
		Khed.	

Common inland. I have not observed it near the Coast.

* Although I expressed a disbelief in the validity of this species (S. F., VI., 391), Capt. Butler assures me that I am wrong, and has promised to procure me specimens of the true *S. blythi*, which, from his description, I have apparently never seen.—ED., S. F.

701.—*Amadina striata*, Lin.

Kelshi.		Dapuli.	
Ratnagiri.		Dhámápur.	

Common everywhere in gardens and jungles. I have found numbers of old nests used as roosting places, but have never succeeded in getting any eggs.

703.—*Amadina malabarica*, Lin.

	Palgad.	
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Scarce. I found a nest on the 20th January 1879 in hill side jungle in a bér (*Zizyphus jujuba*) tree. The nest, a round globe, was made externally of very dirty coarse grass, with a very small opening at the top on one side. The nest inside was also shabby, but the lining was of finer grass, and for ornament there were a few Green Paroquets' feathers. Two old birds were sitting on four eggs. I got one bird, and while I was waiting for the other to return a lizard got into the nest, and within five minutes succeeded in destroying three of the eggs, breaking two and making away with a third.

706.—*Passer domesticus*, Linn.

Bankot.		
Ratnagiri.		

Comparatively scarce, though found in most of the larger towns and villages. A considerable colony inhabits the old island fort of Suvamdurg, breeding in holes in the walls far away from the haunts of man.

711.—*Gymnoris flavicollis*, Frankl.

Ratnagiri.		Palgad.	
		Rájapur.	
		Khed.	

Seen in small flocks in the cold weather, but not common. I don't think it is a permanent resident.

721.—*Euspiza melanocephala*, Scop.

	Khed.	
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A rare and uncertain cold-weather visitant.

738.—*Carpodacus erythrinus*, Pall.

	Chiplun.	
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A pair were obtained at Chiplun in the cold weather. I have not seen it elsewhere in the district.

758.—*Ammomanes phænicura*, Frankl.

Péré.		Dapuli.	
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Very uncommon. I have only found it at the places specified.

760.—Pyrrhulauda grisea, Scop.

Ratnagiri.
Guhagar.
Pévé.

Dapuli.

Very common in the more open country, in fields and rocky table lands. Breeds in October, November, and again in April. The nests are tiny cups of grass, lined with tow and shreds of wool, probably pilfered from the blankets of the cowherds. I have never found more than two eggs in a nest. This species is very abundant on the rocky laterite plateau on the summit of the cliff at Ratnagiri. Here it builds its nest on the bare surface of the sheet rock. The nests are not hollowed out, but are built in all round with a little wall or embankment of loose gravel and detritus. There is no attempt at concealment, but as a sort of landmark, and perhaps with an idea that it gives protection, a small stone, from four to six inches high, is invariably found at the side of the nest. In fields, and wherever the soil admits of being dug up, a small hollow is scooped out, or else a natural hollow, such as a hoof mark, is chosen, but in these situations also I have always observed the small protecting stone.

765 bis.—Spizalauda malabarica, Scop.

Kelshi.
Ratnagiri.

Palgad.

Abundant in the fields and uplands. Sings loudly on the wing as well as when on the ground. October is the month in which the majority breed, but I have also taken eggs in November, and young birds in January. Possibly it has two broods. Three is the maximum number of eggs laid. The nests are moderate sized cups made of grass throughout, coarse exteriorly and finer inside. They are sometimes placed like those of *P. grisea* on the bare rock and sometimes under cover of grass or standing crops.

767.*—Alauda gulgula, ?

This species was obtained by Dr. Armstrong somewhere to the south of Ratnagiri, and he shewed me several specimens. I have not met with it myself.

773.—Crocopus chlorigaster, Bly.

Kelshi.

Common throughout wherever there are large groves of trees in secluded situations. Feeds on pipal and banyan berries, and the fruit of the *Zizyphus jujuba*.

775.—*Osmotreron malabarica*, Jerd.

| Sávant Vádi. |

Rare. In days gone by I have shot them also near Chiplun, but did not preserve any specimens. I have not found them near the coast.

786.—*Palumbus elphinstonii*, Sykes.

| | Durga Vádi.

A single specimen procured. Is not, I believe, uncommon in the Ghát forests throughout the range.

788.—*Columba intermedia*, Strickl.

Vengorla Rocks. | Chiplun. |

Not at all common, the ordinary Konkan fare of coarse hill grains being too meagre for its voracious appetite. A large colony inhabits one of the Burnt Islands or Vengorla rocks, and a few are found about the island fort of Suvamdurg, and about the large inland towns, living in the temples. Here and there, along the Ghát range, a few are also found about the rocky scarps.

There is a story, which I give for what it is worth, that the Vengorla rock Pigeons lay up during the fair season a regular granary for monsoon consumption. The very strong south-westerly winds, which prevail from June to September, make it very difficult for the Pigeons to return to the rocks after a trip to the mainland for food. It is said also that every year, at the end of May, the native boatmen plunder the Pigeons' godowns and carry off several maunds of grain. But I have never yet been able to verify the story.

793.—*Turtur meena*, Sykes.

| | Gotne.

This species is common at Mahableshwar in the cold weather, and I presume extends throughout the range. It can, however, scarcely be called a Konkan species, as it does not appear to descend the western slopes. Our only specimen was got at Gotne, the only piece of land in the Ratnagiri district which lies east of the Sáhýádri watershed.

794.—*Turtur senegalensis*, Linn.

| Sávant Vádi. | Gotne.

Very rarely found below the Gháts, though very common in the Deccan. Has only been obtained as yet at the places specified.

795.—Turtur suratensis, Gm.

Bankot.

Khed.

Pévé.

Ratnagiri.

The common Dove of the district, abundant everywhere from Coast to Ghâts. Nests with eggs taken in October, January and April.

796.*—Turtur risorius, Lin.

Phonda.

Very large flocks of the ashy Ring Dove visited the district in the cold weather of 1877-78, the year succeeding the Deccan famine. Dr. Armstrong got some specimens in that year from the Phonda Ghât, but unfortunately I did not preserve any. Their occurrence was, I now think, unusual, as I have not seen one in the two succeeding seasons although I have kept a sharp look-out for them. The dry plains in the central belt in the northern portion of Ratnagiri, in the neighbourhood of Dapuli, were covered with them in 1877-78, in December and January, and I fancy they must have been driven down to the Konkan in search of food, after the previous year's drought above the Ghâts.

797.—Turtur tranquebaricus, Herm.

Khed.

Very rare. I have only seen one pair in the cold weather of 1877-78 at the locality given.

798.—Chalcophaps indica, Lin.

Pachéri.

Rare. I have not seen the species alive, and owe the only two specimens I have to the kindness of a friend. They were shot about six miles from the Coast near the north bank of the Shastri river.

803.—Pavo cristatus, Lin.

Kelshi.

I have nothing to add to the note at page 89 of Vol. I of the GAME BIRDS OF INDIA, which is as follows:—"In the Ratnagiri district Pea-fowl are found here and there in suitable localities. Near the Coast they affect the steep slopes that overhang the large tidal creeks, if well clad with trees and bushy undergrowth. Going up these rivers in a boat Pea-Fowl may often be seen and heard about sunset, as they come down to the river banks to feed before roosting. Inland they resort to large temple forests, with luxuriant undergrowth,

hillside jungles, and well-wooded ravines. They are also found sparingly in the Sáhyádri forests, both on the summit and the western and eastern slopes.

"In no part of Ratnagiri are Pea-Fowl kept in a state of semi-domesticity as they are in other parts of India, and they are consequently wild and shy wherever found." * * * "In the jungles and forests Pea-Fowl eat various fruits and berries, such as the wild fig (*Covillio glomerata*) and the korinda (*Carissa carandas*)."

Pea-Fowl are also plentiful in Sávant Vádí, where their plumes are largely used in decorating hand-screens and mats, made of the roots of the kaskas grass. The feathers are collected in the jungles by the villagers and find a ready sale in the market.

813.—*Gallus sonnerati*, Tem.

| Sávant Vádí. |

Common in the forests on the top of the Sáhyádri, but scarce on the western slopes, which alone are included within Ratnagiri and Sávant Vádí limits. Very rarely strays towards the Coast, but is sometimes found on high hills between the Gháts and the Coast, and detached from the main range by deep valleys.

814.—*Galloperdix spadiceus*, Gm.

Kelshi. | Dhámápur.
Sávant Vádí. |

Common on the western slopes of the Gháts; and found sparingly in thick hillside jungle and temple groves throughout the tract.

829.—*Coturnix communis*, Bonn.

| Khed. |

Scarce and very uncertain in its arrival. A very few may be flushed in the cold weather in the fields of Pigeon Pea and *Dolichos* on the alluvial banks of the large rivers, and a few in grassy uplands; but a large bag can never be made.

Coturnix coromandelica, Gm.

Kelshi. | Lavel. |

Rain Quail are also very scarce indeed. Now and then a few brace are bagged in the cold weather in crops and grass, but it is seldom worthwhile beating for them on speculation. I have never seen or heard any during the rains, but my observations at this time of the year have always been limited

to the Ratnagiri station and its immediate neighbourhood, and I am unable to say whether they are permanent residents or not.

826.—*Perdicula asiatica*, Lath.

Bankot.	Mandangad.	Durga Vádi.
Kelshi.	Palgad.	
Guhágar.	Vághotan.	
Málvan.		

Very common in hillside scrub throughout the district; appears to replace *P. argoondah* entirely. Comes down from the hill sides to drink and feed in the stubbles on the banks of streams at sunset. I found a nest with two fresh eggs on the 17th January 1879. The eggs were much pointed at one end. These are of a pale *café au lait* tint. Dwarf Partridges roost, huddled together in the open, but generally close to some bush. Natives, after marking them down for the night, return after dark with a lantern, and by throwing a net over the place frequently secure a whole covey.

[These Ratnagiri specimens are most richly and deeply tinted, presenting a striking contrast to those procured in the dry regions of the N. W. Provinces.—A. O. H.]

832.—*Turnix taigoor*, Sykes.

Guhágar.	Palgad.	
Málvan.	Khed.	

Not very common, but is occasionally flushed in crops and thin hillside scrub.

835.—*Turnix dussumieri*, Tem.

	Khed.	
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Scarce. Probably only a cold-weather visitant.

839.—*Sypheotides aurita*, Lath.

	Lavel.	
	Chiplun.	

Floriakin rarely pass the Ghát barrier which divides the Konkan from the Deccan. In seven seasons spent in the Ratnagiri district I have only seen two birds at the places indicated. One was flushed while beating for Quail out of a crop of pulse, and the other in long rank grass. I have also heard of one having been obtained at Dapuli.

840.—*Cursorius coromandelicus*, Gm.

Guhágar.		
Ratnagiri.		

Scarce. Restricted, as far as my observation goes, to the bare laterite plateaus which stretch for about ten or twelve miles inland from the Coast.

842 bis.—*Glareola pratincola*, *Lin*

Ratnagiri. |

22nd August 1879, *Male*.—Wing, $8\frac{1}{2}$; tails, 5, forked for upwards of an inch; bill at gape nearly 1; tarsus, $1\frac{1}{4}$.

The occurrence of these Swallow Plovers at Ratnagiri is, I think, exceptional. The only occasion on which I have seen them was on the date above given, when I secured one out of a pair, which were hawking about on the bare table-land above the Ratnagiri station.

[This specimen was sent as *G. orientalis*, but it is unmistakably *G. pratincola*, with the deeply-forked tail and the white shaft to the first primary. This is quite a young bird, but the fork is already over 1.75.

This species breeds in Lower Sindh, whence I have numerous specimens, kindly collected for me with the eggs by Mr. Doig, and this specimen may be a straggler thence, or may have been blown over from Africa. This is the first time that *G. pratincola* has been observed within our limits outside of Sindh.

There is some difficulty in distinguishing specimens of *Glareola pratincola*, with imperfectly developed tails, from those of *G. orientalis*.

In Volume II, page 284, the difference between the two species was said to consist in—

(1), the greater degree to which the tail is forked, the exterior tail feathers in *pratincola* projecting from 2.0 to 2.5 inches beyond the central ones, while in *orientalis* they scarcely project an inch; (2), in the conspicuous white tippings to the short secondaries in *pratincola*, which is wanting in *orientalis*; (3), in the wing in *pratincola* being longer than in *orientalis*.

Now where the tail is fully developed the first is an infallible diagnosis; the second, broadly speaking, holds good, but I have now come across specimens of *pratincola* in which the white tipping is very inconspicuous, and others of *orientalis* in which there is a trace of this. As for the third it may hold good on an average of specimens, and the wings in *pratincola* run up to fully 8 inches, while I do not think that in *orientalis* they ever exceed 7.60 inches, and they are generally considerably smaller, but I have several *pratincola* in which the wing is under 7.50 inches, so that as a diagnosis the length of the wing is useless.

The following additional differences will aid in distinguishing the two species; (a) the shaft of the first primary in *orientalis* is brownish white, in some lights almost quite brown, while in *pratincola* it is nearly pure white, probably quite

pure in fresh specimens; (b) the black throat band (in adults) is distinctly broader and more strongly marked in *orientalis*; (c) there is more black (again in adults of course), in front of and under the eye in *orientalis*; (d) there is a more pronounced rufous tinge on the breast and upper abdomen of adults of *orientalis*; (e) the upper plumage is of a slightly darker shade, and there is generally a more marked rufous tinge on the back of the neck of *orientalis*; (f) the red of the gape, which is present in adults of both species, extends more on to the lower surface of the lower mandible in *pratincola* than in *orientalis*.

Bearing in mind all these points there ought to be no difficulty in separating specimens of the two species, even where the tails are imperfect.—A. O. H.]

844.—*Squatarola helvetica*, Lin.

Málvan.

23rd January 1880, Male.—Length, $11\frac{1}{2}$; wing, $7\frac{1}{2}$; tail, $3\frac{1}{2}$; tarsus, $1\frac{3}{4}$; bill, $1\frac{1}{4}$. Irides brown; bill black, pale horny at base.

I have only seen Grey Plover hitherto at the locality named.

845.—*Charadrius fulvus*, Gm.

Bankot.

Kelshi.

Ratnagiri.

Common in the cold weather on the mud and sedge banks of the tidal creeks and wet paddy fields. At high tide, when the mud flats are covered, these Plovers congregate in largish flocks, and after circling round a few times often fly inland to the dry plains and uplands where they pass their time till the receding tide again leaves their feeding grounds accessible.

They arrive early and leave late as compared with other migrants, and at one time I thought it possible that a few stayed to breed on the laterite plateau above the Ratnagiri station. On the 16th April one year I saw Golden Plover there in almost full breeding plumage, and on the 2nd September following shot young birds apparently too weak to have come a long journey. But I have since ascertained, beyond reasonable doubt, that no Plover do remain during the rains at Ratnagiri.

[845 quat.—*Ægialitis asiatica*, Pall.

Amongst the specimens forwarded to me for verification by Mr. Vidal was one identified by him as *Ægialitis geoffroyi*, shot at Ratnagiri on the 10th of October 1879. The slender

bill and the very broad, unbroken, whitey-brown breast-band at once attracted my attention and closer examination, and a comparison with specimens sent me by Mr. Harting proved that this bird was really a young individual of *Ægialitis asiatica*.

This is the first authentic instance of the occurrence of this species within our limits.

The nearly allied *vereda* has been once procured at the Andamans (*vide* S. F., I., 83); but, so far as I know, there is no reliable record of the present species having been previously obtained in the British Asian empire. It will be found fully described in S. F., VII., 438.

Dresser says: "This species inhabits Western Asia, straggling rarely into the Western Palæarctic region; and in the winter season is found in Africa as far south as the Cape of Good Hope;" and Harting says, after mentioning that it was first discovered by Pallas about the Salt Lakes in the southern deserts of Tartary: "Its usual line of migration appears to be by the Red Sea shore and Abyssinia to South and South-West Africa." And as Severtzoff found it breeding throughout Russian Turkestan, and it has been met with on the Caspian, in Palestine, on the north coast of Egypt and the Gulf of Suez, we might believe that this, the western form, migrated from Siberia to the Cape of Good Hope just as the larger eastern form, *Æ. vereda*, migrates from Northern China to Australia. In the case of both species stragglers would be dropped here and there along the route, and individuals wander right and left of the route, a stray *asiatica* turning up at Heligoland and a stray *vereda* at the Andamans. But it would seem from what Heuglin says about meeting with this species in full breeding plumage in April and May, and the young in autumn in the swamps of East Kordovan, on the lower portions of the White and on the Blue Nile, in the beds of the rain torrents of the province of Kalabat and along the shores of Lake Tana in Abyssinia, that it breeds in Africa also, the more so that he adds that it has been observed in June by others.

The migration of this species is, therefore, by no means so clear and distinct as has been thought, and at present we can be by no means sure whether this Ratnagiri bird is an African-bred one blown over from the Red Sea, or a Siberian or Turkestan-bred one, which in its migration to the south-west has taken a easterly course.

The present specimen is a young one, the whole plumage of the upper surface narrowly fringed with pale buff or reddish white.

The dimensions of the *skin* are as follow:—

Length, 8·4; wing, 5·5; tail (*from insertion of feathers*), 2·2; bill at front (*from margin of feathers*), 0·87; bare portion of tibia, 0·75; tarsus, 1·42.

The tarsus is short. In a very similar but somewhat older bird, killed on the 4th January at Ofjimbigne, Damara land, it is 1·5 full, and in an adult 1·6 nearly. I say nothing further here as to the diagnosis of this species, because there are now nine species of *Ægialitis* known certainly to occur within our limits, and I propose to give separately a rough key by which these species may be readily distinguished in the plumage in which we usually meet with them.—A. O. H.]

846.—*Ægialitis geoffroyi*, Wagl.

Guhágar.		
Ratnagiri.		

16th March 1879, *Female*.—Length, $8\frac{1}{2}$; wing, $5\frac{3}{4}$; tarsus, $1\frac{1}{2}$; bill, 1.

Rare. The only specimens I obtained were amongst mixed flocks of *mongola* and *cantiana*.

847.—*Ægialitis mongola*, Pall.

Guhágar.		
Ratnagiri.		
Málvan.		

6th March 1879, *Female*.—Length, $7\frac{1}{2}$; wing, 5; tarsus, $1\frac{1}{4}$; bill, $\frac{3}{4}$ at front. Legs plumbeous; feet and toes darker; bill, orbits, and irides black.

Very common in the cold weather on the Coast and on the banks of the tidal creeks.

848.—*Ægialitis cantiana*, Lath.

Guhágar.		
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6th March 1879, *Female*.—Length, $6\frac{3}{4}$; wing, $4\frac{1}{4}$; tarsus, 1. Legs light plumbeous; feet darker; bill black, yellow at base; orbits black; irides brown.

4th March 1879, *Male*.—Length, $6\frac{1}{2}$; wing, $4\frac{1}{4}$; tarsus, $1\frac{1}{8}$. Not so common as *mongola*.

849.—*Ægialitis dubia*, Scop.

Guhágar.		Mahapral.		Dévruk.
Vengorla.				

5th March 1879, *Female*.—Length, 7; wing, $4\frac{5}{8}$; tarsus, 1. Legs yellow; bill black, yellow at base; orbits yellow; irides dark brown.

Generally distributed from Coast to Gháts, though scarce inland. I have frequently seen these Plovers in pairs towards

bill and the very broad, unbroken, whitey-brown breast-band at once attracted my attention and closer examination, and a comparison with specimens sent me by Mr. Harting proved that this bird was really a young individual of *Ægialitis asiatica*.

This is the first authentic instance of the occurrence of this species within our limits.

The nearly allied *vereda* has been once procured at the Andamans (*vide* S. F., I., 83); but, so far as I know, there is no reliable record of the present species having been previously obtained in the British Asian empire. It will be found fully described in S. F., VII., 438.

Dresser says: "This species inhabits Western Asia, straggling rarely into the Western Palæarctic region; and in the winter season is found in Africa as far south as the Cape of Good Hope;" and Harting says, after mentioning that it was first discovered by Pallas about the Salt Lakes in the southern deserts of Tartary: "Its usual line of migration appears to be by the Red Sea shore and Abyssinia to South and South-West Africa." And as Severtzoff found it breeding throughout Russian Turkestan, and it has been met with on the Caspian, in Palestine, on the north coast of Egypt and the Gulf of Suez, we might believe that this, the western form, migrated from Siberia to the Cape of Good Hope just as the larger eastern form, *Æ. vereda*, migrates from Northern China to Australia. In the case of both species stragglers would be dropped here and there along the route, and individuals wander right and left of the route, a stray *asiatica* turning up at Heligoland and a stray *vereda* at the Andamans. But it would seem from what Heuglin says about meeting with this species in full breeding plumage in April and May, and the young in autumn in the swamps of East Kordovan, on the lower portions of the White and on the Blue Nile, in the beds of the rain torrents of the province of Kalabat and along the shores of Lake Tana in Abyssinia, that it breeds in Africa also, the more so that he adds that it has been observed in June by others.

The migration of this species is, therefore, by no means so clear and distinct as has been thought, and at present we can be by no means sure whether this Ratnagiri bird is an African-bred one blown over from the Red Sea, or a Siberian or Turkestan-bred one, which in its migration to the south-west has taken a easterly course.

The present specimen is a young one, the whole plumage of the upper surface narrowly fringed with pale buff or reddish white.

The dimensions of the *skin* are as follow:—

Length, 8·4; wing, 5·5; tail (*from insertion of feathers*), 2·2; bill at front (*from margin of feathers*), 0·87; bare portion of tibia, 0·75; tarsus, 1·42.

The tarsus is short. In a very similar but somewhat older bird, killed on the 4th January at Offimbuigne, Damara land, it is 1·5 full, and in an adult 1·6 nearly. I say nothing further here as to the diagnosis of this species, because there are now nine species of *Ægialitis* known certainly to occur within our limits, and I propose to give separately a rough key by which these species may be readily distinguished in the plumage in which we usually meet with them.—A. O. H.]

846.—*Ægialitis geoffroyi*, *Wagl.*

Guhágar.
Ratnagiri.

16th March 1879, *Female*.—Length, $8\frac{1}{2}$; wing, $5\frac{3}{4}$; tarsus, $1\frac{1}{2}$; bill, 1.

Rare. The only specimens I obtained were amongst mixed flocks of *mongola* and *cantiana*.

847.—*Ægialitis mongola*, *Pall.*

Guhágar.
Ratnagiri.
Málvan.

6th March 1879, *Female*.—Length, $7\frac{1}{2}$; wing, 5; tarsus, $1\frac{1}{4}$; bill, $\frac{3}{4}$ at front. Legs plumbeous; feet and toes darker; bill, orbits, and irides black.

Very common in the cold weather on the Coast and on the banks of the tidal creeks.

848.—*Ægialitis cantiana*, *Lath.*

Guhágar.

6th March 1879, *Female*.—Length, $6\frac{3}{4}$; wing, $4\frac{1}{4}$; tarsus, 1. Legs light plumbeous; feet darker; bill black, yellow at base; orbits black; irides brown.

4th March 1879, *Male*.—Length, $6\frac{1}{2}$; wing, $4\frac{1}{4}$; tarsus, $1\frac{1}{8}$. Not so common as *mongola*.

849.—*Ægialitis dubia*, *Scop.*

Guhágar.
Vengorla.

Mahapral.

Dévruk.

5th March 1879, *Female*.—Length, 7; wing, $4\frac{5}{8}$; tarsus, 1. Legs yellow; bill black, yellow at base; orbits yellow; irides dark brown.

Generally distributed from Coast to Gháts, though scarce inland. I have frequently seen these Plovers in pairs towards

the end of April and May, and although I have not found their nests believe them to be permanent residents.

852.—Chettusia gregaria, Pall.

Ratnagiri.		
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A young male, wanting the black on the breast. One of a party of three was shot on the table land above the Ratnagiri station, on the 31st October 1878, by Mr. Crawford's shikaree. I have not seen it elsewhere in the district.

855.—Lobivanellus indicus, Bodd.

Bankot.		Khed.
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Pévé.		
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Guhágar.		
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Ratnagiri.		
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Abundant everywhere, usually in pairs, but sometimes in large flocks. Breeds in bare stubbles on the banks of the rivers in March and April.

856.—Lobipluvia malabarica, Bodd.

Kelshi.		Fanasgaon.
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Ratnagiri.		
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Scarce. A pair is now and then seen on the dry laterite table lands near the Coast, and on the plains of the central tracts, but one may travel many miles without seeing the species.

859.—Ædicnemus scolopax, S. G. Gm.

Ratnagiri.		Dhámápur.
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Rare. For many years I had never once seen or heard of this species in the district, and should have been prepared to assert confidently that it did not occur. But in bird collecting unexpected discoveries are always being made. Last year Mr. Crawford's shikaree shot a single bird, the only one he saw, on the rocky table land above the Ratnagiri station, at the latter end of the monsoon. This year I came across three or four pairs on a bare rocky plateau on the outskirts of a dense jungle which flanks one side of a large tank at Dhámápur, in the south of the district.

860.—Streptilas interpres, Lin.

Málvan.		
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I have only come across the turnstone as yet on one occasion. Out of a small party of four or five my shikaree got a single specimen at Málvan in April 1880.

862.—*Hæmatopus ostralegus*, *Lin.*

Kelshi.
Ratnagiri.

Scarce. A few are to be seen in the cold weather at the estuaries of the principal creeks, but they seldom travel more than a mile or so from the Coast, and are very wary and shy. The 2nd October is the earliest date on which I have noticed them.

870.—*Gallinago sthenura*, *Kuhl.*

Mahapral.
Mandangad.

Pintail Snipe come in, in considerable numbers, in October and November. The earliest date on which I have shot them is the 2nd October, and the latest the 16th April. The supply varies very much according to seasons. I am inclined to think that, as a rule, the best times are those succeeding years of lightest rainfall. After an exceptionally heavy rainfall in 1878, the highest indeed on record, both this and the next species were decidedly scarce, as indeed were many other migratory aquatic birds. It may be, as I suggested in a paper in "STRAY FEATHERS," Vol VIII., p. 175, that the rainfall having been everywhere proportionally heavy, the birds were arrested in their southerly flight. Or it may be, possibly, that the inundated area being everywhere larger after heavy rains, the birds are more scattered and appear to be in smaller numbers. The result to the sportsman, however, is the same, and only small bags are made. Snipe-shooting in Ratnagiri can seldom be had before the first or second week in November, after the monsoon rice has been harvested. Even then the birds are so scattered and uncertain in their choice of grounds that a great deal of heavy walking is necessary to make a moderate bag. The best grounds are the low-lying khárvat rice fields, on the banks of the tidal creeks, and reclaimed from the salt water by earthen embankments. But in shooting over such grounds it is well, if possible, to choose your time so as to have two or three hours of the highest tide; for all round the paddy fields are acres and acres of mud swamps with stunted thorny bushes, in which many of the birds lie at low tide until they are driven up to the fields by the flood. These mud swamps, intersected by numerous deep channels and full of pit-falls and sticky black slush, are too nasty walking to tempt even the most enthusiastic sportsman. But as the Snipes themselves are driven from these pestilent strongholds by the tide there is happily no necessity to venture into them. The best Snipe-shooting is to be had near the Coast in the vicinity of the large rivers. But inland

there are many snug little grounds formed by terraced rice fields at the foot of the hills, and here and there a low-lying tank, where the monsoon water, rapidly receding, leaves an oozy bed of rushes and sedge, where a few Pintails are always at home. December and January are the best months for Snipe-shooting, as by that time the superfluous rain-water has all evaporated, and the birds are concentrated in all their regular legitimate haunts, whereas earlier in the season the area of wet ground is so large that there is no knowing where to look for them.

871.—*Gallinago gallinaria*, Gm.

Kelshi. | |

Equally distributed and equally common with *sthenura*. I have kept no accurate record of the numbers of each species I have shot, but I usually find, after a day's shooting, about as many common Snipe as Pintails in the bag. Sometimes the Pintails preponderate, probably because they are not so often missed, for although the two species cannot perhaps be discriminated with certainty on the wing, the Pintail has, I believe, a steadier and less erratic flight.

872.—*Gallinago gallinula*, Lin.

Kelshi. | |

One or two are usually flushed in the larger Snipe grounds, but the Jack is not very common.

873.—*Rhynchæa bengalensis*, Lin.

Ratnagiri. |

Khed. |

Common here and there in patches of reeds and grass in semi-reclaimed rice fields, sometimes flushed in pairs, and sometimes in large wisps of from a dozen to twenty or more birds.

877.—*Numenius lineatus*, Cuv.

Kelshi. | |

Curlew come in September and leave about the end of March. The earliest arrival I have noted is the 31st August. They are found about the estuaries of all the principal creeks, on the mud banks and spits of sand. Occasionally in the early part of the season they are seen a few miles inland, feeding on open grassy plains, where the ground is still damp and soft after the monsoon rains.

878.—*Numenius phæopus*, *Lin.*Ratnagiri.
Málvan.

Equally common with Curlew in the same localities, but is, as far as I have been able to observe, much later in arriving.

880.—*Machetes pugnax*, *Lin.*

Ratnagiri.

I shot a solitary Ruff in winter plumage on the mud flats at Ratnagiri, on the 22nd September 1879. I have not seen the species before or since.

He measured as follows:—Length, $12\frac{1}{2}$; wing, $7\frac{3}{4}$; tarsus, 2 nearly; tail, $2\frac{1}{2}$; bill at front, $1\frac{3}{8}$. Irides brown; legs greenish.

882.—*Tringa subarquata*, *Güld.*

Ratnagiri.

30th October 1879, *Male*.—Length, 8; wing, 5; bill, $1\frac{1}{2}$ at front; tarsus, $1\frac{1}{4}$.

Large flocks of Curlew Stints come in to Ratnagiri in October 1879, and I have since seen them in considerable numbers at Málvan; but strange to say I have never seen any in previous seasons, although they are doubtless regular winter visitants.

884.—*Tringa minuta*, *Leisl.*

Ratnagiri.

17th October 1879, *Female*.—Length, $5\frac{3}{4}$; wing, 4; tarsus, $\frac{3}{4}$; bill at front, $\frac{3}{4}$.

Like the Curlew Stint, I saw numbers of the Little Stint at Ratnagiri throughout last October, but had never seen it in previous seasons. The earliest date on which I first observed both species was the 22nd October.

888.—*Calidris arenaria*, *Lin.*

Málvan.

I shot a Sanderling at Málvan on a sand bank in January 1879, amongst a large and motley flock of *Agiliatis mongola* and *cantiana* and *Tringa subarquata*. It was a female measuring—

Length, $7\frac{1}{2}$; wing, $4\frac{3}{4}$; tarsus, 1; bill, 1. Bill black; legs dusky grey. This is the only occasion on which I have seen the bird.

891.—*Rhyacophila glareola*, Lin.

Kelshi. |

Scarce. Very seldom seen on the banks of the creeks, but more often by the margins of reedy tanks.

892.—*Totanus ochropus*, Lin.

Mahapral. |

Palgad. |

More common than *Rhyacophila*, but still comparatively scarce.

893.—*Tringoides hypoleucus*, Lin.

Bankot. |

Excessively common in the cold season, and generally distributed from Coast to Gháts.

894.—*Totanus glottis*, Lin.

| Mahapral. |

Common in some years and scarce in others. Keeps as a rule to tidal waters.

897.—*Totanus calidris*, Lin.

Kelshi. |

Common on some of the larger rivers, but not universally distributed.

898.—*Himantopus candidus*, Bonn.

| Dhámápur. |

Rare. I shot a pair of Stilts in February 1880, on a large tank at Dhámápur, and have seen a pair at Kelshi at the estuary of the creek. These are the only occasions on which I have noticed the species.

901.—*Hydrophasianus chirurgus*, Scop.

| Chiplun. |

8th December 1878, *Female*.—Length, 13; wing, 8; tarsus, $2\frac{1}{4}$; mid toe and claw, 2; hind toe and claw, 2. Irides yellow.

Not common. There are a few reedy and deserted tanks scattered about the district in which small parties of these pretty Jacanas are occasionally found in the cold weather and in winter plumage.

903.—*Fulica atra*, Lin.

| Chiplun. |

The Bald Coot was very plentiful on the Vashishti river some years ago, and on many of the tanks about Chiplun.

Latterly they have almost entirely deserted their old haunts. For two years not a single Coot was to be seen. This year, 1879-80, which has been a moderately good season for all aquatic birds, I found a few pairs again established on the Vashishtti.

905.—*Gallinula chloropus*, Lin.

| Chiplun. |

I shot a pair of Water Hens in a tank near Chiplun last year. One or two are usually to be seen on any secluded pond overgrown with lilies and sedge.

907.—*Erythra phænicura*, Penn.

Kelshi.

| Mahapral.
Savant Vadi. |

Common throughout the tract, both in the mangrove swamps that fringe the larger creeks, and in irrigated garden lands. Breeds during the rains.

910.—*Porzana bailloni*, Vieill.

Ratnagiri.

| Chiplun. |

Flushed occasionally in Snipe grounds and on the margins of tanks from Ratnagiri northwards. Hitherto I have seen no specimens to the south, but don't doubt its occurrence there also.

911.*—*Porzana fusca*.

I am rather doubtful as to the propriety of entering this species in a list which, if inaccurate, is worse than useless. One day, however, I saw, while passing in a canoe by a narrow tidal gullet through a mangrove swamp at Ade, a little Red-cheeked Rail, which I felt sure must have been *Porzana fusca*.

As I was at the time intent on following a wily Otter I let it pass. Returning shortly afterwards the little skulker was nowhere to be found, and as usually happens when one particularly wants to verify a doubtful point, I have been unable to find the species again.

913.—*Hypotænidia striata*, Lin.

Pévé.

| Chiplun. |

Málvan.

30th March 1879, *Male*.—Wing, $4\frac{3}{4}$; bill, $1\frac{3}{8}$; tail, $1\frac{1}{2}$; mid toe and claw, $1\frac{1}{4}$. Irides red; legs greenish; bill dusky above, reddish below.

I passed several years in the district before I came across this species. Last year I found a small colony in a mangrove

swamp on the Vashishti, and this year have shot one in some swampy land near Málvan. Rails are always troublesome birds to find. The large area of mangrove swamps throughout the Coast section should attract and keep a number and variety of Rails, but somehow, if they occur, they manage to keep in wonderfully close hiding.

920.—*Dissura episcopa*, Bodd.

| Mahapral. |

Scarce near the Coast, more common inland beyond the limit of the tidal waves, but everywhere uncertain in its occurrence. It is one of many species which the large rivers of the Deccan seem to attract in much greater numbers than do the streams of the sub-ghát littoral.

923.—*Ardea cinerea*, Lin.

| Mahapral. |

Common on all the large tidal rivers.

924.—*Ardea purpurea*, Lin.

| Chiplun. |

Common on the Vashishti and Savitri rivers, but less often seen than *cinerea*, as it keeps more closely to the cover of mangrove swamps, and seldom feeds on the open mud banks.

925.—*Herodias torra*, B.-Ham.

Pévé.

| Mahapral. |

12th April 1878, *Male*.—Length, 34; wing, $14\frac{1}{2}$; bill from gape, $4\frac{1}{2}$; tarsus, $5\frac{1}{2}$; mid toe, $3\frac{3}{4}$.

25th April 1879, *Male*.—Length $37\frac{1}{2}$; to end of dorsal train, 43; wing, $14\frac{3}{4}$; tarsus, 6; bill from gape, $4\frac{1}{4}$; mid toe and claw, 4.

Legs, feet, and claws black; bill yellow, mixed with dusky; orbital skin greenish yellow.

Common throughout the cold weather on all the creeks, staying till late in May, by which time the dorsal train is in its full development.

927.—*Herodias garzetta*, Lin.

Pévé.

| |

30th March 1879, *Female*.—Wing, $10\frac{7}{8}$; tail, $3\frac{3}{4}$; tarsus, $3\frac{1}{8}$; bill at front, $3\frac{1}{4}$; expanse, $38\frac{1}{2}$. Legs black; feet mixed yellow and black.

Very common everywhere, and not restricted as *torra* to the large tidal rivers, but straying far inland to fresh-water streams

and tanks. Comes and goes with *torra*. Roosts also in company with all the other Herons in mangrove swamps, side by side with Cormorants, Snake Birds, Ibis and Crows. *Garzetta* appears to retain its dorsal train and pectoral plumes much longer than any other species. Specimens have been shot late in March with the last year's train in more or less perfect condition. *Torra*, on the other hand, by November or December at the latest loses all vestige of its breeding plumage.

928.—*Demiegretta gularis*.

Bankot.

One or two ashy Egrets usually accompany each mixed flock of *Herodias torra* and *garzetta*, but like them are frequently solitary by day.

929.—*Bubulcus coromandus*, *Bodd*.

Mahapral.

Abundant in certain places, but not found everywhere. There are of course numbers to be seen in the neighbourhood of all the large creeks. Here and there, also in some inland villages far removed from any large stream, and where one least expects them, a colony of cattle Egrets is found. Whether these or any other Egrets stay to breed anywhere in the district I cannot say. At Ratnagiri itself there are plenty of suitable places. Thousands of Herons might build in the tree-clad swamps about the tidal backwaters without fear of molestation. But as far as I have been able to see the first burst of the monsoon makes a clean sweep of *Ardea cinerea* and *purpurea*, *Herodias torra* and *garzetta*, and *Bubulcus coromandus*. Up to the end of May there is no apparent diminution in their numbers, and most of the birds are then in fully-developed breeding plumage. But look where you will in the lull which succeeds the first grand storm and you see no Herons. Last year I had specially good opportunities of observing this sudden exodus. Starting on the night of the 22nd May I marched straight into Ratnagiri by the Coast road from Anjanvel, a distance of about fifty miles. On the morning of the 23rd the day broke clear and fine, the sky was blue, and there were no indications of a coming storm. At every little creek I crossed the White Egrets were stalking about in their usual unconcerned way. Suddenly, at about 8 A.M., a violent hurricane sprung up from the north-east, and black rain clouds came racing up from all quarters of the heavens. Rain fell in torrents, at short intervals from then till noon of the following day. The

wind veering gradually round from south-east and south to south-west became a regular cyclone. A more miserable journey, in the teeth of this hurricane, till I was safely landed in my own house at midnight, drenched and limp, I never had. Each small ferry crossing was like the British Channel in a sou-wester. Hundreds of native craft, totally unsuspecting of all danger, were wrecked close to shore. Many more were broken to pieces while anchored in fancied security in the snug little fair-weather ports all down the Coast. Few that were taken aback by this hurricane lived to tell the tale, and for days and weeks the seaboard was strewn with spars and bales, with here and there the corpses of the drowned, and knots of anxious men and women gathered round, fearing to identify a missing comrade or relation. The day after this disastrous storm no Herons or Egrets of any description could I see about the tidal swamps. There were many wise men and old inhabitants who doubted that this cyclone was the bursting of the true monsoon. But the birds knew better and they proved right. No more Egrets were seen till the following September. It is possible that some of the Egrets may stay to breed on the Vashishti and Savitri. I can only answer for none being found at Ratnagiri during the rains. I am inclined to think that the rainfall is everywhere too heavy to make the business of nidification a comfortable employment. *Butorides javanica*, the only species of the *Ardeidae*, which I know for certain to breed in the district, must, from the dates on which I have found its nests, get the work over before the heavy rains have set in.

930.—*Ardeola grayii*, Sykes.

| Mahapral. |

Very abundant throughout the wet area of the district. Dons its breeding plumage at the end of April. I have never found its nest.

931.—*Butorides javanica*, Horsf.

Ratnagiri.

| Mahapral. |

| Khed. |

| Vaghota. |

Common and widely distributed both inland and on the Coast. On the 15th April 1878 I have found a nest in a thorny bush, a few feet from the ground, on the banks of a small creeklet running into the Savitri river. The nest was a small stick platform, very shallow, with only a slight depression. Two fresh eggs of the usual *eau de nil* colour were secured. In shape they were almost perfect ovals, measuring about 1.62 x

1-18. On the 20th April following another nest, with one fresh egg, was found in a similar situation.

933.—*Ardetta cinnamomea*, Gm.

Málvan. | Sávant Vádí. |

In addition to the localities mentioned I shot a Chestnut Bittern in a Snipe ground near Dapuli, but did not preserve the specimen. I imagine it will be found to be very sparingly distributed in suitable places throughout the district.

937.—*Nycticorax griseus*, Lin.

Málvan. | Dhámápur. |

Rare. I did not see the species at all in the northern parts of the district, but may of course have overlooked it.

939.—*Platalea leucorodia*, Lin.

| Chiplun. |

Up till this year I believed that this species, as well as *Tantalus leucocephalus*, *Anastomus oscitans*, *Inocotis papillosus*, and *Falcinellus igneus*, all comparatively common on the rivers of the adjoining Sattara district, never descended the Gháts into the Konkan. Last November, however, I was surprised and interested to see for the first time a couple of Spoonbills on the Vashishti. They were in miserable plumage, and were evidently stragglers, who, like Artemus Ward during a trip by steamer, "felt sick and sorry they'd come." The laws which govern the distribution of species having the same habits, and requiring the same food, do occasionally seem capricious. Why should *Ibis melanocephala* be comparatively common, while *Tantalus leucocephalus* was a total stranger?

941.—*Ibis melanocephala*, Lath.

| Mahapral. |

Comes to the Savitri and Vashishti rivers in considerable flocks in the cold weather. Its flesh is thought an especial dainty by both Marathas and Musalmans, although described, says Jerdon, as execrable by a writer in the *Bengal Sporting Review*.

944.—*Phaenicopterus roseus*, Pall.

Ratnagiri. | |

Flamingos occasionally are seen on the mud flats at Ratnagiri. Dr. Armstrong got several specimens in 1877-78, and I got a pair on 31st October 1879.

31st October 1879, *Female*.—Length, 43; wing, 15; tarsus, 12; bare portion of tibia, $7\frac{1}{2}$; bill from base to tip round curve,

5½. Irides pale yellow; bill pink, with black tip; edges of both mandibles black; orbits pale pink; legs bright pink.

951.—*Nettapus coromandelianus*, Gm.

| Chiplun. |

Scarce and usually solitary. I have only seen it at the locality mentioned, but Dr. Armstrong, I believe, got some specimens at Ratnagiri.

952*.—*Dendrocygna javanica*, Horsf.

Rare. Several years ago I shot three or four brace out of a moderate sized flock, which I found feeding on some paddy fields on the banks of the Vashishti. Dr. Armstrong has also got specimens from the Ratnagiri district, but I am not aware of the exact locality where he obtained them.

957*.—*Spatula clypeata*, Lin.

I have only seen one flock of Shovellers since I first travelled in the district. I found them on a narrow inland stream, and though I shot several unfortunately did not preserve a single skin.

961*.—*Chaulelasmus streperus*, Lin.

In old days I have shot Gadwall on the Vashishti, and eaten them, but have no skins to bear me witness, and have not seen any during the last two seasons.

962.—*Dafila acuta*, Lin.

| Chiplun. |

19th November 1879, Male.—Length, 23; wing, 10½; bill, 2½; tarsus, 1¾; tail, 4½. Legs blue; irides brown; bill black, blue at sides.

Pintails are to be seen in some years in small parties in the large Duck ground at the junction of the Vashishti and Tagbudi rivers; but they come late and go early.

963.—*Mareca penelope*, Lin.

Ratnagiri. | Chiplun. |

Wigeon in some years are very abundant on the Vashishti river, congregating in large flocks of five hundred birds or more; but they are not, like common Teal, widely distributed. In 1878-79, after the highest rainfall on record, not a Wigeon was to be found in the district; but in 1879-80, after a year of moderate rainfall, they reappeared again in their usual strength on the Vashishti. Wigeon arrive comparatively late and usually leave by the end of February. Before the reeds

on the mud banks have been cut, very pretty shooting is to be had at the junction of the Vashishti and Tagbudi rivers by stealing up the lagoons in a light and silent canoe. But after the reeds are cut the Duck get very wild and cannot be approached by land or water. The only way then is to take up a position in ambush at the edge of some swamp over which they pass and repass on their way from one ground to another, and to have them driven backwards and forwards.

964.*—*Querquedula crecca*, *Lin.*

Ratnagiri. | Chiplun. |

Teal are more widely distributed than Wigeon, but never appear in such large flocks. They come in earlier before the rice crops are cut and stay later than Wigeon.

965.*—*Querquedula circea*, *Lin.*

Ratnagiri. | |

Blue Winged Teal are comparatively scarce.

969.—*Fuligula nyroca*, *Güld.*

| Vanoshi. |

Rare. I shot a single specimen of the White-eyed Duck out of a flock of five or six in a weedy tank near Khed in December 1878. The skin was preserved, but was unfortunately carried off while drying by a wanton Kite.

971.—*Fuligula cristata*, *Lin.*

Ratnagiri. | Chiplun. |

21st November, 1879, *Male*.—Length, 17; wing, $8\frac{1}{2}$; bill, $1\frac{7}{8}$; tarsus, $1\frac{1}{2}$; tail, $2\frac{1}{2}$; mid toe and claw, $2\frac{3}{4}$. Irides golden.

2nd November 1879, *Female*.—Young bird.—Wing, $7\frac{7}{8}$; tarsus, $1\frac{1}{4}$; bill, $1\frac{5}{8}$; mid toe and claw, $2\frac{1}{4}$. Irides pale brownish yellow.

Before this year I had never seen the Indian Golden Eye in this district. But in November I shot a solitary specimen at Ratnagiri, and a little later found considerable flocks of them on the Vashishti river, feeding in the inundated paddy fields. It is probable that two or three more species of Duck than are entered in this list occur. But except Wigeon and Common Teal all the Duck are very uncertain in their comings and goings.

975.—*Podiceps minor*, *Gm.*

Mālvān. | Chiplun. |

Common on all large weedy tanks.

978 ter.—*Larus affinis*, Reinh.

Ratnagiri.
Málvan.

Specimens were got by Dr. Armstrong, and I have also got it at Málvan and Ratnagiri. It does not appear to be common.

979.—*Larus ichthyæetus*, Pall.

Guhágar.

I have only seen this Gull as yet on one occasion. A single specimen was obtained out of a party of five or six.

26th March 1879, *Male*.—Length, 26; wing, 19; expanse, 62; tail, 7; tarsus, 3; bill at front, $2\frac{1}{2}$, at gape, $3\frac{1}{2}$. Irides brown; bill yellow orange at gape, red at tip, with a dusky spot; legs and feet yellow.

980.—*Larus brunneicephalus*, Jerd.

Bankot.
Harnoi.
Guhágar.
Ratnagiri.
Málvan.

28th March 1879, *Male*.—Length, $15\frac{1}{4}$; wing, 13; tail, 5; tarsus, 2; bill, $1\frac{1}{2}$. Irides light brown; bill red; tip dusky; legs and feet dull red.

Abundant all down the Coast and at the estuaries of all the creeks.

981.*—*Larus ridibundus*, Lin.

Ratnagiri.

I have not myself procured any specimens of the Laughing Gull, but have seen it at several places on the Coast amongst the native shipping. Dr. Armstrong has specimens from Ratnagiri.

983.—*Sterna anglica*, Mont.

Mahapral.

Seen occasionally hawking up the larger rivers, but not plentiful.

987 bis.—*Sterna albigena*, Licht.

Guhágar.
Ratnagiri.
Málvan.

Three Males, 25th March 1879, *Guhágar*.—Length, $12\frac{1}{2}$ to 14; wing, 9 to 10; tail, 5 to $6\frac{1}{2}$; tarsus, $\frac{3}{4}$; bill, $1\frac{1}{2}$.

Three Females, 25th March 1879, *Guhágar*.—Length, 11 to $14\frac{1}{4}$; wing, $8\frac{3}{4}$ to $9\frac{3}{4}$; tail, 4 to 6; tarsus, $\frac{5}{8}$ to $\frac{3}{4}$; bill, $1\frac{1}{8}$ to $1\frac{1}{4}$.

3rd March 1880, *Female*.—Length, $13\frac{1}{2}$; wing, 10; tail, $5\frac{1}{2}$.

One of the specimens from Ratnagiri, a young male, may, Mr. Hume thinks, have been *tibetana* of Saunders. I have not recorded its measurements.

These Terns appear on the Coast at intervals during the cold season in large flocks. My specimens were got in October and March. Occasionally a few individuals of *Sterna media* are mixed up with these flocks, and once only I found a *saundersi* amongst them. Sometimes they arrive in an utterly exhausted condition, too weak to make any attempt at escape when caught. One September, at Harnai, hundreds so arrived and were caught by the fishermen and their boys, and sold in the bazar for food. Many more fell victims to the rapacity of the Sea Eagles at Suvamdurg, as testified by the discovery of numerous skeletons about and below their nest, and for a year and more afterwards the walls of the grand old fort were covered here and there with the remains of these Terns.

Similarly at Málvan last February a large flock of distressed Terns arrived while I was there, but being left in peace they recovered their strength in a day or two. They appear to choose an open sandy beach and to return there regularly every evening at sunset, in small parties for a week or so, and then suddenly to vanish altogether.

988 ter.—*Sterna saundersi*, Hume.

Ratnagiri. | |

A single Ternlet, which Mr. Hume discriminated as above, was got by my shikaree at Ratnagiri, in October 1879, amongst a flock of *albigena*. I did not record its measurements.

989.—*Sterna bergii*, Licht.

Vijaydurg. | |

Málvan. | |

Common about the rocks of Málvan, where it seems to be always present in the cold weather.

A pair were got for Mr. Crawford at Vijaydurg. I have not observed it yet at any of the ports north of this locality.

990.—*Sterna media*, Horsf.

Péré. | |

Vijaydurg. | |

Appears here and there all down the Coast, but not in large flocks like *albigena*. A few individuals are often seen associated with the latter.

3rd April 1879, *Male*.—Length, $16\frac{1}{2}$; wing, $11\frac{3}{4}$; tail, $6\frac{3}{4}$; tarsus, 1; bill, $2\frac{1}{4}$. Legs black; bill yellow; irides brown; orbits black; wings reach exactly to end of tail.

[992.—*Sterna anætheta*, Scop.

I procured numerous dessicated specimens of this species, on the Vengorla Rocks, the majority no doubt young birds, but two or three of them old adults. It is quite certain that this species breeds on these rocks during the monsoon, and it is clearly entitled to a place in the present list.—A. O. H.]

1007.—*Phalacrocorax pygmæus*, Pall.

| Khed.
| Chiplun. |

This our only species of Cormorant I believe is excessively common on all the large rivers, travelling miles inland by day in search of fish-stocked waters, and returning with the greatest punctuality every evening at sundown in successive detachments to some common roost, usually a mangrove swamp, where, with Herons, Egrets, Ibis, Snake Birds and Crows in one vast motley crew, they fight and scream and wrangle for a full hour, before they settle down for the night. No Cormorants, I believe, stay to breed in the district, but leave like the Egrets at the first burst of the south-west monsoon.

1008.—*Plotus melanogaster*, Penn.

Kelshi. |

Abundant on all the large rivers in their fresh waters as well as tidal sections. I don't think any Snake Birds stay to breed in the district.

Remarks on some species recently described by Mr. Brooks.

I HAVE carefully examined Mr. Brooks' types of *Cyornis poliogenys* (described S. F., VIII., p. 469). I find that I have one* specimen of this species from Comillah, Tipperah, a female, killed on the 28th March 1869, and measured in the flesh by the late Mr. Valentine Irwin. At the time I obtained this specimen, I noted on the ticket "very possibly should be separated as *C. intermedius*." There are twenty-four adult females of *rubeculoides* from various parts of India and Burmah in our collection; all these are clearly distinct from *poliogenys*.

The first point of distinction is the larger size of the wing. This varies in the above referred to specimens of female *rubeculoides* from 2.6 to 2.8 as a maximum. Mr. Brooks', by some error,

* Also I find one from the Bhutan Dours, and many others also from the Dours are in the late Mr. Mandelli's collection.

gave the length of the wing of his type as 2.75; he probably intended 2.95, which is the length of the wing in one of his types; in the other it is 2.82; and in the Comillah specimen 2.9.

In *poliogenys* the entire throat is paler than in *rubeculoides*; and in two specimens out of the three is sordid white without any fulvous tinge; in the third it has a slight tinge of fawn color. The breast in all three specimens of *poliogenys* is a dull, pale, rusty buff, very much paler and duller than the corresponding parts in *rubeculoides*; and whereas the greater part of the abdomen in *rubeculoides* is, as a rule, pure white, in *poliogenys* nearly the whole abdomen is coloured like the breast, and scarcely at all paler than this. Then in *rubeculoides* the sides of the head, including the cheeks and ear-coverts, are much the same olive brown as the back, while in *poliogenys* these parts are distinctly a grey or earthy brown, or as some would call it ashy brown. As regards bills, legs, feet, and wing formula there seem no marked differences, though the third primary in *poliogenys* seems to run proportionally somewhat shorter.

My specimen, which is precisely like the types, was sexed a ♀ by dissection, and I entertain no doubt myself that the male will prove to be blue like *rubeculoides*; possibly I may have males in the museum, but I have not time now to go fully into this group. I merely write this note now at Mr. Brooks' request to indicate that, so far as I can judge, *Cyornis poliogenys* is a good species. Mr. Brooks' two types are, one from the Sikkim Terai, the other from the Bhootan Doars.

I have also examined Mr. Brooks' type specimens of *Calandrella tibetana*, and find that I have many more specimens of this in my museum. These are what I believe to be the true *Calandrella piscoletta*; at any rate they appear to me to be the *Calandrella piscoletta* of E. F. v. Homeyer, J. Für. O., 1873, p. 196. They have the long tail and the peculiar grey colouring. Mr. Brooks' two types have a dull earthy brown band on the breast, but are not spotted there, but other specimens in our museum from Thibet are strongly spotted on this breast band.

This, however, is not the Lark figured and described by Dresser as *piscoletta* which is *C. heinii* of Homeyer. Of this latter we have a good many specimens from the north-west Punjab procured during the winter. This has a tail of 2.3 to 2.5, while in the grey *piscoletta* it is 2.7 to 2.85.

Besides these two species, which occur within our limits (for we have specimens of the grey *piscoletta* (*tibetana*, Brooks,) from

Native Sikkim) there is also a third species (*Calandrella minor*), of which I have obtained a single specimen from Sultanpoor near Delhi. A fine adult female, so exactly resembling Dresser's figure and description, that I cannot doubt that I have correctly identified it. This is distinguished from the others by its small size, wing, 3.4; tail, 2.1; and by the conspicuous, strongly marked and abundant, though fine, spotting on the breast.

From *brachydactyla* this spotting at once separates it; from *pispoletta* (*=tibetana*, Brooks), the grey color of the latter at once distinguishes it, its own color being a regular lark buff or fawn (I refer to the upper surface) marked with brown.

There remains *C. heinii* (*=pispoletta*, apud Dresser) which in general tone of coloring it a good deal resembles, and with which it agrees in being spotted on the breast, but *heinii* is somewhat paler and less rufous, and the wing in *heinii* varies from 3.7 to fully 4.0. The spottings or streakings on the breast in *heinii* are larger, coarser, and less numerous. *Minor*, moreover, has a very conspicuous buffy white supercilium extending almost from the nostrils to the nape, whereas there is scarcely a trace of this in *heinii*.

In the true *pispoletta* (*tibetana*, Brooks), the elongated tertiaries extend quite to the end of the longest primary, in some specimens exceed it by a hair's breadth, whereas in the birds I call *heinii* they fall short of the longest primary by 0.75 inch or even more; in *minor* they appear, judging by my single specimen, to fall short by 0.4.

In both *pispoletta* and *heinii* the outer web of the outer tail feather is white, while in *minor* it is distinctly pale rufous fawn. I forgot to mention that in *heinii* the tail seems to vary from 2.3 to 2.5, so that, while the wing is longer, the tail is shorter than in the bird that, following v. Homeyer, I call *pispoletta*.

I must say that comparing Pallas' original description Z. R. A., I, 526, with the two birds *pispoletta* (*=tibetana*, Brooks) and *heinii* (*=pispoletta* apud Dresser) I entertain little doubt that v. Homeyer's identification is correct, and that the ashy grey bird, "*magisque cinerascens*" is the true *pispoletta*.

If Von Homeyer is right then I fear Mr. Brooks' name must be suppressed; but if Dresser is right, and *C. heinii* of Homeyer is the true *pispoletta*, then probably the name *tibetana* will stand, as I cannot find that any other name has been applied to it, it having apparently been generally accepted, to judge from their remarks, by Russian and German ornithologists as the true *pispoletta*. Certainly the measurements of the tail given by Radde can apply only to the grey bird.

Mr. Brooks' *Phylloscopus sindianus* is in my opinion a *perfectly* good species.

The only species for which it could be mistaken are *tristis* and *neglectus*, but as Mr. Brooks correctly points out it cannot be mistaken for *tristis* when carefully examined, and from *neglectus* it is separated at once by its superior size and conspicuously larger bill. I cannot doubt that this is a perfectly good and distinct species. I have recently had reason to believe that this is a permanent resident of, and breeds in, Sindh.

A. O. H.

Notes on *Geocichla innotata*, Blyth.

BY HENRY SEEBOHM.

By the kindness of Mr. Wardlaw-Ramsay the Thrushes in the Tweeddale collection have been sent to me for comparison with those in the British Museum and in my own collection. Some of the results of the examination of so large a series may be interesting to the readers of STRAY FEATHERS. I propose in the present paper to treat of the species allied to *Geocichla citrina*, (Lath.), but which have no white on the wing-coverts. Of these there appear to be three fairly marked species.

Geocichla innotata, Blyth, J. A. S. Beng., XV., p. 370 (1846), Blyth, J. A. S. Beng., XVI., p. 146 (1847); Walden, *Ibis*, 1874, p. 139. This species is represented by two examples in the Tweeddale collection—one apparently a female, having the upper back suffused with olive, labelled Malacca, Maicy, January 1868, measuring 4·8 in length of wing, and having the second primary equal to the sixth; the other, also a female, labelled ♀ Karin Nee, 1st April 1874, Wardlaw-Ramsay, measures 4·55 in length of wing, and has the second primary longer than the sixth. Both these skins agree in having the rich dark orange chestnut head of *G. albogularis*, Blyth, and both agree in having the paler orange chestnut under-parts of *G. andamanensis*, Walden, with the throat, as in that species, scarcely paler than the breast. The under-parts of both these species—*G. innotata*, Blyth, and *G. andamanensis*, Walden—scarcely differ from those of *G. citrina*, (Lath.)

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one young in first plumage, labelled Captain Wimberley, December 1873 to February 1874. The seven adults all agree in having the colour of the head a rich dark orange chestnut, as rich but slightly darker than in *G. rubecula*, Gould, from Java. In all of them the white chin and upper throat is very conspicuous, but less so than in *G. cyanota*, Jard. The rest of the under-parts, except the vent and under tail-coverts, are similar in colour to those of *G. layardi*, Wald., from Ceylon, that is intermediate between those of *G. rubecula*, Gould, and those of *G. citrina*, (Lath.), *G. andamanensis*, Wald., and *G. innotata*, Blyth. These seven examples vary in length of wing from 4.2 to 3.9, and have the second primary shorter than the sixth.

Geocichla andamanensis, Walden, Ann. Mag. Nat. Hist, 1874, p. 156. Hume; STRAY FEATHERS, IV., p. 289, is represented by 21 skins, collected by Mr. Wardlaw-Ramsay and Captain Wimberley on the Andaman Islands, the former collection containing six males and two females obtained in March, April, and May 1873, and the latter five males and five females obtained from September 1873 to May 1874. The other three skins are labelled—one Andamans, and the other two Java. These skins vary slightly *inter se*, but agree in being darker and browner on the head than *G. citrina*, Lath., but not quite so dark, and not nearly so rich as *G. innotata*, Blyth, and *G. albogularis*, Blyth. These skins vary from 4.2 to 3.8 in length of wing, and have the second primary shorter than the sixth.

In all three species in what I presume must be young birds, there are traces of dark edges to the ear-coverts. This is specially noticeable in the young in first (spotted) plumage from the Nicobars. The white on the vent appears to be a variable character, in some skins being confined to the under tail-coverts.

In the Tweeddale collection is also a skin of *Geocichla tricolor*, Hume, and I have since obtained a second through the kindness of Captain Elwes. Both these skins were collected by Dr. Day in Assam. The latter is figured in the P. Z. S., where I have taken an opportunity of correcting the error into which I fell from not having previously seen a skin of the fully adult male of this handsome Thrush. It is not a *Geocichla*, as an examination of the under surface of the wing will show; but is, I have not the shadow of a doubt, the fully adult male of *Geocichla dissimilis*, Blyth, and will stand as *Turdus dissimilis*, Blyth. It appears that the female and immature male of this species are indistinguishable from those of *Turdus hortulanus*, Selater. The Siberian bird will probably be identical with the Chinese bird, but until an adult male of the

former is discovered, the name of *Turdus pelios*, Bonap., will hang *in terrorem* over the two names, unless the good sense of future ornithologists refuses to use a name, which was originally applied to a Siberian bird, afterwards freely used for an African species, and then re-transferred to the Siberian bird—a process which has destroyed its scientific value except in the eyes of the modern school of ornithologists, whose aim is to carry out the rules of the British Association regardless of consequences. I am indebted to Mr. Hume for correcting another error in my paper in *STRAY FEATHERS*, p. 438, which, together with the more important error of confusing the Indian with the Chinese bird, I corrected in my paper in the *P. Z. S.*, 1879, p. 803. *Turdus unicolor*, Tickell, certainly has precedence of *Turdus unicolor*, Gould, though curiously enough both names were applied to the same species.

It seems as if one could never exhaust the synonymy of this species. There can be no doubt that *Turdus protomomelas*, *Cab. Journ. Orn.*, 1867, p. 286, applies to the adult male of *Turdus dissimilis*, Blyth.

REMARKS BY THE EDITOR.—The above note by Mr. Seebohm might lead my readers to suppose that *Geocichla innotata*, Blyth, was really a good species, whereas in my opinion nothing can be more contrary to the fact.

Instead of *two* females I can show Mr. Seebohm amongst our enormous series of *G. citrina* from all parts of the empire, from the Malay Peninsula* to the hills of the Rutnagherry District, half a dozen males and females absolutely wanting any trace of the white spot on the wing.

In these specimens the blue or olive of the back, the colour of the head and nape, and of the lower parts varies precisely as it does in *citrina*.

Mr. Seebohm hardly seems aware how extraordinarily this species varies in colour. There are many specimens of *citrina*, in which the head is as rich and dark an orange chestnut as any *G. albogularis*. Again in one specimen I find it only an ochreous yellow, and between these extremes every intermediate shade of colour is observable.

The same is the case with the colouring of the under-parts. In some the colouring is doubly as intense as in others. One splendid male, entirely *innotata* so far as the wing is concerned, has richer coloured under-parts than nine-tenths of the *citrina*, instead of having them paler, whilst its head is *less* deeply

* Amongst others a Tonka specimen with a more than averagely large white wing spot.

coloured than those of a good many *citrina*. Before my friend Mr. Seebohm accepts shades of colouring as of specific value in this group, he should get together a couple of hundred specimens of the two or three supposed species he wishes to contrast. People laugh at the enormous, and, I admit, unwieldy series of every species that I retain; and I have myself repeatedly thought of weeding out my museum, but it is only by the help of such series that one can confute ornithologists' intent upon making species on slight differences in shade of colour. Here I have before me *citrina* and *innotata*, some of each presenting the shades of colouration supposed to be characteristic of the other. It is absolutely certain that so far as shade of colouring is concerned, *innotata* cannot be maintained for a moment.

But it may be said, at any rate, *citrina* has a well marked white patch on the wing, and *innotata* has no trace even of this. Surely this is sufficient to constitute a distinct species.

Here, again, the extreme variability of *G. citrina* has to be taken into account. From an abnormally large pure white patch, the size of the last joint of a man's little finger, down to a greyish white margin to a single feather of the coverts of one wing, every intermediate amount of white on the wing between *G. citrina* and *G. innotata* is exhibited by our series.

Even this does not exhaust the variability of the species. In some the whole lower abdomen, vent, and lower tail-coverts are pure white; in a few the rich ferruginous tint continues right down to the vent leaving nothing, but the lower tail-coverts white, and even, these not pure, but with a faint orange buff shade. In one specimen the entire half of the whole abdomen up to the breast is pure white; on the other half of the abdomen the ferruginous color descends half way to the vent.

If, after the above explanation, the result of the examination of certainly the largest series ever collected in one place, Mr. Seebohm still thinks fit to separate *innotata* as a distinct species, I cannot, of course, cavil; but nature has made no such separation, and I must remind my readers that it is

"Better to err with *her* than shine with *him*."

In the above note Mr. Seebohm also speaks of *Geocichla layardi*, as if this too were a good species; but this has even smaller claims to recognition than *innotata*. It has not even the *prima facie* plausible distinction of an entire absence of white on the wing, and as a matter of fact every Ceylon *Geocichla** of this type may be matched with an Indian

* This bird, though doubtless rare in Ceylon, is by no means so rare as Major Legge seems to think. I can at any rate add three more specimens to those he mentions.

one, and there is every reason to believe that it is in Ceylon a purely migratory bird finding its way at intervals during the cold season from the mainland to Ceylon.

When we come to the question of separating *G. andamanensis* and *G. albogularis*, we enter on more doubtful ground.

As I said long ago, taking the birds from both islands *as a body*, it *may* correctly be said that the Nicobar birds are more deeply coloured, and have more white on the throat than the Andaman ones; but where both the colour and the amount of white on the throat in the birds from both islands vary as they do, there must, according to my view of what constitutes a valid specific difference, be a *constant* superiority in respect to points like these, of all the birds of one race over all the birds of the other. There is no such constant* difference in the case of these two supposed species. On the contrary, we have *Andamanese* birds as deeply coloured, and showing as much white on the throat as several of the Nicobar birds; and if the whole lot be thrown together, and the tickets removed, there are at least one in five of which no one on earth could predicate whether it came from the Nicobars or the Andamans. Here, again, if Mr. Seeböhm considers it right to maintain two species, I can only record my dissent and warn my readers against what I consider to be hair-splitting, *valde deflendus*.

Geocichla dissimilis, Blyth.

IN consequence of Mr. Seeböhm's remarks on the above species, I applied, through my friend Mr. Wood-Mason, who is always anxious to help in clearing up every difficulty, to the Trustees of the Calcutta Museum, for the loan of Mr. Blyth's own specimens, of this species six in number, entered in his Catalogue at page 163, No. 955, 1 male and 5 females.

They very kindly acceded to my request, but informed me that two had been probably destroyed and one lost.

When years ago I examined these birds there were six of them, all in a row on one board, and these were then all without exception *Geocichla unicolor*, Tick.

Now the three remaining specimens are mounted each on small separate stands. Two are still *unicolor*—the third is undoubtedly a young male or female of the species that I named *tricolor*.

* Note too that from the Little Cocos, an island belonging to the *northernmost* portion of the Andaman Group, we have a specimen with a throat almost whiter than any specimen from the Nicobars.

This bird, now made to do duty as one of the six specimens entered in the Catalogue, was not amongst these six some years ago, but it is one of Blyth's old birds, and it agrees well enough with his description of adult male *dissimilis*; and though it was not one of the six catalogued by him as *dissimilis*, we may accept it, I think, as having been the bird he referred to, and may consequently accept his name for the species.

But it must be clearly understood that Blyth was entirely abroad about this species. The bird that he considered the female of *dissimilis*, of which he says he procured some eight or ten in the neighbourhood of Calcutta, were all *unicolor*, and whereas he, owing to this mistake, says, that his *dissimilis* is not uncommon in the cold season about Calcutta, it is in reality so extremely rare that during ten years collecting in that neighbourhood I have never seen a single specimen, though I have seen scores and scores of *unicolor*, and indeed neither the museum nor Mr. Parker, nor any of the other collectors in that neighbourhood with whom I am acquainted, have ever obtained a specimen. Indeed but for Blyth's printed remarks, as to what the male of his *dissimilis* was, all his other remarks and all the six specimens that he himself labelled *dissimilis*, would prove conclusively that his *dissimilis* was really *unicolor*.

It may be useful to quote his remarks *in extenso*, J. A. S. B., Vol. XVI., p. 144, Feb. 1847:—

"12.—*T. dissimilis*, nobis; *T. unicolor* et *T. modestus*, nobis *passim*, as in XI, 460, &c.: Calcutta Thrush, Latham, the female. This bird, as well as the preceding one, is very closely allied to the succeeding group *Geocichla*; and the mature male of the present species has the whole underparts from the breast, except the medial line of the belly and the lower tail-coverts, which are pure white, of the same bright ferruginous colour as in *G. citrinus*, *G. cyanotus*, &c.

"An approach to the same colouration is exhibited by old males of *T. rufulus*. The female, however,* shows no sign of this except on the axillaries, and on more or less of the under surface of the wing, yet, before obtaining the male, I had preceived the affinity of this species for the *Geocichla*; and it is curious that I procured some eight or ten in the feminine plumage (whether all females, however, I cannot say, for some were only skins), before I succeeded in getting a male, which, as I all along suspected, proved to be clad in not quite so homely a garb as his mate. The male is indeed rather a handsome Thrush. Length nine inches by fourteen

* Here he refers to the female *unicolor*. My *tricolor* (which we are now agreed to call *dissimilis*;) at every age in both sexes shows the ferruginous flanks.

and a quarter in spread of wing; closed wing, four and a half; tail, three and one-eighth; bill to gape, an inch and one-eighth; tarsi the same. Colour of the upper-parts plain olive-brown in both sexes,* with ashy beneath the surface of the feathers, tending a little to predominate about the rump; throat, middle of belly, and lower tail-coverts white; the sides of the throat with dusky linear spots more or less diffused, and some often appearing in the middle; breast light olive-brown, with a few dusky spots, sometimes small and triangular, sometimes larger and more linear; and the flanks spotless olive-brown in the female, and perhaps in the juvenescent male, but in the old male bright ferruginous, spreading to the white medial line of the abdomen; beak dusky, with generally some intermixture of yellow; and legs bright yellowish-brown. As in the *Geocichla*, the bill of a fresh specimen of this species is usually much clotted with mud; and the bird, like them, is mostly seen on the ground, hopping about among the underwood. It is not rare in Lower Bengal during the cold season. Mr. Jerdon has lately obtained it in the south, and it often occurs in collections from the Himalaya.†

It is quite clear from the above that Blyth's supposed mature male was either a female or a young male, and that his eight or ten females were simply *unicolor*, as two of his surviving types prove; and indeed if female *unicolor* with the yellowish olive tinge suffusing the breast and flanks be compared with the adult female of what we are now agreed to call *dissimilis*, it is easy to understand how the latter may easily have been mistaken for the male of the former.

However, there is sufficient in the description, especially the words "have the whole under-parts from the breast except the medial line of the belly and lower tail-coverts, which are pure white, of the same bright ferruginous color as *G. citrina*—" a statement absolutely correct of both the old female and the young male of my *tricolor*, to show that Blyth really had got hold of one specimen of *dissimilis*, and I am therefore quite willing to suppress my own and adopt his name, although his description included two species and although all his originally catalogued types belong to another species.

* This again refers to female (or young male) *unicolor* and *dissimilis*. In both species the adult males have a gray mantle, paler and bluer in the former, darker and more iron grey in the latter.

† This all refers to *unicolor*; even in Sikkim, in all these years, and collecting so excessively closely and on so large a scale as poor Mandelli did, he never obtained any specimen of *dissimilis*. On the other hand it is common towards the head of the Assam valley, during the cold season.

I have no doubt that the bird that now does duty as one of those six, was the identical bird referred to in the passage above quoted. No doubt, as often happened in the old crowded quarters, this specimen got lost, and so was not mounted along with the others. Then, after Blyth's departure, this specimen was found up at the time of Mr. Carleylle's famous revision of the ornithological collection, and *he* then attached to it a paper ticket (or somebody else did, the ticket is not in Blyth's hand-writing. I have compared it carefully with letters of his.)

Geocichla cardis,* *Tem.*
G. dissimilis, *Bl.*
 Cal. Bot. Garden.

Then later, when things were re-arranged, this bird being found to answer to Blyth's description, the little black ticket originally attached to the board, and bearing distinctly the words "*male and female, Bengal and Nepal*," was attached to the single stand on which this one bird had been mounted—a stand which could not have been labelled as bearing "*male and female*," as it could not possibly have contained more than a single bird.

It may be well to note that my original type had the whole throat and breast a much duller colour than adults that I have subsequently received from Assam, and than is figured in the P. Z. S., 1879, Pl. LXIV. It is much more, in fact, like the breast in the figure of *Turdus javanicus*, *Ibis*, 1875, Pl. VIII, and with the dark color descending considerably lower than is shown in the plate in the P. Z. S. though not quite so low as in *javanicus*.

Further I may note that the coloration of the rufous parts in the plate in the P. Z. S. is not *nearly* a sufficiently intense ferruginous for old adults, and the female there depicted in the background must have been a very young one, for in the old female the ferruginous is as intense as in the old male. The great difference being in the upper surface, which in the female is a fine dark olive brown, becoming slightly greyish on the rump, upper tail-coverts and tail, and in the male black on the head and nape, and elsewhere a dark iron grey much as in dark specimens of *Hypsipetes psaroides*; it is in fact a very dark edition of the upper surface of old male *unicolor*, just as the back of the female *dissimilis* is a darker edition of that of the old female *unicolor*.

* Some one has scratched out the word "*cardis*" with a blue pencil. The ticket, though not *new*, is twenty years younger at least than the specimen.

In conclusion I ought to note that the bird, of whose nidification I gave an account under the head of *Geocichla dissimilis* (Nests and Eggs, p. 231), was nothing but a very old and well colored female of *unicolor*, in which the yellow, (not the bright ferruginous colour characteristic of *dissimilis*,) similar to that shown at the base of the throat in Jerdon's plate (*Ibis*, 1872, Pl. VII), descends upon the breast, sides, and flanks, just as the ferruginous does in *dissimilis*.

A. O. H.

The Birds of the Western Half of the Malay Peninsula.

THIRD NOTICE.

OUR Second Notice of the birds of the Malayan Peninsula left the list as follows:—

Number of species which we knew, or thought we had good reason to believe, occurred	... 437
Number of species, the occurrence of which though asserted seemed doubtful	... 17
Number of species of which we had actually collected specimens	... 373*

To the 437 species we have now 28 to add, making a total of 465.

Out of the 17 doubtful species one, namely *Chrysocolaptes sultaneus*, may, as remarked in my Second Notice, be definitely excluded, as we now know that the bird that occurs is *C. strictus*. Besides this we have obtained one of the doubtful species (one that I least expected to find), namely, *Acridotheres fuscus*, the true *fuscus* with the yellow irides. This raises the number of accepted species to 466, and reduces the doubtful species to 15. Of these the validity as species of the following four is doubtful.

39 *quint.*—*Spilornis bacha*.—(I doubt whether it is possible ever to ascertain the particular species to which this designation applies).

143 *bis B.*—*Hydrocissa migratorius*, *Maingay*.—(This can scarcely be a good species, but I am unable to ascertain to what particular species the name really applies).

261 *A.*—*Lanius superciliosus*.—(I believe this to be only the perfect adult of *cristatus*).

* Erroneously given as 372 in our last notice.

355 *ter.*—*Geocichla innotata*, Bly.—(I disbelieve in the distinctness of this supposed species).

Of the following eleven species the occurrence in the Malay Peninsula is extremely doubtful. As at present informed I altogether disbelieve it :—

77.—*Glaucidium radiatum*.
107.—*Caprimulgus indicus*.
148.—*Palæornis torquatus*.
151 *ter.*—*Palæornis caniceps*.
152.—*Palæornis fasciatus*.
215.—*Rhopodytes tristis*.

219.—*Taccocua leschenaulti*.
584 *ter.*—*Henicurus leschenaulti*.
678 *quat.*—*Crypsirrhina varians*.
788 *bis.*—*Calceas nicobarica*.
781 *quint A.*—*Carpophaga grisea*.

To these, however, I must now add the following, the occurrence of which in the Malay Peninsula, despite the authorities on whose testimony I included them, I am now compelled to doubt :—

59.—*Elanus cœruleus*.
103 *quat A.*—*Collocalia troglodytes*.
136.—*Ceryle rudis*.

778 *A.*—*Sphenocercus oxyurus*.
778 *B.*—*Sphenocercus korthalsi*.

This reduces the number of accepted species to 461 and leaves the doubtful at 20.

But besides these there is one other species, which must, I think, be not only excluded from our list, but altogether suppressed, and that is, 387 B.—*Trichastoma olivaceum*, Strickl., A. and M. of N. H., 1847, p. 132.

Let me first reproduce, for the convenience of readers, Strickland's original description :—

“*Malacopteron olivaceum*, Strickland—M. supra olivaceo-brunneum, remigibus fuscis, extus rufobrunneo, intus albido marginatis; rectricibus rufo-brunneis, rufo-marginatis, loris superciliisque cinerascentibus, mento et gula sordide albidis, pectore lateribusque pallide olivaceis, abdomine pallide fulvo, crisso pallide rufo.

“Upper parts olive brown; remiges fuscous, edged externally with reddish brown and internally with whitish; tail reddish brown, margined externally with rufous; lores and streak over eye greyish; chin and throat dirty white; breast and sides pale olive brown; belly pale fulvous; vent and lower tail-coverts light rufous; upper mandible fuscous, lower yellowish; feet and claws yellowish brown.

“Total length, 6 inches; beak to front, 10 lines; to gape, 1 inch; height, 3 lines; breadth, $3\frac{1}{2}$ lines; wing, 2 inches 10 lines; medial rectrices, $2\frac{1}{4}$ inches; external ditto, 2 inches; tarsus, 1 inch; middle toe and claw, 11 lines; hind ditto, 9 lines.”

This specimen of Strickland's came from Malacca, and if its description be carefully compared with specimens of *Trichastoma abbotti* from Singapore to Sikkim, it will be found to correspond absolutely with fully one-fourth of the number. With other specimens it does not agree so well, because this species

is one that varies very considerably both in depth and shade of colour and in the amount of greyish about the face, according, as I conclude, to age and season. There is no doubt, however, that one and all are one and the same species. Whether in Sikkim, Dacca, Tipperah, Pegu, Tenasserim, or the Malay Peninsula you get darker and lighter, more olive or more rufous, birds, or again birds with very grey lores and eye streaks, and others with scarcely a trace of grey, but, to judge from our very large series, the rufous and brighter-colored types predominate southwards, the duller colored and more olivaceous ones northwards. Blyth's type of *abbotti* was one of the rather browner duller colored birds—Strickland's apparently one of the brighter colored and more rufous types. Blyth himself doubted whether Strickland's bird, which Strickland appears to have sent him, was more than a variety of *abbotti*. He had then seen but very few specimens from any locality. I, with something like a hundred from all parts of Eastern India, Burma, and the Malay Peninsula, from Sikkim to Singapore, have no doubt that the bird is not even a variety, merely one of the better colored types of the species, of which Blyth had two years previously described one of the duller forms as *abbotti*.

This supposed species must therefore be removed from our list, reducing the total number of accepted species to 460.

I entirely agree with Salvadori that this *Trichastoma abbotti* vel *olivaceum* is entirely and absolutely congeneric with his *Malacocincla rufiventris* which I have from Borneo. But Blyth's *Trichastoma rostratum* (which by the way is totally distinct from his *Alcippe affinis*, of both of which I have numerous specimens identified with Blyth's types), is (as indeed is *Alcippe affinis*) a *Malacopteron*, a true tree bird, whilst the *abbotti* group are entirely ground birds. Very probably the generic name *Malacocincla* ought to be adopted.

Another bird has also to be excluded from the list which I take shame for ever having entered, and that is *Astur cuculoides*. Long ago we obtained a small adult Hawk precisely resembling Mr. Sharpe's figure of this species, B. M. Cat., I, pl. 4., fig. 2. It was accepted as *cuculoides* and put aside without examination. Recently, having occasion to examine it, its thin tarsi and long toes showed it at once to be an *Accipiter*, and further going into the subject, I entertain no doubt that it is a very pale and old example of *Accipiter stevensoni*, Gurney. This adult is conspicuously distinct from any that I have ever seen of either the true *virgatus* or the Sikkim *gularis* (vide Gurney, S. F., VIII., 443); but I confess that I have not yet sufficiently mastered this species to make sure whether or no any of the many young Malayan specimens that I have entered as *virgatus*

should really be assigned to *stevensoni*, and it would be a real charity if Mr. Gurney would point out clearly, giving a distinct diagnosis, how young birds of *virgatus* and *stevensoni*, sex unknown, are to be separated.

This therefore reduces our total to 459.

Out of these 459 accepted species we had previously actually collected specimens of 373; we have now preserved specimens of 27 out of the 28 species which we have this time to add to the list, as well as of 15 of the species previously entered on the authority of others in our lists, but of which we had not hitherto succeeded in securing specimens. This makes up the total number of species, of which we have up to date succeeded in obtaining specimens, to 415.

Out of the 44 species that we have as yet failed to procure, a very few may be doubtful. Thus there may have been some mistake about *Gyps indicus*, *Cyanoderma bicolor*, *Arundinæ ædon*, *Budytes melanocephala*, *Gallus varius*, *Leptoptilus argalus*, and *Tantalus lacteus*. But of the great majority there can be no doubt, as we have ourselves seen most of them, although we have not yet preserved specimens.

Of course, there are two species—*Microtarsus olivaceus* and *Iole cinerea*—which may be synonyms of two species that we have obtained. But even excluding these and the previous seven there remain 35 certain, which, added to the species we have obtained, gives an ascertained total of 450 species. Out of these 450 certainly ascertained species, all, except 115 species, have been ascertained to occur elsewhere within our limits outside the Malay Peninsula. It may be useful to subjoin a list of these 115 species, as this will give an idea of the characteristic features of the avifauna of the Malay Peninsula as contrasted with that of Tenasserim.

*List of Malayan species not hitherto observed elsewhere
within our limits.*

- | | |
|---|---|
| 25 A.— <i>Accipiter stevensoni</i> . | 115 B.— <i>Harpactes kasumba</i> . |
| 39 quat A.— <i>Spilornis pallidus</i> . | 115 bis A.— <i>Harpactes rutilus</i> . |
| 53 A.— <i>Circus spilonotus</i> . | 117 A.— <i>Merops sumatranus</i> . |
| 57 bis.— <i>Pernis brachypterus</i> . | 127 bis A.— <i>Pelargopsis malaccensis</i> . |
| 63 A.— <i>Syrnium maingayi</i> . | 133 A.— <i>Ceyx rufidorsus</i> . |
| 74 A.— <i>Scops stictotus</i> . | 140 A.— <i>Buceros rhinoceros</i> . |
| 74 sext.— <i>Scops malayanus</i> . | 141 bis.— <i>Hydrocissa convexa</i> . |
| 74 nov. A.— <i>Scops rufescens</i> . | 143 bis.— <i>Hydrocissa malayana</i> . |
| 85 quint A.— <i>Hirundo archetes</i> . | 143 bis A.— <i>Hydrocissa nigrirostris</i> . |
| 105 ter A.— <i>Batrachostomus stellatus</i> . | 145 quat A.— <i>Craniorhinus corrugatus</i> . |
| 103 ter C.— <i>Batrachostomus auritus</i> . | 152 ter.— <i>Palæornis longicaudus</i> . |
| 114 ter A.— <i>Lyneornis temminckii</i> . | 153 A.— <i>Loriculus galgulus</i> . |
| 115 A.— <i>Harpactes diardi</i> . | 163 bis A.— <i>Yungipicus variegatus</i> . |

- 184 *A.*—*Reinwardtipicus validus*.
 187 *bis.*—*Sasia abnormis*.
 190 *A.*—*Indicator malayanus*.
 196 *bis A.*—*Megalæma henrici*.
 196 *quat A.*—*Megalæma versicolor*.
 196 *quat B.*—*Megalæma chrysopogon*.
 198 *ter A.*—*Megalæma duvauceli*.
 202 *A.*—*Cuculus pravatus*.
 205 *A.*—*Heirococcyx fugax*.
 208 *A.*—*Cacomantis merulinus*.
 217 *A.*—*Centrococcyx rectunguis*.
 217 *quint A.*—*Centrococcyx eurycercus*.
 224 *A.*—*Arachnothera crassirostris*.
 224 *B.*—*Arachnothera flavigastra*.
 224 *C.*—*Arachnothera robusta*.
 224 *D.*—*Arachnothera simillima*.
 225 *ter A.*—*Æthopyga siparaja*.
 223 *ter A.*—*Anthreptes rhodolæma*.
 240 *sept.*—*Prionochilus thoracicus*.
 257 *A.*—*Lanius bentet*.
 263 *A.*—*Tephrodornis gularis*.
 267 *bis.*—*Hemipus obscurus*.
 267 *bis A.*—*Xanthopygia tricolor*.
 268 *ter.*—*Volvocivora culminata*.
 270 *quat A.*—*Graucalus sumatrensis*.
 273 *quat A.*—*Pericrocotus ardens*.
 277 *ter A.*—*Pericrocotus cinereus*.
 285 *A.*—*Dissemurina platurus*.
 289 *A.*—*Muscipeta incii*.
 289 *B.*—*Muscipeta princeps*.
 289 *ter A.*—*Philestoma intermedius*.
 291 *A.*—*Leucocerca perlata*.
 301 *A.*—*Stoparala thalassoides*.
 303 *A.*—*Cyornis cyanopolia*.
 304 *A.*—*Cyornis elegans*.
 304 *B.*—*Cyornis frenatus*.
 307 *ter A.*—*Cyornis albo-olivaceus*.
 324 *A.*—*Frythrosteria erythaca*.
 336 *A.*—*Brachypteryx malaccensis*.
 340 *bis A.*—*Pitta boschii*.
 353 *A.*—*Petrophila gularis*.
 356 *A.*—*Geocichla avensis*.
 366 *A.*—*Turdus naumanni*.
 387 *A.*—*Trichastoma rostratum*.
 390 *A.*—*Alcippe cinerea*.
 390 *ter A.*—*Turdinus macrodactylus*.
 393 *bis A.*—*Stachyris polioaster*.
 395 *A.*—*Macronus ptilosus*.
 396 *A.*—*Timalia nigricollis*.
 396 *B.*—*Timalia maculata*.
 396 *C.*—*Timalia poliocephala*.
 396 *D.*—*Timalia leucotis*.
 396 *bis B.*—*Kenopia striata*.
 396 *bis C.*—*Trichixos pyrrhopygus*.
 396 *ter A.*—*Malacopterus cinereus*.
 396 *ter B.*—*Malacopterus magnirostris*.
 396 *ter C.*—*Malacopterus affinis*.
 396 *ter D.*—*Setaria albogularis*.
 396 *ter E.*—*Alcippe cantori*.
 402 *A.*—*Pomaterhinus borneensis*.
 450 *A.*—*Criniger theoides*.
 452 *dec A.*—*Iole olivacea*.
 452 *dec B.*—*Iole terrior*.
 453 *A.*—*Microtarsus melanoleucus*.
 457 *quint A.*—*Ixidina webberi*.
 463 *bis A.*—*Phyllornis icterocephala*.
 469 *A.*—*Irena cyanea*.
 530 *bis A.*—*Orthotomus maculicollis*.
 530 *ter A.*—*Orthotomus cineraceus*.
 593 *ter A.*—*Budytes taivanus*.
 595 *bis.*—*Eupetes macrocerus*.
 662.—*Corvus enca*.
 697 *A.*—*Amadina maja*.
 698 *A.*—*Amadina atricapilla*.
 699 *A.*—*Amadina nisoria*.
 703 *bis.*—*Amadina oryzivora*.
 771 *A.*—*Treron capelli*.
 774 *A.*—*Osmotreron olax*.
 779 *A.*—*Ptilonopus jambu*.
 803 *quint.*—*Polyplectrum bicalcaratum*.
 811 *A.*—*Alectrophasis erythrophthalmus*.
 825 *quat.*—*Arboricola charltoni*.
 831 *ter A.*—*Melanoperdix niger*.
 831 *quat A.*—*Rhizothera longirostris*.
 875 *A.*—*Limosa melanuroides*.
 875 *bis.*—*Limosa novæ zealandiæ*.
 902 *A.*—*Porphyrio edwardsi*.
 912 *bis A.*—*Rallina supercilialis*.
 912 *bis B.*—*Rallina paykulli*.

I have not included *Baza jerdoni*, because it is pretty certain that this bird was identical with my *incognita*, and this latter is certainly *sumatrensis*, and has occurred in Tenasserim. I have excluded *Batrachostomus affinis*, of which Captain Bingham has sent me a specimen from Tenasserim. I have excluded *Alcedo euryzona*, because I cannot find that any specimen of typical *euryzona* has been certainly obtained in the Malay Peninsula. *Nigricans*, the supposed young of this species, has been there obtained, but it is not certain that the two are identical. If they be so, then *euryzona* occurs in Tenasserim also.

I have put a note of interrogation to *Hydrocissa nigrirostris*, because it seems probable that this may be only the female, as Wallace has always stated, of *malayana*.

I now subjoin two lists, one of the 28 species that have to be added to our list, and the other of the 15 species of which, though previously entered, we have now for the first time procured specimens; and I will add a few remarks on certain other species to which I wish to call attention.

As in previous lists, species occurring elsewhere in the British Asian Empire, outside the particular tract we are working, are entered in italics. Those not so occurring in ordinary Roman text. A star prefixed signifies that we have ourselves shot and preserved or procured specimens.

Species to be added to the List.

*103 *ter.*—*Collocalia innominata*, Hume.

[Selangore.]

A single specimen of this fine large Swiftlet, the only one of this species that we have as yet met with in the Malay Peninsula, was shot for us near the town of Selangore, in the state of that name, by Mr. H. C. Syers on the 2nd of November 1879.

165 *bis.*—*Hemicercus canente*, Less.

A nest of this species was taken by Mr. Darling, at Kussoom, only about 120 miles south of the southernmost point of Tenasserim and one of the parents captured, identified and made over to one of the taxidermists to skin, but what became thereafter of that skin never subsequently transpired.

*177 *bis.*—*Gecinulus viridis*, Bly.

[Kussoom.]

A single specimen was obtained quite in the north of the Peninsula at Kussoom, on the mainland a little north of Junk Ceylon.

*178.—*Micropternus phaeiceps*, Bly.

[Klang, Selangore.]

Strange as it may seem we procured a typical specimen of *phaeiceps* at Klang in about 3° North Latitude. We have obtained scores of specimens of *Micropterni* north and south of, and at this same locality, and all have been *brachyurus* with the central portions of the throat feathers very much darker than the breast feathers, and with the generally darker and duller shade of plumage that characterises that species; but here we obtained a single specimen with the central portions of the throat feathers unicolorous with the breast, and with the

generally lighter and brighter chestnut plumage of the Pegu race of *phaeiceps*. A bird absolutely inseparable from some specimens from the Doon, the Nepal Terai, and Dacca, as well as from others from Pegu and Northern Tenasserim.

*289 *ter A.*—*Philentoma intermedius*, *Sp. Nov*

[Foot of Gunong Pulai, Johore.]

The wings fall short of the tail by more than the length of the tarsus. The second primary is considerably shorter than the secondaries, but the third is *not* equal to the latter; it is so in *velatum*, but in both *pyrrhopterum* and the present species it is longer than these latter. The wing is rounded; the distance between the primaries and the secondaries is not so great as the culmen. There is no doubt, therefore, that this should be classed as a *Philentoma*, which it resembles in every respect, even to the masses of fluffy flank feathers, except in having a proportionally somewhat longer and narrower bill than either of the two previously known species.

Only a female has been procured, which was shot at the foot of Gunong Pulai in Johore, at the extreme south of the Malayan Peninsula on the 6th March.

This female is quite of the same type as the female of *velatum*, but is much smaller and altogether of a different blue, *viz.*, exactly the same blue as that of the head, neck, and throat of the male *P. pyrrhopterum*, between which and *velatum* it thus, as it were, forms a link, so far as tint of plumage is concerned.

The specimen is a very good one and a perfect adult. The following are the dimensions:—Length, 6·; wing, 3·18; tail to insertion of feathers, 2·7; bill from gape, 0·88; bill from frontal bone straight to point, 0·8 nearly; tarsus, 0·68.

The exposed portion of the 1st primary is 0·97, the 2nd primary exceeds the 1st by 0·84; the 3rd primary exceeds the 2nd by 0·65; the 4th exceeds the 3rd by about 0·07; the 5th and 6th are nearly the same length; the 6th a hair's breadth the longest.

The entire head, including forehead, lores, cheeks, chin, throat, ear-coverts, sides of the neck, back, wing-coverts and breast, a dull pale grey blue, just the color of the throat in good specimens of adult male *P. pyrrhopterum*; the rump greyer, and a few of the under feathers whitish; upper tail-coverts the same color as the back; quills and tail brown, but the outer webs of all the feathers, and both webs of the tertiaries suffused with the same color as the back. I say the back, because, although the color of the head and the back are much the same, the feathers on the head are closer set, and therefore

produce the effect of a somewhat purer color than on the back. In certain lights the feathers of the lores are slightly and the feathers surrounding the upper margin of the eye decidedly a paler and purer blue. The abdomen is a dull pale brownish grey, irregularly streaked with pure white owing to the bases of the feathers showing through. Some of the vent feathers and all the lower tail-coverts are pure silky white. The sides and flanks are mingled dull slaty or brownish grey and white; the axillaries are bluish grey. The wing lining much the same color as the head. Unfortunately the colors of the soft parts were not noted.

It is probable that the male is differently colored as in the case of *velatum*.

*301.—*Stoporala melanops*, *Vig.*

[Girbee, south of Tonka between 7° and 8° N. Lat.]

This is another of the Indian forms which, it now appears, extend into the northern portions of the Malay Peninsula. Further south this is replaced by *S. thalassoides*.

*304 *B.*—*Cyornis frenatus*, *Sp. Nov.*

[Jurum, Klang in Selangore.]

We obtained two specimens of a *Cyornis* which might, *prima facie*, have been thought to be males, but which proved on dissection, (one of them dissected by Davison himself,) to be females, in Selangore, in about 2° 30' N. Latitude.

One was shot on the 11th August 1879, near Jurum; the other on the 15th of February 1880, near Klang. These birds belong, as far as I can judge, to no known species.

They are what I should call typical *Cyornis*, that is to say, that in the matter of bill, feet, wings, and tail, they correspond precisely with *Cyornis rubeculoides*, and they are everywhere dark blue above, and below everywhere more or less tinged with the orange ferruginous, characteristic of the *rubeculoides* section of this genus.

The prominent feature of this new species is a broad pure white streak from the point of the forehead to the upper part of the eye, extending a little beyond the level of the anterior angle of the latter. The greater part of the lores, at any rate that portion immediately in front of the eye, is black. The entire upper surface, including the whole visible portion of the closed wings and tail, is a dark almost indigo blue, a little paler and brighter on the lower back, rump and upper tail-coverts, and also perhaps on the wing-coverts, and a little darker on the crown, but as a whole the colour is extremely uniform, and there are no brighter lazuline spots

or bands on the shoulders of the wing, or on the forehead, or above the eyes as in many other species. The cheeks and ear-coverts and sides of the neck are the same dark blue as the crown.

The point of the chin is white, or whitish, as are also the sides of the upper throat where they abut on the lower mandible and cheeks. The rest of the throat, breast, and lower parts, including the lower tail-coverts, axillaries, and wing lining are orange buff, pale on the throat, growing more intense and ferruginous on the breast, and elsewhere again paler, becoming almost white in the middle of the lower abdomen. The extreme sides of the breast and the hinder part of the flanks, where they join on to the back and rump, brushed with the same dark blue as the upper parts.

The following were the dimensions, etc., recorded in the flesh of one of the two specimens:—Length, 5·7; expanse, 8·8; tail, 2·15; wing, 2·8; tarsus, 0·7; bill from gape, 0·7; weight, 0·52 oz. •

The bill was black; the legs, feet, and claws purplish plumbeous; irides deep brown.

* 332 *ter.*—*Turdinulus murina*, S. Müll. (Blyth, *Ibis*, 1865, p. 47.)

Pnoepyga roberti, God.-Aust. and Wald., *Ibis*, 1875, p. 252; S. F., IV., 218; VI., 234.

[Klang, in Selangore.]

The occurrence of this species far down in the Malay Peninsula brought to my mind the bird described by Blyth, *loc. cit.*, and a comparison of my specimens, Indian and Malayan, with Blyth's description have left me little doubt that the above identification is correct.

Blyth's description runs as follows:—

"*M. murina*, S. Müller, *N. S.*, also a true *Turdinus*, and the smallest of the genus. Plumage as in its congeners, with long white supercilia, and white spots tipping the wing-coverts. Length, $4\frac{1}{2}$ inches; wing, 2 inches; tail, 1 inch; bill to gape, $\frac{3}{4}$ inches. Sumatra.

Now this description and these dimensions exactly fit our bird. In my former notices of this (*loc. cit. sup.*) I unaccountably omitted to give dimensions and colors of soft parts, though we recorded these of a very large series.

The sexes do not differ appreciably in size, but large and small individuals of each occur. The following is a synopsis of the measurements of nine individuals of both sexes, recorded in the flesh.

Length, 3·9 to 4·7; expanse, 6·5 to 7·15; tail, 0·5 to 0·9; wing, 1·9 to 2·1; tarsus, 0·7 to 0·85; bill from gape, 0·7 to 0·82; weight, 0·62 to 0·7 oz.

The legs, feet, and claws, vary from pale brown and brown to pale fleshy brown and dusky fleshy; the upper mandible from brown to black, the lower mandible pale to dark plumbeous; the irides brown from light brown, to cinnabar, or again Sienna brown, and to deep brown.

The general shade of color of the birds also varies a good deal; some are paler, some darker, some have the long superciliary stripe and the entire throat buff color, and the entire breast and abdomen olive brown, the feathers streaked centrally with buffy white, and no pale unstreaked patch in the middle of the abdomen. Others have the supercilium and the entire throat and even part of the breast white, and the greater part of the abdomen unstreaked white, clouded with the same brownish rufescent buff, that covers the throat of the specimens at the other end of the scale, and with the brown striated feathers almost confined to the sides of the breast and flanks.

The two types look rather different at first sight, but they run into each other, and the birds are structurally identical.

Taken as a body, though there are exceptions to the rule, the Assam birds appear to be deepest colored, the Malayan palest, and the Tenasserim intermediate.

* 351 *bis*.—*Cyanocinclus solitarius*. *P. L. S. Mull.*

[Girbee.]

Another species that runs a short way down the Malay Peninsula.

* 353 *A*.—*Petrophila gularis*, *Swinh.* (*Ibis*, 1863, p. 93, Pl. 3.

[Malacca.]

A single specimen of this Chinese species was obtained in the neighbourhood of Malacca. A fine adult male in full plumage.

* 393 *bis A*.—*Stachyris poliogaster*, *Sp. Nov.*

[Foot of Gunong Pula' Johore.]

Length, 4·6; expanse, 6·5; tail, 1·7; wing, 2·05; tarsus, 0·65; bill from gape, 0·6; bill at front from margin of feathers, 0·52; weight, 0·45 oz.

Irises a deep brown; lower mandible fleshy pink; upper mandible plumbeous brown; legs, feet, and claws dark fleshy, tinged with green.

The entire lores, extending quite to the nostrils, and closing over the culmen so as to form a frontal band, the feathers

above and below the eye and the cheeks, dull grey or greyish white, a little browner on the cheeks; chin and throat white, with a grey shade, most of the feathers black shafted. A pale olive brown band across the breast; lower breast, abdomen, sides, flanks and tibial plumes, grey, darker and bluer on the sides; and the tips of some of the flank feathers with a brown tinge; lower tail-coverts pale fawny brown; wing lining and axillaries pure white. The posterior portion of the forehead and the crown bright ferruginous chestnut, the feathers dark shafted. Nape, back, and lesser wing-coverts dull brownish olive; wings and tail hair brown, with the visible portions in the closed wing everywhere suffused with a faintly rufescent olive shade; the tail faintly and obsoletely barred; the edge of the wing white.

This little *Stachyris*, of which I have a single specimen, obtained near the foot of Gunong Pulai, near the southernmost extremity of the Malay Peninsula, belongs to the same sub-group as *ruficeps*, Blyth, *rufifrons*, Hume, and *præcognitus*, Swinhoe, but is distinguished at once from all of them by its grey face and grey underparts; the latter only traversed by the pale brown breast band.

When on the subject of *Stachyris* I should very much like to know how *S. bocagei* of Salvadori is to be distinguished from *S. assimilis*, Walden, which latter differs from *S. chrysæa*, Hodgson, precisely in the particulars by which *bocagei* is said to differ. Perhaps Count Salvadori will kindly compare his specimen with specimens of *assimilis*, and explain how they differ.

*396 D.—*Timalia leucotis*, Strickl.

[Malacca, and foot of Gunong Pulai, Johore.]

Of this well-known species, unaccountably hitherto omitted from our list, we have now procured numerous specimens, both in the neighbourhood of Malacca and about the extreme south of the Malay Peninsula.

*403 bis.—*Pomatorhinus olivaceus*, Bly.

[Kussoom.]

This is another northern species which runs down the Malay Peninsula, for 150 miles or so, south of the Tenasserim border.

*556 quat.—*Phylloscopus tenellipes*, Swinh.

[Kussoom.]

A single, but thoroughly typical, example.

*599.—*Corydalla richardi*, Vieill.

[Kussoom, Poongah, Girbee, Klang, Singapore.]

Numerous specimens obtained this year in various parts of the Peninsula.

*688 *ter.*—*Sturnia sinensis*, Gm.

[Singapore.]

Davison obtained a single specimen, an immature bird, of this species, on Singapore Island. It is of course the *Pastor elegans* of Lesson, and it has been recently procured, on several occasions, in Pegu, by Mr. Oates, to whom I am indebted for a nearly adult specimen.

*704.—*Estrela amandava*, Lin.

*704 *bis.*—*Estrela flaviventris*, Wall.

[Singapore Island.]

We procured specimens of both these species in a thoroughly wild state on Singapore Island, but, as in the case of *Oryzivora leucotis*, they appear to occur nowhere else in the Peninsula, and plentiful as they may now be, in a wild state on that Island, we believe that all three species have been introduced there.

*844.—*Squatarola helvetica*, Lin.

[Jurum in Selangore, Pulo Nongsa.]

*848.—*Ægialitis cantiana*, Lath.

[Singapore, Pulo Nongsa.]

*875 *bis A.*—*Limosa novæ-zealandiæ*, Gray.

[Changhi, Singapore Island.]

A single specimen, with the much barred rump, (and it appears to me, sex for sex longer bill,) of this eastern race, was procured on the southernmost extremity of Singapore Island. It differs, recognizably, I think, from our large series of *lapponica (rufa)* which I obtained at Kurrachee.

*877.—*Numenius lineatus*, Cuv.

[Tonka.]

Although omitted from our previous lists, this species is not uncommon in the Malay Peninsula, along the sea coast, right down to the southernmost extremity.

*878.—*Numenius phæopus*, Lin.

[Klang, Jurum, Pulo Nongsa.]

Even more common than the preceding.

*911.—*Porzana fusca*, Lin.

[Klang.]

The only specimen of this species we have yet met with in the Peninsula.

*929.—*Bubulcus coromandus*, Bodd.

[Klang.]

*989.—*Sterna bergii*, Licht.

[Pulo Nongsa, Johore Straits.]

*1000 bis.—*Fregata minor*, Gm.

[Pulo Nongsa.]

Davison has repeatedly seen frigate birds about the coasts of the Malay Peninsula, at Tonka, Copah. and on one occasion at Lankowrie Islands, north of Penang, he saw nearly twenty together, but he has never succeeded in procuring one. Lieutenant Kelham, of the 74th Regiment, however, succeeded in shooting one on Pulo Nongsa, an island about 30 miles south-west of Singapore.

This bird, which I take to be a young one, just assuming, in places, mature plumage, measures as follows in the skin:—

Length, 28; wing, 20·3; tail from insertion of feathers, 11·3; bill, along curve of culmen to point, from margin of feathers, 4·6; from gape straight to point, 4·0; mid toe and claw, 2·65; claw, only (which is feebly serrated on inner edge), 0·8; tarsi, 0·7.

The space between the lower mandibles and a lengthened triangular pouch (apex downwards), running for nearly two inches down the throat, forming doubtless in life a pouch, bare; the whole of the rest of the head and neck all round, sordid fawny white, most of the feathers faintly darker shafted, and a good many of them, especially on the occiput and at the base of the throat, suffused towards the tips with pale chestnut.

The upper breast hair brown, passing into blackish brown on the lower breast; the abdomen pure white; the sides, flanks, tibial plumes, and lower tail coverts, and entire under surface of the wing, blackish brown, almost black in some places, and there with a faint green gloss; winglet, primaries, secondaries and their greater coverts blackish; tertiaries and tail (which latter is much abraded) dark hair brown; lesser and median wing coverts hair brown, each feather margined with brownish white; back, scapulars, rump and upper tail-coverts dark hair brown; most of the feathers of the middle back a good deal worn and weathered, and in amongst these peeping out a few new feathers, much darker, and with a purple or green sheen.

*1003.—*Pelecanus javanicus*, Horsf.

[Klang in Selangore.]

A single specimen of the large Pelican, of the *onocratalus* type, which we identify in India as above, was shot for us in July by Mr. H. C. Syers. Some years Pelicans appear in

prodigious numbers on the coasts of the Malay Peninsula, but since we have been regularly collecting there, they have been extremely rare.

List of species entered in our First List, but now for the first time obtained.

*23 *ter.*—*Astur soloensis*, Horsf.

[Malacca, Klang.]

*41.—*Polioaëtus ichthyaëtus*, Horsf.

[Poongah, about 8° N. Lat.]

Not yet observed further south. *Leucogaster*, on the other hand, is common everywhere along the Coast, and on every island.

*55.—*Haliastur indus*, Bodd.

[Klang, Selangore.]

This specimen, though obtained well down in the Malayan Peninsula, has the dark central streaks as strongly developed as in any Indian specimen, and shows no tendency towards the intermediate Javanese race, or *a fortiori* to *H. leucosternum* of Australia.

*56 *ter.*—*Milvus affinis*, Gould.

[Klang.]

This is the only specimen we have yet even seen in the Malayan Peninsula.

*83.—*Hirundo javanica*, Sparrm.

[Kussoom, mouth of the Poongah river, Jaffaria, Johore.]

These specimens prove to be absolutely identical with Nilgiri ones.

*114 *bis.*—*Lyncornis cerviniceps*, Gould.

[Kussoom, Poongah.]

Davison previously stated that this bird certainly occurred in the northern portions of the region, as he had frequently heard its peculiar call there. We have now obtained numerous specimens, showing that it comes down at least as far south as the 8° N. Lat.

*233 *quat.*—*Anthreptes simplex*, S. Müll.

[Kussoom.]

A very rare bird in the Straits, which does not appear to extend to the south.

lowe, ang and Jurrum.]

Asiatic Indian *mahrattensis*, Sykes.

the Soc. Prov.

[Selam's (sa) appears to be extremely rare in the Peninsula. The Malaccan dealers, and the only specimens

*831 quat.—*Caloperdix oculus*, Tem.

*902 *A.*—*Porphyrio edwardsi*, *Elliot*. S. F., VII., 23, pl. 1.

Purple Coots are not common in the Malay Peninsula. The explored portions of the tract contain few localities suited to their habits, but in a large swamp, about 15 miles east of Klang Davison met with a good number of these birds, and Mr. Syers who accompanied him, succeeded in bagging one, which proved to be, not *calvus*, as Blyth and Eytton had recorded, but Elliot's new Siamese species *edwardsi*. The plate already given of this species in STRAY FEATHERS (*loc. cit. sup.*) is an extremely faithful one.

[Klang and Selangore.]

*990.—*Sterna media*, Horsf.

*992.—*Sterna anaetheta*, Scop.

*1004.—*Pelecanus philippensis*, Gm.

We obtained from a dealer a single old skin of a young bird of this species, killed some years ago, in the immediate neighbourhood of Malacca.

There are a few species in regard to which I desire a few remarks.

57 bis.—*Pernis brachypterus*, Bly.

It is now to my mind quite certain that we have in Malay Peninsula a species of Honey Buzzard quite distinct from *ptilorhynchus*. It is quite possible that this *Pernis celebensis*, with which it agrees in having the wing lining and axillaries strongly and broadly barred, but it agrees neither with Schlegel's figure "pl. 26, fig. 4, nor Mr. Sharpe's description, Cat. P. the entire and would rather seem to be referable to the *ptilorhynchus* of the fourth Sumatran example referred to by Mr. Gurney, 1880, p. 213.

I have now two specimens, the one apparently a male, wing, 14.75; the other a supposed female, wing, 16.1. Both are of precisely the same type, and both unmistakably distinct from any Indian or Malayan specimen of *ptilorhynchus* that I have examined.

I have never seen *celebensis*. I cannot find out what Blyth's *brachypterus* really was. Our present birds may not be referable to either of these species, or supposed species, but I am absolutely certain that they are not *ptilorhynchus*.

The male I take to be the younger bird of the two. It has the entire forehead, crown, occiput, nape and full broad crest (nearly 3 inches in length), the sides of the head, including the cheeks, ear-coverts, and sides of the neck, almost black; a few of the feathers of the forehead, of the hind head, and the crest, are very narrowly margined with sordid white, as are most of the blackish brown feathers of the hind neck; the entire chin and throat pure white; a good many of the feathers, however, faintly washed with creamy towards the tips; a very few of the feathers, with parts of the shaft, black, and three feathers, one above the other, just at the base of the centre of the throat with conspicuous black shaft stripes, as if the last remains of a central throat stripe; the entire breast and upper abdomen mingled white (with, in many places, a creamy tinge) and blackish brown; in the upper part of the breast the brown is confined to a shaft stripe, say 0.2 in width; lower down this has expanded into a diamond-shaped shaft stripe, nearly half an inch wide at the broadest part, and lower down still it has expanded still more so as to cover the greater portion of the feather, but is now cut into by deep opposite festoons showing how the change from the longitudinal to the transverse markings takes place; the lower abdomen, flanks, vent, and lower tail coverts dark brown, regularly and conspicuously

barred with white, suffused with dingy buff about the lesser lower tail coverts where the barrings are closer and narrower than elsewhere; the tibial and tarsal plumes are browner and less black, and they are narrowly and closely, transversely, barred with buffy white, only in the longest of the tibial plumes, *which descend quite on to the foot*, are the bars a little bolder and purer. The axillaries and entire wing lining are deep brown, strongly barred, transversely, with white, which is rufescent everywhere except on the lower greater primary coverts. Nothing like this has been observable in any of the numerous (say over 100) examples of *ptilorhynchus* that I have examined. The whole mantle and interscapular region are brown, darker at the base of the neck and along the lesser wing coverts, and in the case of many feathers having a distinct purple sheen; the primaries, except the first two, distinctly barred on the outer webs with three or four ill-defined bands of a paler and more fawny brown.

In the case of the secondaries and tertiaries there are indistinct traces of narrow dark transverse bands. The tail feathers are narrowly tipped with sordid white, then comes a band of blackish brown 0.9 in width, then a two-inch bar of fawny brown, zigzagily mottled with a darker shade, then an 0.9 blackish brown band, then a similar fawny brown darker-mottled band of the same width. Then a third blackish band about 0.7, and then again another of the fawny bands about 0.5. Above that an 0.7 dark band, but not so dark as the preceding one; then an 0.3 fawny band mottled with *white*, and then an irregular brown band lighter than any of the preceding, mottling away into the white of the base of the feathers.

The supposed female is very similar, *except* that the lores and cheeks and part of the anterior portion of the forehead are grey. There is a feeble and irregular throat stripe. The *entire* breast, abdomen, and lower parts are white; the feathers dark shafted, with *at least* one very broad subterminal blackish brown transverse bar. On the breast this is all; on the upper abdomen there is a second similar bar higher up, and on some of the feathers of the lower abdomen there is yet a third higher up still. The tail is difficult to describe because it consists half of old feathers, greatly abraded, and half of new feathers not yet quite fully grown, but the new portion may be described as having an 0.2 inch grey tip; a 2.3 black band, a 2.5 grey band mottled darker, a 2.0 inch black band, an 0.4 inch brownish grey band succeeded by an irregular dark brown band, mottling away into the white of the extreme base of the feather.

In conclusion it must be distinctly understood that besides these birds we have specimens of the ordinary Indian *P. ptilorhynchus* shot near Singapore, &c.

73 nov. A.—*Scops rufescens*, Horsf.

About this species there is some difficulty. Horsfield's original brief description is simply valueless, and he gave the dimensions as "total length, 8 inches."

Lord Arthur Hay, having obtained a very large Scops Owl at Malacca, Jerdon identified it with *rufescens*, but Blyth hesitated to endorse this identification in consequence of the small total length assigned by Horsfield to his specimen.

Blyth apparently (J. A. S. B., 1845, Vol. XIV., p. 181) sent the specimen home to Strickland. At any rate he says that he determined Lord A. Hay's specimen with Strickland's assistance, who examined the original specimens of the birds described in Dr. Horsfield's Javanese list. There seems therefore no possible doubt that the specimen obtained by Lord A. Hay was really identical with Horsfield's type of *rufescens*. This specimen Blyth describes as follows:—"Length about eleven* inches, of which the tail measures four and three quarters; wing, six and three quarters. General color ferruginous brown, much paler below, the forehead and lower part of the disc and aigrettes in part, conspicuously white with a few minute dark speckles; upper parts marked with whitish spots along the shaft of each feather; the lower variegated with dusky and whitish in cross striæ; primaries and tail with numerous and broad dusky bars, amounting to about twelve in number in the latter; tarsal feathers not continued over the base of the joint over the toes."

On the other hand Mr. Sharpe, (Cat. B. M., II., 102) adopting Horsfield's name *rufescens*, describes a specimen (said to be the type of *mantis* of Temminck and Schlegel,) with the following dimensions:—"Length, 9.4; culmen, 0.9; wing, 5.2; tail, 2.6; tarsus, 1.05."

Now but for the great difference in the lengths of the tails, the total lengths of Blyth's bird and Mr. Sharpe's bird would not be widely different, but wings of 5.2 and 6.75 in birds of this genus are utterly irreconcilable. Clearly unless the wing of the specimen of *mantis* measured by Mr. Sharpe was entirely undeveloped, (and if it had been so, he would scarcely have given the dimensions without comment), or unless Messrs. Blyth and Strickland blundered inconceivably, *mantis* of Tem. and Sch. is a different and altogether smaller bird than *rufescens* of Horsfield.

* The italics are mine.—A. O. II.

But Mr. Wallace obtained a specimen near Malacca of either the true *rufescens* or *mantis*. It is a pity that Mr. Sharpe did not give the length of the wing of this specimen which he records as in the museum. He had also another skin from Malacca. Are we to understand that the wings of these two birds also are only 5·2? This is by the way extraordinarily small for an Owl of this group which measures 9·4 inches in length in the skin.* If, however, these wings are really all 5·2, then they certainly do not belong to the species which Blyth and Strickland, after an examination of Horsfield's type, decided to be *rufescens*.

It is impossible to decide among such authorities which is right and which is wrong, but really now that Horsfield's types are again available, it is to be hoped that Mr. Sharpe will take an early opportunity of clearing up this difficulty.

I would only add that whatever the true *Scops rufescens* may prove to be, I cannot but think that the bird described by Blyth, on Strickland's authority, as identical with Horsfield's type of this, will prove to be neither more nor less than one stage of *Scops sagittatus*, Cassin—a name which, if Strickland was correct, would have to give way to Horsfield's.

233 *ter A.*—*Anthreptes rhodolæma*, *Shelley*.

With reference to my remarks, Vol. VIII., pp. 151, 152, I may now mention that we have ourselves collected several specimens of this species in the Malay Peninsula, so that its occurrence there is no longer doubtful.

289 *B.*—*Muscipeta princeps*, *Tem.*

I think there is possibly some error in my friend Mr. Sharpe's diagnosis of this species, Cat. B. M., IV., 345. He says:—

"*b.* Tail chestnut like the back.

*f*³. Throat and breast grey, &c., &c., ... *princeps*, *female*. but as a matter of fact *princeps* appears *never* to have the tail chestnut. In the very youngest birds it is a dusky rufescent brown, and apparently the adult females are like the immature males. No single bird of this species, which we have as yet collected of either sex, has had the tail chestnut. The birds referred by this diagnosis to female *princeps* are really I believe *incii*; at any rate one of the stages of *incii* answers accurately to this diagnosis.

307 *ter A.*—*Cyornis albo-olivaceus*, *Hume*.

Mr. Sharpe, in his last volume of the British Museum Catalogue, (IV., 457 note), remarks that this species will probably prove to be the female or young of some bright colored male. As,

* *Scops* Owls, measuring about 7 inches say in the skin, will have wings of at least 5·5. How can a *Scops*, 9·4 inches long in the skin, have a wing of only 5·2? Yet this is no mere misprint, for in the diagnostic table, *tom cit.* p. 47, *rufescens* is classed as "size small; wing not exceeding 6·0." The whole thing is a puzzle.

however, we have now a large series of this bird, male and female, this hypothesis must be abandoned. He further also says that it is very probably not a *Cyornis* at all, and may turn out to be *Rhinomyias pectoralis*, Salvad. No doubt the general arrangement of dark and light colors and the general appearance of the bird is much as in Salvadori's plate, but the color of the upper parts, a rich rufescent olive, is not in the smallest like Count Salvadori's figure, nor is it under any lights "a dark ochraceous brown," as described by Mr. Sharpe *tom cit.*, p. 368. Nor are the "lores white, with dusky brown bases, a ring round the eye blackish brown." There is no ring at all round the eye. The lores are the same color as the head; only from the nostrils to the upper part of the eye there runs above the lores a greyish white streak.

I call this bird a *Cyornis*, with which it agrees in structure and in habits. But then I totally disagree with Mr. Sharpe in uniting *Ochromela nigrorufa* and *Siphia strophciata*, both birds differing widely from *Cyornis* in habits and complexion, if I may use the word, with all the *Cyornis*, under the one generic name *Siphia*. And I confess that I find the greatest difficulty in ascertaining from Mr. Sharpe's key whether this bird of mine would be a *Rhinomyias* under his definitions. His generic characters are too often of a kind which cannot be verified without explanatory plates showing what exactly they mean. For instance, when he says that the bill when measured at the base of the forehead is equal to the hind toe without the claw, I am unable to discover without a plate where he intends this measurement to be made. In these triangular-billed birds the breadth varies enormously, according as you measure it a little further forward or a little further back. What is meant by base of forehead? Does he mean opposite margin of frontal feathers or opposite junction of frontal bone and bill? At the former the bill of my bird is as wide as the hind toe and half the hind claw; at the latter it is as long as the hind toe and claw together, in fact longer.

Then again he says:—"The difference between the tips of the primaries and the tips of the secondaries equal to or greater than the length of the culmen." What is meant by culmen here? European writers use the word in two distinct senses if not in three—1st, length from frontal bone along the curve of the culmen to the tip; 2nd, from margin of feathers along the culmen to tip.

In our bird the primaries exceed the secondaries by about 0.47; the culmen, according to the first mode of measurement, is 0.74; according to the second, about 0.55; straight from frontal bone to tip it is about 0.69.

Then again he says, (of *Rhinomyias*) "the distance between the tips of the primaries and the tip of the tail, not as much as twice the length of the tarsus." In our bird, the 1st is 1.5, the 2nd, 0.7. So that, so far as I am able to test his diagnosis, my bird would not be a *Rhinomyias* according to Mr. Sharpe. But I cannot but feel that all these empirical and artificial distinctions are liable to misconstruction by any one but the person who himself evolved them, and therefore I cannot feel at all certain that this bird should not, according to Mr. Sharpe, be classed as *Rhinomyias*. Though I am quite certain myself that if general structure, habits, texture of plumage, and general appearance are to be considered, it should be classed with *Cyornis*, which also I am quite sure should not be united with *Siphia strophciata*. But if Count Salvadori's figure is at all to be relied upon, or if Mr. Sharpe's description is correct, then certainly my bird is not *R. pectoralis*. In my bird the head is decidedly not duller, but if any thing richer colored than the back. The breast band is no doubt grey, but it is everywhere overlaid with a rich olive brown.

The olive brown of the cheeks, ear-coverts, and sides of the neck is precisely the same color as the head. There is no dark brown patch on the under side of the wing. The flanks and thighs are white and not "entirely ochraceous brown."

The stripe above the lores I have already alluded to, and generally for the present I prefer to retain my bird under its original name *Cyornis albo-olivaceus*.

387 A.—*Trichastoma rostratum*, Bly.

Blyth says, *Ibis*, 1865, p. 47 :—" *Napothera atricapilla*, Muller = *Trichastoma rostratum*, nobis. Male with blackish cap; female with brown cap." This is altogether a mistake.* I have a considerable series of the true *Trichastoma rostratum*, Blyth, identified with his types; the sexes are precisely alike; in both the cap is brown.

Napothera atricapilla may be *Malacopteron affinis*, but it is certainly not *Trichastoma* (lege. *Malacopteron*) *rostratum*, which in no sex ever has a dark cap, let alone a blackish one.

390 A.—*Alcippe cinerea*, Blyth.

It may be well to notice that I have numerous specimens of the bird which Blyth identified under the name of *Alcippe cinerea* (J. A. S. B., XIII., 384.) with *Malacopteron cinereum* of Eyton. My specimens have been compared with Blyth's bird; there is therefore no doubt that this is *Alcippe cinerea*, apud

* It must be remembered that Blyth was writing from memory, with no specimens to compare, and when years had elapsed since he had seen his own types.

Blyth, and it is undoubtedly both in structure and in habits a true *Alcippe*. On the other hand *Malacopteron cinereum* of Eyton is a true *Malacopteron*; and, as I have already shown conclusively, S. F., VI., 271, is nothing else than the bird to which Blyth, and others hastily following him, erroneously assigned Eyton's other name *magnum*, which latter, as I have also shown *loc. cit.*, really applies to the species re-named *majus* by Blyth.

So far therefore as Eyton's sponsorship for the name of the present species is concerned, the bird is nameless; but we may fairly accept it, I think, as an original name of Blyth's, and retain the bird under the designation heading these remarks.

The following are the dimensions, colors of the soft parts, and description of this species:—

Two Males.—Length, 5·5, 5·9; expanse, 8·5, 8·6; tail from vent, 2·4, 2·3; wing, 2·75, 2·8; tarsus, 0·8; bill from gape, 0·61, 0·60; weight, 0·62, 0·6 ozs.

Lower mandible, legs, feet, and claws dark fleshy, strongly tinged with brown, to pale plumbeous brown; upper mandible dark brown; irides pinkish grey.

One Female.—Length, 5·5; expanse, 8·25; tail, 2·35; wing, 2·65; tarsus, 0·8; bill from gape, 0·65; weight, 0·5 oz.

Legs, feet, and claws pale dirty plumbeous; upper mandible slaty brown; lower mandible pale brown, yellowish white at base; gape dull yellow; irides slaty.

Unfortunately we only measured 3 specimens in the flesh:—

The lores and feathers immediately in front of the eye greyish white; the cheeks and ear-coverts a pale grey brown, the latter more or less obscurely pale shafted. In good specimens this same pale grey brown extends as a narrow band over the eye, but this is often not visible. The entire forehead, crown, occiput, and nape dull brown, with more or less of a smoky sooty or grey shade; this varies in different specimens. The entire mantle and visible portion of the closed wing olive brown, more rufescent on the wings and towards the rump. The rump has a decided, though not strong, ferruginous tint, shading into the ferruginous brown of the upper tail-coverts. The tail a dull reddish ferruginous brown, more rusty along the outer margins of the feathers. Though not very *sharply* defined in *most* specimens, there is always a strong contrast between the grey or sooty brown of the occiput or nape, and the olive brown of the back. The inner webs of the quills are a dark hair brown. The sides of the neck behind the ear-coverts are much the same colour as these latter, but in some specimens there is a shade of olive here. In specimens in which the head is of the darker or sooty brown type (it is never really dark) the ear-coverts look a good deal paler, but where the head

is grey brown, they scarcely differ in colour except in consequence of the pale striations. The entire lower parts are sordid white, a little purer on the throat and abdomen, but everywhere more or less faintly brushed with grey, and especially about the breast and sides with feeble shades of earthy or ashy brown. There is no distinct breast band, no distinct striation, but the whole lower surface is sordid. The lower tail-coverts and tibial plumes are generally slightly browner, a dingy yellowish brown. The wing lining, the edge of the wing at the carpal joint, and the axillaries are nearly pure white. In some specimens too the middle of the abdomen is nearly pure white.

The wing is much rounded; the exposed portion of the 1st primary about 0·8 in length, the 2nd primary about 0·7 longer, the 3rd about 0·4 longer, the 4th, 0·2 longer, the 5th and 6th each a shade longer.

I do not know whether this is the bird commonly accepted as *Alcippe cinerea*, Blyth, but this is *his* bird, and there should in future be no mistake about it.

396 *bis* A.—*Cyanoderma bicolor*, Bly.

As regards this species I desire again to repeat, (since I have recently seen Count Salvadori's error in regard to this species, repeated in more than one European work,) that *C. bicolor* and *C. erythropterum* are NOT the different sexes of the same species.

This is not a matter of *opinion*. In Tenasserim and the Malay Peninsula we have now collected nearly one hundred specimens of *erythropterum*, males and females, young and old, at different seasons of the year; they are all *erythropterum*, *pure et simple*, and we have never succeeded in obtaining a single specimen of *C. bicolor*. Indeed at present we are compelled to doubt whether this ever does, really, occur in the Malay Peninsula.

396 *bis* C.—*Trichixos pyrrhopygus*, Less.

It seems to me quite certain that this bird has no business where, following Salvadori and others, I have located it. It is really a "*Shama*," and should be located with *Copsychus* and *Cercotrichas*. It has a song very like that of the *Shama*; like it, it is a tree bird, often descending to the ground for a moment, and indeed in all its habits it precisely resembles this bird, differing only in its alarm note, which, instead of the harsh "*kurr*" of the *Shama*, is a clear full, prolonged whistle. Salvadori places it between *Kenopia striata* and *Malacopteron*, but it has no connection with either. *Kenopia* is a little ground bird that goes poking about like *Timalia nigricollis* and *leucotis*, and *Macronus ptilosus*, but generally alone, while these latter all

go in little mobs. The *Malacopteron*s, on the other hand, are no doubt tree birds, but their habits are widely different; they go in flocks, while *Trichixos* always goes in pairs, and generally they are quite distinct.

396 *ter E.*—*Alcippe cantori*, Moore.

There is another bird on our list, *Alcippe cantori*, which, although I do not hold it in any way doubtful, I have never been able to obtain. Considering the enormous number of Straits specimens that have now passed through our hands, to say nothing of the huge collection our museum contains, it is extraordinary that we should never have obtained this species; that is to say, if Dr. Cantor *really* obtained it at Penang; but numbers of species, of which he sent specimens from the Malay Peninsula, were certainly never obtained there in a wild state, and it is quite possible that this also may really have come from elsewhere.

For facility of reference I reproduce the original description:—

“*A. cantori*.—Upper parts olive brown, tinged with rufous on the rump; crown ash brown, being much lighter than in *A. affinis*; nape paler; lores, a streak over and behind the eyes, with the ear-coverts, ashy white; throat, belly, vent, and under tail-coverts white; breast mingled white and ash; wings rufescent brown, the remiges margined brighter; upper tail-coverts and tail deep rufo-ferruginous, darker towards the tip; bill horny above, pale below; feet greenish. Length, nearly $7\frac{1}{2}$ inch; of wing, 3 inch; tail, $3\frac{1}{8}$ inch; bill to frontal plumes, $\frac{1}{2}$ inch; to gape, $\frac{3}{4}$ inch; and tarsi, $\frac{1}{2}$ inch.

Distinguished from *A. affinis* and *A. albogularis* by its larger size, longer wings, and tail.”

The first characteristic point is “lores, a streak over and behind the eyes, with the ear-coverts ashy white.” The second is the large size. Length, $7\frac{1}{2}$; wing, 3; tail, $3\frac{1}{8}$. Far exceeding the dimensions of both *affinis* and *magnirostris*.

Of course placed as Moore has placed it between *affinis* and *magnirostris* and under the same generic designation (wholly misapplied in *their cases*) of *Alcippe*, *cantori* should also, probably like these, be classed as a *Malacopteron*.

593 *ter A.*—*Budytes taivanus*, Swinh.

I find on comparing a large series of Chinese and Malayan examples, that this species can *always* be distinguished by its yellow supercilium. In the old males of course the rich uniform green of the head and entire upper surface, suffice, without reference to the almost golden yellow supercilium, but the immature birds are so like the similar ones of *flava*, having the same con-

spicuous supercilium, that it is in some cases only by the pale primrose yellow tint of the long eye streak of *taivanus*, as compared with the greyish white one of young *flava*, that the birds can be readily separated.

988 *quat.*—*Sterna gouldi*, Hume.

The birds that I before entered as *sinensis* must, I find on careful re-examination, be entered as *gouldi*. In whatever light and in whatever position you hold the wing of *sinensis*, the shafts of the first three primaries (to speak only of these) are, on their upper surfaces, white, with, at most, a grey shade; while in *gouldi* (*vide* S. F., V., p. 326) the shaft of the first primary is white or brownish white, and the second brown, often a dark brown, and the third a grey, more or less tinged with brown; but to see this properly you should hold the wing with points of the feathers downwards, and standing with your back to the light. Thus held the difference between the color of the shafts in *sinensis* and this race is very conspicuous. You may turn the wing of *sinensis* as you please, the shafts are always white. On the other hand in *gouldi* you can hold the wing in some lights so that all the shafts look almost white or at any rate whitish.

Recently Mr. Parker went, at my request, to Goalundo on the Brahmaputra, during the breeding season of the little Tern, and shot and preserved for me 19 specimens; 18 of these are *gouldi*, but one specimen, an adult breeding, has the shafts of the two first primaries blackish brown, and has the coarse bill of *minuta*, from English specimens of which I am quite unable to separate it.

In *Sterna saundersi* the shafts of the first three primaries are blackish brown. I have numbers of specimens now of this race, (I procured one myself this year on the Ganges at Allahabad), and I find that it is very constantly characterised by a slenderer bill than *minuta* or *sinensis* or *gouldi*.

I have said nothing about the amount of the black on the tip of the bill; this is, I am convinced, an utterly valueless character, for out of sixteen adult *Sterna gouldi*, shot all at the same time and place, and all in breeding plumage, the amount of black tipping varies from 0.4 to a mere speck on the tip of the upper mandible, and in three specimens there is absolutely no black at all.

Again I have said nothing about the shade of grey of the upper plumage, nor of the color of the tail, rump, and upper tail-coverts. These vary in these birds according to age and season, and even according to individuals. Amongst these *gouldi*, (as above, all shot at the same time, all adults, all breeding on the same chur), some have the rump, upper tail-coverts and the

entire tail, except the outer tail feather, the same grey as the back. Others, about one-fourth, have these parts white, or quite as nearly white as in the majority of English *minuta*, (which very often have an excessively faint grey shade over these parts,) and every intermediate amount of grey on rump and tail occurs in these specimens. Again in some the back is a much paler grey than in others.

Take again *saundersi*, here, in the not perfectly mature birds, the whole back, rump and tail is grey, of a darker shade than in any of my European specimens of *minuta*, but in more mature birds, killed off the eggs, many are quite as pale as any English specimens, and one has become nearly entirely white on the upper surface, the whole of which is quite as white as the rump in many specimens of *minuta*. But for the slender bill and the very black shafts of the first three primaries, a blackness observable in nestlings which have not left the nest, it would be difficult to separate *saundersi* in some cases from *minuta*. No doubt typically the rump and tail of *saundersi* are grey, those of *minuta* white, but a good many English *minuta* have a distinct, though very pale, grey tinge on the rump, upper tail-coverts and central tail feathers, while on the other hand every here and there a *saundersi* has no more than this.

As regards the number of dusky feathers amongst the earlier primaries, although this seems to be quite constant in perfect adults, in full breeding plumage, namely, three in *saundersi*, two in *gouldi*, one in *sinensis*, still it is useless as a diagnosis, because in somewhat younger birds there are always more than in the adults. Thus I have *sinensis* with two, *gouldi* with three, and *saundersi* with four and five dusky primaries.

This is I fear a very tedious paper, but it has been written to a great extent in the hopes of eliciting information.

I am working very hard to get together, *pro bono publico*, a really correct list of the birds of the western half of the Malayan Peninsula, (a matter of considerable interest and importance,) and I hope it may not be considered unreasonable if I entreat ornithologists elsewhere to aid me by sending me the names—1st, of all species which they *know certainly* to occur therein, not yet included in my accepted list, as now revised, with such particulars as may enable me so to include them; and, 2nd, of all species, not included in either of my lists either as accepted or doubtful, which they know to have been *recorded* from the Malayan Peninsula, with a reference to the place of record.

I should be *extremely* grateful for any such assistance or for any corrections, and should most promptly and thankfully acknowledge them.

A. O. H.

Additional Notes on some of our Indian Stonechats.

THROUGH the kindness and courtesy of Canon Tristram and Mr. Brooks I have had an opportunity of examining and comparing the two types of *Pratincola robusta*, referred to in the *Ibis* of 1870, p. 497.

I may say at once that, in my opinion, these two types have no earthly connection with each other. The one, said to be from Mysore, is a magnificent bird of the *torquata* vel *pastor* vel *sybilla* type, with the lower abdomen, vent and lower tail-coverts snow white, and with the axillaries and a good deal of the wing lining also white; the other, the Himalayan bird, is our large Eastern Stonechat which I discussed so fully, Vol. V, pp. 242, 243, &c., and which has the abdomen, vent, and lower tail-coverts rufous, and the axillaries mostly blackish brown.

This second type we may neglect as it is quite clear that Canon Tristram's real type was the Mysore bird. Whether the Eastern Himalayan and Assam race requires a separate specific designation I will rediscuss further on. For the present I propose to refer only to the bird that I consider the real type of *robusta*, Tristram. This is said to have come from Mysore, and from the original label which it bears I believe this to be correct, since it has the color of the eyes recorded on it in the peculiar way that was customary years ago at the Bangalore Museum.

Now at first sight I should have identified this, unhesitatingly with *P. torquata*. It agrees, in most respects, perfectly with the picture given by LeVaillant, except in so far as the breast is a little deeper cinnamon rufous in the Mysore bird, and the latter wants the nuchal collar.

The dimensions agree exactly with those given for this species by Layard and Von Heuglin. But against this has to be noted, first Canon Tristram's remark that the colors are more intense than in *pastor*. In this of course he may have been mistaken; he thought that his bird was "very much larger than any known species of *Pratincola*," so that clearly he could not have had by him specimens of *pastor* vel *torquata* vel *sybilla* (I do not know whether these are really two or three races) or he would not have said this, since these are quite as large, and he may have relied for his diagnosis of colors on LeVaillant's or some other author's plate.

But secondly, Von Heuglin says of *pastor*, "*Subalaribus nigris*." If this were correct it would set the question at rest, for most certainly no one could describe *robusta* as being

"*Subalaribus nigris*." Of this bird the characteristic should be *subalaribus albis*.

When you open the wing all you see is white; no doubt, when the very full axillaries are pushed aside, the under wing coverts themselves are seen to be black, margined with white, and no doubt the bases of the axillaries are dusky also; but the general effect of the body of feathers under the wing is white.

This Mysore bird is connected with *insignis* which has similar white axillaries, but it may be distinguished at once by its entire black throat, that of *insignis* being entirely white; by its smaller wing, that of *insignis* being at least 3·6; by the less amount of white on the wing; by the greater amount of white on the rump and upper tail-coverts; and by the pure white of its lower abdomen.

The original description of *robusta* referred to the "intensity of its rufous breast, extending down to the abdomen without any white," the meaning of which is even now not clear to me, but which I have hitherto taken to signify that, as in our eastern bird, the whole lower parts, including the abdomen, were rufous, whereas one of the most marked characteristics of the Mysore *robusta* is the snowy whiteness of its lower abdomen, vent, and lower tail-coverts.

It is desirable I think to put on record, for the benefit of Indian readers, a fuller description of this Mysore bird than, so far as I am aware, has yet appeared.

The following are the measurements in the skin:—Length, 6·05; wing, 2·92; tail to insertion of feathers, 2·33; bill from gape, 0·68; bill from frontal bone straight to point, 0·67; tarsus, 0·9.

The wing formula is somewhat different from that of our large Eastern Stonechat. The second primary is only 0·26 shorter than the third, which again is 0·05 shorter than the fourth which is longest. In our Eastern bird the second primary is fully 0·3 shorter than the third primary.

The entire head, including lores, cheeks, ear-coverts and throat, the nape and entire mantle, and the tail, black; the feathers of the crown and occiput *excessively* narrowly, and those of the mantle narrowly; fringed with rufous buff. On either side of the neck is a conspicuous patch of white which runs down and joins the white axillaries; indeed some few feathers at the extreme sides of the breast are also white. There is a conspicuous white wing spot consisting apparently of the whole of the secondary and tertiary wing-coverts, great and little; the quills are brown; the secondaries and tertiaries very narrowly margined on the outer webs with pure or nearly pure white, and with sordid fawn color at the tips; the primary

wing-coverts are blackish brown or almost black; the lower part of the rump and upper tail-coverts pure white; the outer tail feathers, which are 0.25 shorter than the longest, very narrowly margined on the outer webs towards the tips, and at the tips with sordid white. A trace of the same, but at the tips only, on the two next feathers on either side; the entire breast and part of the upper abdomen and sides a rich deep cinnamon rufous, a color that can barely be matched for richness just on the upper breast of the brightest colored examples of our large Eastern Stonechat. In this latter species the rufous color rapidly pales from the base of the throat. In *robusta* it is uniform throughout and abuts directly on the pure white of the middle of the abdomen, vent, and lower tail-coverts; the flanks also are mostly white, but they are washed with a paler shade of the rufous of the breast; the extreme sides of the breast and all but the bases of the axillaries pure white; the visible portion of the lower wing-coverts black, fringed with white; the tibial plumes, black, fringed with sordid white. Perhaps I should have called the tail blackish brown instead of black; the bill, legs, feet, are all black.

Now the question arises, is this *torquata*? There is nothing extraordinary in an African bird finding its way to the Hills of Mysore. If not *torquata*, or at any rate one of the forms known under the names of *torquata*, *sybilla*, *pastor*, &c., it may be a local race like *insignis*.

And here I must again repeat that *insignis* is not a bird of the Eastern Himalayas as Mr. Sharpe gives it, and never occurs in Nepal, whence Mr. Sharpe records Hodgson's type specimen. Hodgson's type came from Segowlee, a cantonment in the plains of the Chumparun District, 16 miles south of the Nepal frontier, (*vide* S. F., Vol. V., 1877, p. 132), and the bird is, to this day, not uncommon along the plains country at the foot of the Himalayas, stretching from the Bhutan Doars at any rate (*tom. cit.* p. 496), to the Bustee and Gorakpur Districts, (S. F., VII., pp. 454 and 519). It is a bird of the plains and not of the hills.

To return to *robusta* it has to be noticed that according to Mr. Sharpe's diagnosis and description (Cat. B. M. IV., 179, 190), this species if belonging to either of the two forms he admits would be *torquata*, which he separates from *sybilla*, as having the orange chest-patch large and occupying the whole breast and flanks, while in *sybilla* this is restricted to the chest and upper breast, the flanks and sides being white like the abdomen. In the case of our bird the flanks however might more properly be called *white*, the tips of some of the feathers washed with a pale shade of the breast color.

Note that Mr. Sharpe differing from Von Heuglin gives the axillaries in both these species as white, with concealed black bases, thus agreeing well with the Mysore *robusta*.

Mr. Sharpe's description *loc. cit.* answers in many respects to the Mysore bird, but the breast in this latter is *not* orange chestnut; there is no orange about it at all, it is a cinnamon rufous, the abdomen is pure white, and not buffy whitish; and though I have carefully raised both upper and under tail-coverts, I can discover no white on the bases of the tail feathers. Lastly, the feathers adjoining the hind neck are not white with black tips, there is no trace of white on the back of the neck, and no indication of the white collar so distinctly shown in the P. E. 572, and in Le Vaillant's figure, O. d'A., 180.

On the whole, therefore, I am disposed to consider the Mysore *robusta*, as probably a local species of very limited distribution, and I shall now endeavour to procure more specimens. I know no one at present collecting in Mysore, but should any of my readers be there stationed, I hope they will keep a look-out for this bird, and perhaps, the officer in charge of the Bangalore Museum would kindly examine all the locally killed Stonechats he has, and see whether any of them are *robusta*.

On the other hand it is to be hoped that the type, which Mr. Brooks is now taking home, will be there carefully compared with a good series of *torquata*.

And now to return to Canon Tristram's other type of *robusta*, which is nothing but our large Eastern race of *indica*. Mr. Brooks persistently urges me to assign a separate specific name to this form, and he declares that if I do not, *he will*. I have consequently very carefully reconsidered the subject, and have re-examined several hundred specimens from all parts of the empire, but only I am bound to say with the same result as before, and with a strengthened conviction that it is very undesirable to separate this race specifically.

The question lies in a nutshell; this Eastern form is, broadly speaking, distinguished by its larger size and by its rufous coloring, descending unbroken on to the lower tail-coverts. But, as regards size, a couple of hundred specimens, collected in various parts of the empire, exhibit dimensions of every possible gradation between the very smallest of the race to which Mr. Brooks would restrict the name *indica*, and the very largest of that one on which he would bestow a separate specific appellation. There is nowhere a break of even one hundredth of an inch in the dimensions of the wings, tail, bill, or tarsus, at which a specific barrier could be erected. An absolutely unbroken series of forms inextricably interlink the largest and the smallest examples. I have made enormous collections to verify this, and I have now

carefully examined the twenty-seven supposed typical birds sent me by Mr. Brooks, and this fact of a perfect gradation of dimensions is absolutely incontestable.

Precisely the same is the case where color is concerned ; here too between the typical coloration of the form to which Mr. Brooks would restrict the name *indica*, and the most characteristic coloration of the race on which he would bestow a distinct appellation, every conceivable intermediate type of coloration occurs.

But Mr. Brooks urges that it is quite possible to separate the Eastern race on the broad grounds of generally larger size and more rufous coloration beneath ; but if you go by *size*, you will find included amongst, say, the ten largest birds out of the 200, at least one, the coloration of which is what Mr. Brooks considers characteristic of true *indica*, and this not only in the males but in the females also ; and if you go by *color* you must separate off into the new species some of the very smallest birds, and under these circumstances I hold it to be neither expedient nor logical to separate these naturally interlinked forms into two species. What nature has joined let no rash ornithologist put asunder !

In my remarks on the influence of rainfall (*ante*, p. 4), I have already dwelt at length on variations of this nature. In my opinion the birds, which Mr. Brooks considers typical of *indica*, are those which have mostly been developed in zones of scanty or moderate rainfall, while those which he considers typical of the form he desires to separate specifically, belong properly to the zone of heavy rainfall ; each form of course will straggle within the province of the other, so that it would be quite possible to shoot characteristic examples of each race on the same bush, but this does not, in my opinion, affect the question ; and neither in this case nor in any of the many other instances to which I have referred, (*loc. cit.*) do I consider that the somewhat larger size, and somewhat greater intensity of coloring which characterise races inhabiting zones of heavy rainfall, as compared with those of more arid regions, are, when unaccompanied with other differences, and more especially when interlinked by a perfect series of intermediate forms, valid grounds for specific separation.

A. O. H.

Additional Notes on the Birds of Tenasserim and specially on those of the Thoungyeen Valley.

BY CAPTAIN C. T. BINGHAM.

FOR the last two years I have been almost continuously in the forests of the western half of the Thoungyeen valley, and during this time have had many opportunities of collecting the birds of this region and taking notes of their habits and geographical distribution. I have, therefore, in the heading to my paper, specially referred to this tract, the more readily that it has heretofore remained ornithologically almost a *terra incognita*. Mr. Davison, it is true, passed through the upper half of it, but he was *en route* to Mooleyit, and did not spend any time in the valley itself.

I have not, however, confined myself to noting the birds that occur in the Thoungyeen valley alone, as previous to the period referred to above I had, in the course of my official duties, to visit several places in the province from Hpapoon to Tavoy and Mergui, and had all along collected as diligently as I could.

I have to apologize for the meagre information supplied under the great majority of species noticed, but the fact is, that nearly all that could possibly be said about their habits, etc., has already been so well told by Mr. Davison in Vol. VI. of STRAY FEATHERS, that I have had scarcely anything left to add. When I have said nothing it will be understood that my observations coincide with what he has recorded.

It should be noted throughout this paper that when I speak of the Thoungyeen valley, I refer *only* to the western half of it. All to the east of the stream being foreign territory, I have had no opportunity of exploring there.

A few remarks on the natural features, etc., of the valley may be acceptable.

Five streams—the Golee, Popee, Oukreen, Oukra, and Megla combine to form the Thoungyeen river, which has its origin in their junction in about (the country has never been accurately surveyed) Lat. $16^{\circ} 20' N.$, Long. $98^{\circ} 40' E.$

These five streams drain the western and northern flanks of a high, almost unexplored, mass of mountains comprised between the Pawan-Kyan range in Shan territory, and the well known peak of Mooleyit, from whence the hills run north-west, spreading out to form the Taoo plateau, and thence continuing in an almost unbroken range north-north-west to the Salween river near its junction with the Thoungyeen.



ROUGH SKETCH
MAP TO ILLUSTRATE
CAPT. BINGHAM'S
PAPER ON THE BIRDS
OF THE THOUNGTEEN
VALLEY.

SALWEEN RIVER

HLINEBOOY RIVER

Yinsine Choang

Maypas

Magira wa

Hat

May Koo

Mah to

Ka-lay Kala

Hat

Hat

Hat

May Koo

Oorhoo Ch

May Ka

Kanoo Ch

Htee ta noo

Nye mou choang

Htee lau chit

Kamaula

△ Pagoda

NTAINS

Branket

Myne-Loon-sye

Chiang

N

Mooleyit was ascertained by Major Tickell to be 7,171 feet in height. Moulat, a peak further to the south and east, is given on the Official Government Map of Tenasserim as 5,500 feet high, but it is I believe in reality higher than Mooleyit, and the Taoou plateau is stated to have an elevation of 4,000 feet.

The whole of these mountains, collectively called the Dawna range, constitute the southern and western walls of the Thoungyeen basin, and divide it on the south from the sources of the Mekalang (of Siam) and the Houndraw which rise on its southern flanks. Westwards they form the watershed between the valleys of the Thoungyeen and Houndraw, and further north the Hlinebooeey, which latter river, rising in the northern extremity of this range, turns southwards to meet the Houndraw flowing from an opposite direction. From their junction they become the Gyne (properly Jyne.)

The Thoungyeen river, as is well known, forms the boundary between the Shan states and British territory. Its general direction is north-west, and "its entire length, following the windings of the stream, cannot be much short of 200 miles." On the whole it is a narrow but sluggish river, easily fordable in many places along its length during the dry weather, and interrupted by numerous "hats" (i.e. rapids) formed by the obstruction of rocks crossing the bed of the stream. The chief of these and the only two of any importance are Kamaukla and Kymkhet, one below, and the other above the town of Meeawuddy.

The following passage, extracted from the "Progress Report of the Forests of the Tenasserim and Martaban Provinces for 1858-59 and 1859-60," gives a very good idea of the character of the Dawna range:—

"The ranges which bound the valley of the Thoungyeen to the south-west present a rugged, and at first sight an irregular mass of mountains, covering a wide extent of country between the parallel valleys of the Thoungyeen on the one side, and the Houndraw and Hlinebooeey rivers on the other.

"The greater part of the tops and ridges of these mountains are composed of granite, but occasionally steep and rugged masses of blue limestone form elevated peaks among them. Frequently the structure of these mountains is that of parallel ranges running north-north-west; but as they are joined laterally by transverse spurs, generally of lower elevation, the direction of the whole mass is shifted, and is almost due north-west and south-east."

The wide extent of country covered by this range narrows the valley of the river considerably. In many places spurs

from the main hills abut on to the river; and indeed the whole valley may be said to consist of an intricate network of larger and smaller spurs forming a succession of hill and dale, with numberless small streams draining their sides, all flowing to the main river. From the sources of the Thoungyeen to its mouth such a thing as a plain of any extent is unknown.

Beginning at the sources of the Thoungyeen, and proceeding downwards, the first considerable spur thrown off from the main range is that which forms the east watershed of the Meknay stream, and which runs almost due north. This minor line of hills is in places as high as the main range itself, and from the east presents the aspect of an intervening range between the Thoungyeen river and the Dawna mountains. The country between it and the Dawna is drained by the Meknay and its feeders, which stream eventually falls into the Meplay. Further north another large spur bounds to the east of the valley of the Meplay, the only large tributary on the western side of the Thoungyeen.

This minor range, striking from the Dawna in a south-easterly direction, comes down as far as the mouth of the Meplay.

From the crest of the main mountain range to the bank of the Thoungyeen the country is covered by almost unbroken forest. The inhabitants of the valley being few and far between, have made but comparatively little impression on the vast forest area of this district.

The forest may be roughly said to consist of four different kinds—

Evergreen clothing the crests and sides of the main range and higher spurs, as well as the banks in the immediate vicinity of the large streams;

Moist forest consisting of bamboo—*Pyna* (*Lagerstrœmia flos-reginæ*), *Pynkado* (*Xylia dolabriformis*), and such like trees with occasionally teak mixed;

Teak forests, in which teak and bamboo prevail to a great extent, but intermingled however with other trees, and presenting an open character of forest which strikes the eye at once. Large belts of this exist at the sources of the Thoungyeen along its banks, and in the Meplay valley; and

Dry *Dillenia* forests, composed wholly of Eng, *Zimatum* (*Dillenia pentagyna*), and trees capable of growing on the poorest soil. Often in these open forests pine (*Pinus massoniana*) is found mixed with the Eng to a considerable extent, while teak, stunted and crooked in growth, is sometimes found on the borders. In the dense evergreen forests on the higher slopes of the hills, bison, sambur, and

tigers are said by the Karens to abound. Personally I have never come across them. But for birds an evergreen forest is the best collecting ground I know of.

Hornbills, Green Pigeons, Barbets, Bulbuls, and all fruit-eating birds abound, while the undergrowth thickets are alive with the calls and flitting forms, twining in and out restlessly, of *Trichastoma*, *Alcippe*, etc. By the streams, especially in the higher hills, one is sure to meet *Myiophoneus eugenii* and *Henicurus schistaceus*, while it is very likely that *Alcedo nigricans* and *Ceyx tridactyla* may dash across your path like living gems lost to sight ere you can raise your gun.

Passing out into the moist forests you find the great slaty Woodpecker (*Muelleripicus pulverulentus*) flying from tree to tree in parties uttering their queer querulous notes. But the real "happy hunting ground" of all Woodpeckers seems to be the dry teak forests open, and mixed with clumps of bamboo. In these places they go simply in great mobs, all species mixed up together, and having not a few strangers of other genera among their number, such as *Garrulax moniliger* and *belangeri*, *Cissa chinensis*, Hoopoes and Jays.

In the open barren-looking Eng jungles bird-life is scarce. A few Nut Hatches (*Sitta neglecta*), Hume's Green Woodpecker (*Gecinus nigrigenis*), an occasional Minivet (*Pericrocotus*) or Fantail (*Leucocerca*), and above all the little Burmese Piculet (*Yungipicus canicapillus*) are the chief birds seen.

In the long grass, which frequently covers the bare ridges of these forests, a species of Hare (*Lepus peguana*) is sparsely scattered, while in the rains, when the new grass has sprung, bison, saing (wild cow), sambur, and daray (hog-deer) are found in secluded places.

When referring to the four kinds of forests, I must be clearly understood not to speak of them as succeeding in zones to each other. The nature of the Thoungyeen valley, cut up by numerous ridges and spurs of hills, gives a vast diversity of flora. Wherever laterite soil collects along the banks of the various streams there teak may be expected. Let it be a little more moist and the forest is changed into evergreen, while on the bare laterite ridges eng and pine occupy the ground, the soil being too poor to allow of the growth of anything else.

The heavy rainfall on the Dawna range brings out a marvellous vegetation, and is, I fancy, the cause of many species, such as *Baza lophotes*, *Eurylæmus javanicus*, *Nyctioris amicta*, *Rhyticeros undulatus*, *Cymborhynchus macrorhynchus*, and dozens of other southern forms extending their range so far north.

In conclusion my best thanks* are due to Mr. Hume for his aid in identifying obscure species, and for allowing me the use, for purposes of comparison, of the grand series of Tenasserim Birds in his Museum.

List of Species.

2.—*Otogyps calvus*, Scop.

The Indian King-Vulture is distributed sparingly throughout Tenasserim. At Kankarit, on the Houndraw river, I have seen several pairs at various times. It occurs also in the Thoungyeen valley, and seems to me much more of a forest Vulture than the commoner *Pseudogyps bengalensis*. In September 1877 a pair of these Vultures, accompanied by an immature young one, found out the carcase of an elephant that had died in my camp, at that time pitched in dense evergreen forest at the head waters of the Thoungyeen, but strange to say none of *P. bengalensis* turned up.

5.—*Pseudogyps bengalensis*, Gm.

Common throughout Tenasserim. I have seen hundreds assembled round the carcasses of elephants and buffaloes near Kankarit.

In the Thoungyeen valley I have noticed it at Laidawgyee, on the Thablooko choung, at Meeawuddy, at Hpoyobah, and various villages in the Meplay valley.

16 bis.—*Poliohierax insignis*, Wald.

Mr. Davison got this at Meeawuddy and Laidawgyee in the Thoungyeen valley (S. F., Vol. VI., p. 2). I have not myself come across it.

20.—*Microhierax coerulescens*, Lin.

Common on both sides of the Dawna range, the western boundary of the Thoungyeen valley. In August 1879 I noticed a great number in the dry *Dillenia* forests near Meeawuddy. There must have been nearly a hundred of them on the road to Kankarit between Meeawuddy and Thingaugyeenoun. The measurements in the flesh of a large series is as follow :—

Males.—Length, 6.10 to 6.40; expanse, 11.50 to 12.20; wings, 3.77 to 3.88; tail from vent, 2.60 to 2.70; tarsus, 0.78 to 0.82; bill from gape, 0.40 to 0.51.

Bill plumbeous, blackish at tip; cere and feet black; legs dull blackish on the back surface, tinged with green in front; claws horny; irides nut brown.

* The obligation is really all the other way. To Captain Bingham our museum is indebted for many hundred fine specimens of birds and numerous large series of rare eggs. To no contributors do we owe so much as to Captains Bingham and Butler, though Miss Cockburn, Messrs. Adam, Bourdillon, Chill, Cleveland, Cripps, Doig, Inglis, Parker, Reid, Unwin, and Vidal, have all aided us most materially, to say nothing of nearly an hundred occasional contributors.—ED., S. F.

Females.—Length, 6·9 to 7·2; expanse, 13·3 to 13·7; wing, 4·0 to 4·37; tail from vent, 2·7 to 2·95; tarsus, 0·84 to 0·9; bill from gape, 0·5 to 0·62. Colors of the soft parts as in the male.

I have more than once noticed this bird descend to the ground in search of a grasshopper or other insect after the manner of the King Crow.

For nidification, *vide* S. F., Vol. V., p. 80.

23 bis.—*Astur poliopsis*, Hume.

This bird, I fancy, is more or less migratory. I have noticed it come in in great numbers both at Maulmain and at Meeawuddy in November and December.

A large male measured in the flesh :—Length, 13·20; wing, 8·10; tail from vent, 6·20; tarsus, 2·10; bill from gape, 0·90.

Bill black, having on the under mandible, below the gape, a bluish spot on each side; legs and feet yellow; cere and gape greenish yellow; irides light lake red.

In the young bird the iris is light yellow.

23 ter.—*Astur soloensis*, Horsf.

Only one immature specimen of this rare bird was procured by Mr. Davison in the extreme south of Tenasserim at Malewoon.

On the 12th April this year I shot an old adult female in open teak forest on the bank of the Thablooko choung, Thoungyeen river.

Its dimensions, etc., in the flesh were as follow :—

Length, 11·95; expanse, 25·0; wing, 7·63; tail from vent, 5·9; tarsus, 1·7; bill from gape, 0·8.

Bill horny plumbeous; cere and orbits light yellow; legs and feet orange yellow; irides pale straw color. It agrees very well with Mr. Sharpe's description of the adult (Cat. I., 115,) only instead of being "light bluish grey above" it is very dark slaty. The entire wing lining and axillaries are uniform pale buffy white. I noticed nothing particular about it at the time of shooting, but on dissection found the remains of a lizard and a frog in its stomach.

34.—*Limnaetus caligatus*, Raff.

A very rare bird in Tenasserim, which does not, so far as I know, occur in the Thoungyeen valley. A young male I procured at Yeaboo on the Attaran river, measured in the flesh :—Length, 26·0; expanse, 54·0; wing, 16·7; tail from vent, 12·8; tarsus, 3·8; bill from gape, 1·9. Cere, bill, and claws black; feet dirty greenish white; iris clear greyish brown.

39 ter.—*Spilornis rutherfordi*, Swinh.

Wherever there is a *quin* (i.e., marsh) or large patches of wet paddy cultivation, a pair of these Harrier Eagles are almost certain to be found.

It is very common in the Thoungyeen valley, where, on the 14th March this year, I revisited a nest I had had marked down for me in February, and took from it a solitary egg measuring 2·57 by 2·08—in fact rather a broad oval of a dull white ground, blotched, clouded, and dashed with pale purple and rusty red, the purple forming a dull cap of irregular shape over nearly half the egg at the larger end. The nest, which was placed some 70 feet up a Kanyin tree (*Dipterocarpus alatus*), was composed of large branches, laid across in a fork, with a superstructure of small sticks intertwined in a circular form, and the hollow in which the egg reposed lined with very fine twigs; the whole mass may have been some three and a half feet in diameter and one and a half feet thick.

A young bird I procured on the Zammeé choung, Attaran river on the 15th January 1879, was just beginning to get the peculiar white-mottled brown feathers on the lower portion of the stomach, the centre of the latter, chin and throat pure white; the breast white, with some of the feathers brown-centred on one side of the shaft.

41.—*Polioæetus ichthyaetus*, Horsf.

A bird much oftener seen than shot. It is quite common along the course of the Attaran with its two branches, the Zammeé and Winyeo choungs, on the Yoonzaleen, and along the whole length of the Thoungyeen from its sources to its mouth. In my many trips up the Salween, the largest river of the lot, to which the others are but tributaries, I have not, strange to say, noticed a single one.

On the 3rd March, being encamped near the mouth of the Hteekleethoo choung, a small stream falling from the east side of the Meplay East Watershed range, and flowing to the Thoungyeen river, my attention was attracted, as I sat outside my tent in the evening, by the persistent passing of one of these Eagles backwards and forwards between two large Kanyin trees (*Dipterocarpus alatus*.) The trees not being more than a few hundred yards off, I made my way to them, and found that a large stick nest had been built in the first fork of the largest of them, at a height of at least a hundred feet.

Next morning I sent up a couple of Karens, who managed to climb the tree in the usual way by means of bamboo pegs, and brought me down the solitary egg the nest contained. The nest they, or rather the one man who went up the whole

way, described as a large mass of sticks and twigs, with scarcely any depression in the centre, and unlined.

The egg was chalky white, rather a broad oval, without markings of any kind, and perfectly fresh. It measures "2.58 by 2.03." During the robbery the birds flew about uneasily round and round the tree, but out of shot, and it was not till after an hour's watching and stalking I managed to bag one of them, which, on dissection, proved to be the female with another perfect, but shell-less, egg inside her.

53.—*Circus melanoleucus*, Forst.

This bird coming in in November is not uncommon wherever there is any paddy cultivation. I have noticed it at Maulmain, near Ngabeemah, on the Attaran, around Kaukarit on the Houndraw River, and close to two villages in the Thoungyeen valley.

55.—*Haliastur indus*, Bodd.

In the Thoungyeen this is the commonest of the Raptors.

I noticed a pair breeding near Kaukarit on the Houndraw river, but the nest, when examined on the 4th April, was still unfinished.

56 *ter.*—*Milvus affinis*, Gould.

Common at Kaukarit and all through the plains. Excessively rare on the east side of the Dawna range in the Thoungyeen. It was only at Meeawuddy, opposite to which the Dawna range sinks to an elevation of only 1,000 feet, that I observed one or two on the 3rd February.

As noticed in my former paper (*vide* S. F., Vol. VIII., p. 191) *Milvus govinda* also occurs, but as I shot and preserved only one specimen, and that turned out so bad a one that I threw it away, I have not entered it, and only noticed it as above in this paper.

58.—*Baza lophotes*, Cuv.

On both sides of the Dawna mountains this bird I find is common. In the Thoungyeen forests I have always found it in small parties, never singly. In July 1879 I tried to stalk a few that were seated on the trees round a cultivation clearing near Koosaik on the Thoungyeen river, but they were too wary, flew up and began to sail in circles round and round at a great height.

On the 11th August 1879 I shot a young female in the act of being fed by the old ones, both parent birds flying off and procuring food for her.

In plumage this specimen exactly resembles the adults, except that the black of the throat is duller; the black band across the chest is narrower, the crest is shorter, and there is more chestnut on the wings than in the fully-plumaged bird.

The following are the measurements in the flesh of this young one, and an adult male and female:—

Male.—Length, 12.55; expanse, 29.5; wing, 9.35; tail from vent, 5.8; tarsus, 1.0; bill from gape, 1.0.

Female.—Length, 13.3; expanse, 30.7; wing, 9.92; tail from vent, 6.25; tarsus, 1.2; bill from gape, 1.0.

The colors of the soft parts in both these were—Cere, legs, and feet, dull leaden blue; bill horny plumbeous, tipped brownish above and whitish below; irides purplish brown; claws horny.

Female—Juv.—Length, 12.8; expanse, 29.0; wing, 8.93; tail from vent, 5.7; tarsus, 0.9; bill from gape, 1.0.

Cere pale whitish blue; upper mandible dark horny, lower fleshy white; iris pale straw brown; legs and feet dirty white; claws horny.

60.—*Strix javanica*, Gm.

I have already noticed this (S. F., Vol. VIII., p. 191), and have nothing further to remark about the species, except that, so far as I have been able to find out, it does not extend into the Thoungyeen valley.

? 65 *bis.*—*Syrnium seloputo*, Horsf.

I am almost certain that I have heard the call of this bird at night, on two or three occasions, in the Thoungyeen valley.

Once when I was encamped at a village in the Meplay during the rains, I heard the rolling hoo-hoo-hoo, so well described by Mr. Davison (*vide* S. F., Vol. VI., p. 28), just after nightfall. Seizing my gun I was on the point of going out in search of the bird, when the most fearful yells and cries arose from the village, which effectually frightened it away. On enquiring the cause of the excitement I was informed that it was not a bird but an evil spirit that had hooded, and had to be propitiated by cries and supplications.

72.—*Ketupa javanensis*, Less.

This fine Owl occurs everywhere from north to south. I have never managed to secure a specimen, but to my certain knowledge it is found along the whole of the Thoungyeen, and one or two on each tributary, as I have often and often heard their soft low whistle, but owing to their wariness never

succeeding in shooting one here. I got one however in March 1877 in the Sinzaway Reserve Forest on the Younzaleen.

74.—*Scops pennatus*, *Hodgs.*

This bird is common throughout the plains country and up the hills to a moderate elevation. It is not as common in the Thoungyeen valley as the next species, but its whistled call of *whoo, whoo, whoo-hoo*, incessantly repeated, is by no means an uncommon accompaniment to the many sounds of night in the drier forests in the Thoungyeen.

A pair in my collection measured in the flesh:—

Male.—Length, 7.0; expanse, 17.2; wing, 5.3; tail from vent, 2.3; tarsus, 0.85; bill from gape, 0.75.

Cere and feet a pale whitish yellow; bill horny; base and tip of lower mandible white; irides yellow; claws horny.

Female.—Length, 7.11; expanse, 19.4; wing, 5.75; tail from vent, 2.7; tarsus, 0.9; bill from gape, 0.78.

Cere dusky dark green; bill horny; gape fleshy white; irides bright yellow; feet fleshy brownish yellow; claws horny.

This female was evidently breeding; she had a large and fully-formed but shell-less egg inside her.

75 *quint.*—*Scops lempigi*, *Horsf.*

Common in the Thoungyeen valley. I have myself neither seen nor heard it anywhere else.

The call of this bird is peculiar for a *Scops*,—it is a long rolling *kur-r-r-r*, continued for minutes together.* On the 11th March a Karen, who had been marking down nests for me in the Meplay valley, took me to a tree on the bank of the Choung and showed me a hole in the branch of a large *Pyma* tree (*Lagerstræmia flos-reginæ*), in which he said a small Owl had its nest with three eggs. On his ascending the tree a female of the above species flew out, which I shot. In ten minutes he brought me down three round white, nearly glossless, eggs perfectly fresh, which he said were laid on the bare wood in a natural hollow in the branch. The hole was about three feet from the base of the branch on the under side, and about fifteen to twenty feet above the ground.

I found a second nest in the hollow of a dead Thingaw tree (*Hopea odorata*) near the bank of the Mekhnay stream, a feeder of the Meplay, on the 30th of the same month. The eggs, four in number, were similar, and like the others laid on

* Both Davison and myself are inclined to suspect some mistake here. This rolling *kurr* is a common night sound, but we have always attributed it to *Ninox*.—A. O. H.

the wood with no pretence to a nest. The seven eggs taken vary from 1.15 to 1.29 in length, and 1.07 to 1.12 in breadth.

79.—*Glaucidium cuculoides*, Vig.

The commonest Owl; found everywhere.

80.—*Glaucidium brodiei*, Burton.

Generally, but locally, distributed in the forests of the higher hills, not perhaps usually descending much below an elevation of 1,500 feet. In the Thoungyeen it was excessively common in the evergreen forest, about the village of Gatai on the Hteepoyo choung, in the Meplay valley. I have heard it calling both by day and night, its call being like that of *S. pennatus*, with the two last notes inverted thus, whoo, whoo-hoo, whoo, and perhaps more bell like.

81 *ter.*—*Ninox burmanica*, Hume.

At Maulmain and in the dry jungles on the Yoonzaaleen choung, this bird is excessively common. In the Thoungyeen valley however, except just about the large frontier town of Meeawuddy, it is rare.

A male, in my collection, has the following measurements taken in the flesh attached to it:—

Length, 11.70; expanse, 27.5; wing, 8.4; tail from vent, 4.9; tarsus, 1.0; bill from gape, 1.15.

Cere and bill greenish horny; irides bright yellow; feet lemon yellow; claws horny.

82 *bis.*—*Hirundo gutturalis*, Scop.

Very common everywhere. In the Thoungyeen valley I have shot them from October to February.

84.—*Hirundo flifera*, Steph.

I have nothing to add to my former note concerning this species, except that at the Kamaukla rapids I again saw a few of them this year.

85 *bis.*—*Hirundo nipalensis*, Hodgs.

The three specimens of the Swallow that I entered doubtfully under *erythropygia* (*vide* S. F., Vol. VIII., p. 192) have been identified by Mr. Hume as the above.

I have never seen any of this species in the Thoungyeen valley. I may remark that my specimens are very markedly striated on the under surface.

87.—*Cotyle riparia*, *Lin.*

89.—*Cotyle sinensis*, *J. E. Gr.*

These two species, common round Maulmain in the cold weather, have never been seen by me in the Thoungyeen valley.

102 *bis.*—*Cypselus infumatus*, *Sclater.*

Both at Kaukarit and at Meeawuddy this dusky little Swift is common about the palm trees round the pagodas and kyongs.

104.—*Dendrochelidon coronata*, *Tick.*

Messrs. Hume and Davison give this bird as rare, but it is not really rare along the Thoungyeen valley from its source to its mouth, though it is very difficult to shoot.

105 *quat.*—*Batrachostomus affinis*, *Bly.*

In February 1878, while encamped near the village of Hpamee on the Bawthaloo choung in the Meplay valley, a Karen brought me a bird that he had shot with a charge of slugs at three yards distance! Recognizing it is a *Batrachostomus* of some kind, and therefore a rarity, as to my knowledge none had as yet been procured in Tenasserim, I duly skinned the rag of a thing. After that I hunted high and low for others, but never saw the ghost of one.

I subsequently submitted the above-mentioned specimen to Mr. Hume, who very kindly sent me back the following note on it:—

"The specimen of the *Batrachostomus* which you sent me, is so terribly mauled about the back and wings, the whole of the tertiaries and longer scapulars being wanting, that I cannot pronounce certainly in regard to it.

"The following are the dimensions of the skin:—Length, 8·5; wing, 4·7; tail, 4·8; bill from gape, straight to point, 1·14; width at gape, 1·27; tarsus, 0·52.

"This specimen agrees very closely with Colonel Tickell's description* of a specimen obtained near Tounghoo, which the Marquis of Tweeddale assigned to *Batrachostomus affinis*.

* The following is Colonel Tickell's description, *vide* P. Z. S., 1877, 429:—"Head upper back, and scapulars bright umber, shaded ferruginous on back and mingled with greyish on scapulars, the whole vermiculated crossways, black; outer webs of two or three scapulars white, bordered with black; tertiaries clouded brown, ferruginous and grey, with black vermiculations; wing-coverts rusty vinous, broadly vermiculated black. Secondaries and primaries, outer webs chestnut-rusty, with broken narrow bars of black; inner webs sepia; tips of primaries pale and mottled; tail cinnamon-brown, shaded grey marginally, and vermiculated black and crossed with five paler bars (not joining the shafts,) subterminal series (*sic.*); the bars are edged

"I myself am disposed to suspect that your bird and Tickell's may represent a distinct species. Closely allied no doubt to *affinis*, but with a considerably larger bill than the true *affinis*, and differing moreover somewhat in shade of plumage and in having more or less traces of a nuchal collar; but until we obtain some really good specimens it would be unwise to propose any new name for the Burmese race.*

"Note: that the present specimen has just a perceptible trace of the white nuchal collar, absolutely no white spots whatever on the wing, but a few of the outer scapulars (all that remain) broadly tipped with white, and margined with black."

110.—*Caprimulgus macrourus*, Horsf.

This is the commonest Nightjar, and as Mr. Davison remarks (S. F., Vol. VI., p. 58) its incessant call of tok-tok-tok is very annoying at night.

It is common in the Thoungyeen valley even in dense ever-green forest. On the 15th March 1879, while tramping back to my camp pitched on the bank of the Queebawchoung, a tributary of the Meplay, I arrived about dusk at a dense bamboo forest just above my tent. There being lots of fallen bamboos, I had to pick my steps carefully in threading my way through, and in so doing all but trod on a female of the above species; she flew up, and I saw lying on the dry bamboo leaves, a couple of blunt oval eggs, pinkish stone color, with washed out purple blotches, clouds, and spots of various shades.

Both these I found slightly set, and a third one half formed in the oviduct of the female which I shot. I mention this circumstance as I have never found more than two eggs in any Nightjar's nest.

Subsequently on the 15th March 1880, I found a second nest with two eggs precisely similar, which measured 1.16 by 0.85 and 1.23 by 0.87.

112.—*Caprimulgus asiaticus*, Lath.

Dr. Armstrong procured a specimen of this species at Amherst (S. F., Vol. VI., p. 59.)

black and obscurely vermiculated; all under parts from bill vinous rusty, with a group of white; black-margined patches on throat, and another across bottom of breast, below which the colour is paler, and broken with rusty and dusky irregular bars: this extends to lower tail-coverts; lower back and upper tail-coverts as back; a pale tawny supercilium; lining of wings whitish; length, 9 inches; wing, $4\frac{1}{2}$; tail, $4\frac{1}{2}$, of which beyond body $2\frac{1}{2}$; bill, $\frac{5}{8}$; tarsus, $\frac{9}{10}$; middle toe, $\frac{3}{4}$.

* Since writing the above Mr. Hume and I have gone carefully through a series of ascertained *stellatus* and *affinis* from the Malay Peninsula, and have little doubt that this specimen is referable to *affinis*, which latter seems always to want the white spottings on the wing-coverts, while it has large white spots on the lower breast and upper abdomen, which spots are more or less conspicuously edged with black. Moreover it has scarcely any trace of the nuchal collar on the back. The bird itself (to judge from skins) and its bill are much smaller in the case of *affinis*.—C. T. B.

I got a second, strange to say, far inland, at Meeawuddy on the Thoungyeen river, of which the following are the dimensions, etc., taken in the flesh :—

Female.—Length, 9·21; expanse, 18·6; wing, 4·5; tail from vent, 6·1; bill from gape, 1·25; tarsus, 0·85.

Bill fleshy brown; legs and feet dirty pale brown; irides dark brown.

114.—*Caprimulgus monticolus*, *Frankl.*

I have not found this Nightjar common in Tenasserim. Two specimens I have were procured—*male*, on the 11th July 1879, at Koosaik on the Thoungyeen river: *female*, at Kaukarit on the Houndraw river, on the 16th November 1879. Only the latter was measured in the flesh. Its dimensions etc., are—

Length, 10·3; expanse, 19·0; wing, 7·6; tail, 4·7; tarsus, 0·65; bill from gape, 1·4.

Bill and gape pale brown; the former dark horny at tip; iris dark brown; legs and feet pale fleshy brown; claws horny.

The Karen women extract the oil from the bodies of Nightjars and use it under the belief that it stimulates fertility.

114 *bis*.—*Lyncornis cerviniceps*, *Gould.*

This magnificent bird is undoubtedly more plentiful in the north. I have heard and seen it on the Yoonzaleen choung, on the Salween river, and on the Zammee choung. In the Thoungyeen valley it is more or less rare, and I have only procured it or heard it along the lower portion of the Thoungyeen river.

In a note to p. 61 of Vol. VI., Mr Hume suggested that these birds might roost in caves, and such I have now ascertained to be the case.

In a limestone cave in the Meplay East Watershed range, I found a whole colony of these birds in the day time. On my entering, they darted out with prodigious swiftness and dropped into the jungle outside, and although I beat backwards and forwards over the very ground, I did not succeed in putting up a single one.

The dimensions, etc., recorded in the flesh of a fine male shot at the mouth of the Daylaw choung, on the 30th January 1880, are—

Length, 16·0; expanse, 35·7; wing, 21·3; tail, 9·30; tarsus, 0·6; bill from gape, 1·6.

Bill at tip and at the region of the nostrils horny; remainder, with legs and feet brownish fleshy; irides dark brown.

116.—Harpactes erythrocephalus, Gould.

By no means a common bird, and only found in the higher hills, generally in evergreen forest.

I procured two males and a female in the Thoungyeen valley.

Male.—Length, 12·8; expanse, 17·5; wing, 6·0; tail, 7·7; tarsus, 0·60; bill from gape, 1·1.

Fore part of bill horny; remainder, with gape and eyelids, rich cobalt blue; legs and feet a light fleshy purple; irides brick red; claws horny.

Female, (caught off eggs, a note of which is given below).—Length, 12·5; expanse, 18·8; wing, 5·5; tail, 7·3; tarsus, 0·6; bill from gape, 1·1.

Bill, legs, feet, etc., as in male; irides a rich crimson.

On the 11th March I found a nest of this bird containing two eggs almost pure white, blunt oval in shape and one of which measured 1·08 by 0·90. The nest was in the head of a stump leaning over the Queebaw choung, (a feeder of the Meplay) at its sources, and consisted merely of a little hollow dug out of the rotten wood at the top at a height of about 8 feet from the ground. A Karen who was with me managed to catch the female alive with his hand as she sat on her nest, but unfortunately broke one of the eggs.

116 ter.—Harpactes oreskios, Tem.

The very commonest of common birds wherever evergreen forests occur, and therefore, of course, throughout the Thoungyeen valley.

It has a feeble, croaking, querulous note, and a stupid, flustering, noisy way of flying off its nest on any one's approach, which in nine cases out of ten, direct attention to it. For notes on its nidification, see S. F., Vol. V., pp. 50 and 82.

117.—Merops viridis, Lin.

Except in heavy forest land this little bird is almost as common in Tenasserim as in the North-West Provinces of India.

It crosses the Dawna range into the Thoungyeen valley, and is found in suitable spots all along the river.

It is a permanent resident and breeds there.

118.—Merops philippinus, Lin.

This bird being partially migratory is often overlooked; but it is common nearly all the year round at Kaukarit on the Houndraw river, where it breeds in April and May in the sandy banks of the Kaukarit choung.

In the Thoungyeen valley, I have procured it at Meeawuddy in June, at Laidawgyee in April, and on the Dawna pass in November.

119.—*Merops swinhoii*, Hume.

The commonest Bee-eater, as it affects not only forests but the banks of streams so numerous throughout the country.

122.—*Nyctiornis athertoni*, Jard. and Selb.

I have seen a party of this Bee-eater, some four or five, sitting on the trees dotted about over a bare plain, which in the rains forms a marsh. This was near Kaukarit.

It is, however, far more common along the well-wooded Dawna range, and in the Thoungyeen valley.

It has a croaking, querulous note, something like that of *Rhopodytes tristis*, but ending up with a clucking sound.

122 bis.—*Nyctiornis amicta*, Tem.

Certainly one of the loveliest birds in the forest. Besides the specimens mentioned as obtained by me in S. F., Vol. VIII., p. 193, I have since shot a fine male on the 19th November 1879 in the Thoungyeen valley, near the banks of the Thingaugyeenoun chong, a feeder of the Meplay. This specimen measured in the flesh:—

Length, 13·1; expanse, 18·6; wing, 5·4; tail, 5·3; tarsus, 0·8; bill from gape, 2·4.

Bill dark horny, rather whitish at base below; legs and feet plumbeous green; irides tawny.

124.—*Coracias affinis*, Mc. Clell.

The Eastern Roller is common throughout the province, and though a bird of the open plains it is by no means uncommon in the open *Dillenia* forests that form a great belt along almost the whole lower course of the Thoungyeen.

126.—*Eurystomus orientalis*, Lin.

I shot one specimen of this as before noticed (S. F., Vol. VIII., p. 193), on the Zammee river.

In September 1879 I found it common at the head waters of the Thoungyeen, but so wary that I did not manage to secure a single specimen. The one procured on the Zammee river, a male, measured in the flesh:—

Length, 12·93; expanse, 25·7; wing, 7·6; tail from vent, 4·2; tarsus, 8·69; bill from gape, 1·65.

Bill bright rose red; tip black; legs and feet dark Indian red; irides dark clear brown; claws horny.

127 bis.—*Pelargopsis burmanica*, Sharpe.

Found all over the country, but not so numerous in the Thoungyeen valley, as I have noticed it elsewhere.

It breeds in the Thoungyeen in the latter end of February, in March, and in the beginning of April, commencing and finishing the digging of its nest-hole long before the eggs are laid.

On the 23rd March, being encamped just on the bank of the Meplay close to its mouth, I noticed, while seated outside my tent in the afternoon, a pair of these birds going in and out of a hole in the bank opposite. On inspecting it closer, it proved to be the opening to a tunnel $2\frac{1}{2}$ inch in diameter, and going in for fully five feet, where it ended in a rounded chamber, considerably larger than the passage, in which lay four roundish glossy white eggs. There was no lining of any kind, the eggs reposing on the bare ground.

They measure respectively, 1.19 by 1.05, 1.17 by 1.03, 1.18 by 1.08, and 1.15 by 1.03.

129.—*Halcyon smyrnensis*, Lin.

I have procured this bird all over the province. In the Thoungyeen it is by far the commonest Kingfisher, and I have seen it far from any water in dry Eng (*Dipterocarpus*) jungle.

One specimen, a male, shot at Kaukarit on the Houndraw river, on the 15th November 1879, is remarkable as having very little white on the chest, which is further confined by an incomplete chestnut bar at the base of the throat. It measured in the flesh :—

Length, 11.0; expanse, 16.5; wing, 4.6; tail from vent, 3.15; tarsus, 0.6; bill from gape, 2.71.

Bill dark coral red, suffused with horny at the edges and near the nostrils; irides nut brown; legs and feet dark coral red, tinged with black in front.

130.—*Halcyon pileata*, Bodd.

In the rains this species wanders far up the rivers inland. In September and October I found it especially plentiful at the head waters of the Thoungyeen, and along its numerous feeders down to its mouth.

132 ter.—*Carcineutes pulchellus*, Horsf.

This lovely forest Kingfisher is found throughout the Thoungyeen valley; in some places, as in the valley of the Meplay, it is very common. On the western side of the Dawna range I have only once procured it, and that was just at the

foot of the hills. I have never myself seen or shot it sitting over any running stream or pool after the manner of other Kingfishers ; in fact it seems to me to avoid the vicinity of water altogether, and to live entirely on lizards, land insects, worms, &c. It is a very stupid bird, and will sit quite quietly within three feet of you, and let you load your gun if it happens to be empty.

A pair measured in the flesh :—

Male (shot 24th February 1880 on the Maplay choung) :—Length, 9·2 ; expanse, 12·9 ; wing, 3·43 ; tail from vent, 3·3 ; tarsus, 0·6 ; bill from gape, 2·0.

Bill dark vermilion red ; gape and eyelids lighter ; legs and feet ochraceous pink ; irides ashy grey.

Female (shot 22nd November 1879 on the Maigla choung, head waters of the Thoungyeen) :—Length, 9·5 ; expanse, 12·6 ; wing, 3·48 ; tail from vent, 3·2 ; tarsus, 0·54 ; bill from gape, 2·1.

Bill vermilion red ; irides yellowish grey ; legs and feet ochraceous pink.

133.—*Ceyx tridactyla*, *Pall.*

This little living gem is excessively rare in the Thoungyeen valley, but along the western foot of the Dawna range it seems fairly plentiful in the evergreen forests.

A female shot on the 12th August 1879, at Thoung-cheein-sakan on the Kaukarit and Meeawuddy road measured in the flesh :—

Length, 5·4 ; expanse, 8·5 ; wing, 2·38 ; tail from vent, 1·04 ; tarsus, 0·4 ; bill from gape, 1·63.

Bill, legs, feet, and claws orange, the first lightening to a pale yellow at tip ; irides dark brown.

134.—*Alcedo bengalensis*, *Gm.*

Here and there through the Thoungyeen valley this bird occurs, but it is not at all plentiful.

Male (shot 31st January 1880 on the Thoungyeen river, measured in the flesh) :—Length, 6·57 ; expanse, 10·35 ; wing, 2·82 ; tail from vent, 1·4 ; tarsus, 0·3 ; bill from gape, 1·8.

Bill above horny, below and at gape light vermilion ; legs and feet a darker shade of vermilion ; irides brown ; claws horny.

Female (shot 19th September 1877 on the Oukree choung) :—Length, 6·57 ; expanse, 10·0 ; wing, 2·68 ; tail from vent, 1·4 ; tarsus, 0·34 ; bill from gape, 1·82.

Bill dark horny brown, dashed reddish white at base of lower mandible ; gape, legs and feet coral red ; irides brown ; claws horny.

135 bis.—*Alcedo nigricans*, Bly.

I am certain that in the rocky choungs flowing into the Thoungyeen from the east flank of the Meplay East Watershed range, I have more than once come across this Kingfisher, but owing to its extreme wariness I have hitherto failed to secure any specimens.

136.—*Ceryle rudis*, Lin.

In August 1879 going up the Houndraw river, I was astonished at the immense numbers of this species that had collected on some willows on the bank, just below the Forest rest house at Kyaen ; there must have been fully a hundred of them. For what purpose they had assembled I could not make out. Along the Thoungyeen it is by no means uncommon, but I have not seen it more than occasionally up any of the tributary streams.

137.—*Ceryle guttata*, Vig.

I have nothing further to add to my former note concerning this species (S. F., Vol. VIII., p. 193,) except that since writing it I again saw a few in the same locality mentioned in it.

138.—*Psarisomus dalhousiæ*, Jam.

I have found this Broadbill common along both sides of the Dawna range, and on the higher spurs running off it.

A pair, shot on the 1st February 1880, at the sources of the Quaymoo choung, a small feeder of the Thoungyeen, entering a little below the rapids of Kamankla, measured in the flesh as follows :—

Male.—Length, 11·1 ; expanse, 13·7 ; wing, 4·02 ; tail from vent, 5·1 ; tarsus, 1·13 ; bill from gape, 1·4.

Bill brownish yellow, bluish at gape and at tip ; irides brown ; legs and feet light green ; claws horny.

Female.—Length, 11·00 ; expanse, 13·8 ; wing, 4·0 ; tail from vent, 5·2 ; tarsus, 1·05 ; bill from gape, 1·3.

Bill bluish green, tinged with brownish yellow, tip whitish ; irides brown ; legs and feet light green ; claws horny.

A young female, shot on the 10th September at the head waters of the Thoungyeen, measured :—

Length, 9·15 ; expanse, 13·20 ; wing, 3·98 ; tail from vent, 3·20 ; tarsus, 1·0 ; bill from gape, 1·4.

Bill greenish yellow, blue at tip and at gape; orbicular skin yellow; irides ashy brown; legs and feet pale green; claws light horny.

The general color of the bird is duller than in the adult. There is a considerable amount of green on the forehead; the blue patch on the centre of the head consists only of one or two blue feathers, and the yellow of the chin and throat is much mixed with green.

139 bis.—*Serilophus lunatus*, Gould.

This is the commonest Broadbill in the country, descending in the rains even to the jungles round Maulmain.

In the Thoungyeen it is common from the sources to its mouth. For notes on its nidification *vide* S. F., Vol. V., p. 455.

139 ter.—*Eurylæmus javanicus*, Horsf.

Mr. Davison got this at Meetan on the Houndraw river and below Amherst. I have since found that it extends along the whole of the eastern face of the Dawna range nearly to the mouth of the Thoungyeen. Probably it continues up along the ranges on the Salween to Tounghoo where Major Loyd got it.

139 quat.—*Cymborhynchus macrorhynchus*, Gm.

It is strange my getting a specimen of this lovely Broadbill, hitherto supposed to be confined to the south of Tenasserim and the Malay Peninsula, so far north as the pass from Meeawuddy over the Dawna to Kaukarit.

The pair I saw, and the female of which I managed to procure, may have been mere stragglers; but I am inclined to believe that owing to the heavy rainfall on these mountains many birds extend along its forests, which are in most localities denizens of more southern latitudes. The following are the dimensions, etc., of the one shot:—

Female, (10th August 2879):—Length, 9·48; expanse, 13·0; wing, 4·1; tail from vent, 3·9; tarsus, 0·89; bill from gape, 1·2; upper mandible, and a bordering along the edge of the lower mandible, brilliant blue; remainder of the latter yellowish; edges of both transparent white; irides emerald green, shot with gold; legs and feet ultramarine blue; claws horny.

139 sext.—*Corydon sumatranus*, Raffl.

This species is common in the north and in the Thoungyeen valley, but I have never shot one anywhere on the Houndraw, or in the plains country on the Hlineboocy or Gyne rivers.

A male measured in the flesh:—Length, 10·5; expanse,

17·3 ; wing, 5·2 ; tail, 4·3 ; tarsus, 1·0 ; bill from gape, 1·45.

Bill pale pinkish white ; edges and tip of both mandibles fleshy purple ; irides nut brown ; legs, feet, and claws black.

A female :—Length, 11·1 ; expanse, 18·0 ; wing, 5·25 ; tail, 4·33 ; bill from gape, 1·62.

Bill, etc., precisely as in the male.

140.—*Dichoceros cavatus*, Shaw.

This Hornbill is very abundant in the Thoungyeen valley. Near Gatai on the Hteepoyo choung in the Meplay, in February 1880, I saw enormous numbers collected on four or five fig trees that happened to be in fruit at one time.

I have taken several of their eggs, and have nothing to add to my account of their habits and nesting (S. F., Vol. VIII., p. 461.)

142.—*Hydrocissa albirostris*, Shaw.

A very common bird in the Thoungyeen valley. Subsequent to the taking of the two nests, as described in my paper above referred to, I had marked down for me and procured three more nests on the 5th March 1880, of which one contained a single egg, and two, two eggs each. The mode of nidification, etc., was, in the case of this as well in that of the different Hornbills referred to below, precisely as described in my former paper.

I give the dimensions taken in the flesh of an old adult female caught off one of the nests on the 5th March :—

Length, 27·0 ; expanse, 34·0 ; wing, 10·2 ; tail from vent, 11·0 ; tarsus, 1·7 ; bill from gape straight to point, 4·3.

Bill yellow, shaded with black on the fore and hind portions of the casque, on the fore part of the upper mandible and tip, and edges of both ; just in front of the gape on the bill there is a reddish patch ; the legs and feet are dusky plumbeous black ; the irides reddish brown, and the bare skin of the face livid white, tinged blue.

144 bis.—*Ocyrceros tickelli*, Blyth.

It is strange how tame this Hornbill is during the breeding season, ordinarily, (and I have come across flocks of it on the high hills, between the Zammee choung and the Houndraw river, on the ranges near the Salween, and in various places on the Dawna and its spurs, from the head waters of the Thoungyeen to its mouth, i.e., from Mooleyit to the Salween,*) it is the wariest of the wary, keeping well above the tops of

* I have been assured by Kareus that this species occurs much further north in the Beeling hills.—C. T. B.

the highest trees. I described in a former article a nest and eggs; subsequent to that I managed to procure three nests more on the 5th March; out of these one contained four eggs, one three and one two respectively.

146 bis.—*Rhyticeros undulatus*, Shaw.

I first found out that this species ranged much further north than noticed by Mr. Davison, by obtaining a specimen on the Zammee river, which was shot in the act of being fed.

This, a young male with no trace of plications on the bill, measured in the flesh:—

Length, 42.0; expanse, 65.0; wing, 20.0; tail, 15.0; tarsus, 3.0; bill from gape straight to point, 7.2.

Bill whitish green, reddish at base; gular skin bright chrome yellow with an imperfect band; legs and feet black; irides yellow.

Later on I found them abundant in the Thoungyeen forests,* and took their eggs (S. F., Vol. VIII., pp. 459-463.) Subsequent to the taking of the one nest therein described, I got two others on the 5th March, each containing two eggs, and a fourth on the 17th of the same month, also with two eggs, hard set. It is pretty clear therefore that the bird lays no more than two.

146 ter.—*Rhyticeros subruficollis*, Bly.

This seems to me much more a bird of the plains and low hills than the foregoing species. It is not very abundant in the Thoungyeen, and I only got two nests, one on the 5th March with two eggs, and the other on the 7th, with only one egg. The three eggs measure respectively 2.22×1.63 , 2.28×1.68 and 2.49×1.78 .

A very old adult female, shot 5th February 1887, measured in the flesh:—Length, 33.0; expanse, 47.0; wing, 15.0; tail from vent, 9.5; tarsus, 2.0; bill from gape, straight to point, 5.5.

Bill yellow, red at base above; gular skin purplish blue; irides red; legs and feet black; claws horny.

147 quat.—*Palæornis indoburmanicus*, Hume.

This species I have never seen in the Thoungyeen valley, and I do not think it crosses the Dawna range. About Kaukarit on the Houndraw river, and again all up the Salween as far as I have gone, it is common.

* In S. F., Vol. VIII., p. 459, in my "Notes on the Nidification of some Hornbills," by a slip of the pen I stated in the second paragraph that *R. undulatus* was less abundant than *R. subruficollis*; it is just the reverse; it is *R. subruficollis* that is scarce in the Meplay forests. Of *R. undulatus*, I used daily to see large parties.—C. T. B.

149 bis.—*Palæornis cyanocephalus*, Lin.

Except in the dry forests to the north and about Maulmain, this species seems to me the commonest of all the Parakeets.

It is so in the Thoungyeen valley, where it ranges from the sources of that river to its mouth.

Males measured.—Length, 12·0 to 12·7; expanse, 16·4 to 16·7; wing, 5·39 to 5·67; tail, from 6·0, in a partially abraded though otherwise perfect specimen, to 7·8; tarsus, 0·50; bill from gape, 0·68.

Cere, legs and feet brownish ashy; bill, upper mandible deep wax yellow, tipped horny white; lower black, just a tinge of yellow at centre of base; irides yellow.

Females.—Length, 11·48 to 11·92; expanse, 15·20 to 16·00; wing, 5·1 to 5·4; tail, 6·1 to 7·0; tarsus, 0·48; bill from gape, 0·67.

Cere, legs, and feet dusky slaty; upper mandible yellow, whitish horny at tip; lower dull black; irides yellow.

150 bis.—*Palæornis finschi*, Hume.

This handsome Parrot is common in the higher hills and spurs of the Dawna along the whole of the Thoungyeen valley, and I fancy it must occur in the ranges between the Attaran and Houndraw, as I procured a young male at Maulmain, evidently a straggler, on the 22nd November 1877. The following are its dimensions, etc., taken in the flesh:—

Length, 13·8; expanse, 17·4; wing, 5·90; tail, 7·61; tarsus, 0·85; bill from gape, 0·8.

Bill light cherry red on basal two-thirds of upper mandible; tip of which and lower mandible pale yellow; cere, legs, and feet light plumbeous; irides bright yellow; claws horny.

This specimen differs from the adult in having the cap a dull bluish brown, with a small admixture of green feathers on the crown and back part of the head; in there being no black edging to the cap on the chin and behind the cheeks, as in the adult; and in the complete absence of any wing spot. In other respects its plumage corresponds in its characteristic narrow tail and coloration to Mr. Hume's original description of the species, (S. F. Vol. II., p. 509).

152.—*Palæornis fasciatus*, P. L. S. Müll.

This bird does not to the best of my belief extend into the Thoungyeen valley. In the plains country, about Maulmain, on the Attaran, Gyne, and Houndraw rivers, up the Salween and its tributary the Yoonzaleen, they abound.

On the 8th February 1878 I found a nest in the Maoo reserve, Zammec river, in a hole cut in the decayed branch of a large Zimbun tree (*Dillenia pentagyna*); it contained one

egg, pure white, coarse grained and glossless; resting on some decayed chips of wood. It measured 1.25" by 0.98."

153.—*Loriculus vernalis*, *Sparrm.*

This bird is very common in the Thoungyeen valley.

On the 24th February 1880, a nest hole of this pretty little Lorikeet was pointed out to me by a Karen, in the branch of a large silk cotton tree (*Bombax*) on the bank of the Meplay choung below Gatai village. It was on the side of the branch at a height of about 40 feet from the ground, so that it was with a good deal of difficulty I managed to get the three eggs it contained down by the help of a rope ladder I had constructed, which, however, did not work well.

The hole was about 1½" in diameter, and about 6" to 7" deep, going in obliquely inwards towards the base of the branch. It was unlined, except for a few fragments of chipped wood. The eggs were dull dead white, glossless and roundish; they measure respectively 0.68" by 0.59"; 0.69" by 0.60", 0.68" by 0.61".

163 *bis.*—*Yungipicus canicapillus*, *Blyth.*

Wherever dry forests occur on either side of the Dawna hills, this little Woodpecker is sure to be found; sometimes singly, oftener in pairs.

165 *bis.*—*Hemicercus canente*, *Less.*

Not very plentiful in the Thoungyeen jungles, but I have seen this bird from the head-waters of the stream nearly to its mouth.

On the 11th March 1880, I cut out a nest hole of the above species, out of the dead and decaying trunk of a large teak tree, at a height of about twelve feet from the ground, on the bank of the Meplay choung. I had watched the bird for two days previously going in and out.

The entrance to the nest was a little more than an inch in diameter, the tunnel, passing rather obliquely downwards for about 18 inches, ended in a large hollow, the bottom of which was strewn with broken bits of decayed wood on which reposed two, dull white, bluntish eggs. These measure respectively 0.87" by 0.65", and 0.90" by 0.70". I managed to catch the female on the nest.

165 *quat.*—*Miglyptes jugularis*, *Blyth.*

Though not common it still occurs here and there in the ever-green forests of the Thoungyeen.

A male measures :—Length, 7.75 ; expanse, 14.0 ; wing, 4.18 ; tail, 2.4 ; tarsus, 0.75 ; bill from gape, 1.1.

Bill black ; irides dark brown ; legs and feet dusky green ; claws horny.

A female :—Length, 7.2 ; expanse, 13.6 ; wing, 4.1 ; tail, 2.1 ; tarsus, 0.72 ; bill from gape, 0.93. Colors of soft parts as in the male.

166.—Chrysocolaptes sultaneus, Hodgs.

Mr. Davison has already given this from the Thoungyeen valley. It is common all over the country.

168.—Muelleripicus pulverulentus, Tem.

The same remark applies to this as to the former species, only that this is a bird of the heavy forest, is seldom found in open jungle and never in the bare plains country.

A male shot on the 18th February 1878, on the Zammee choung, Attaran river, is peculiar in having the yellow of the throat washed over with a pinkish crimson.

It measured in the flesh :—Length, 19.7 ; expanse, 27.8 ; wing, 9.0 ; tail, 6.5 ; tarsus, 1.4 ; bill from gape, 2.91.

Bill, legs and feet dark slaty ; irides dark brown.

Female.—Length, 18.45 ; expanse, 28.0 ; wing, 8.8 ; tail, 6.66 ; tarsus, 1.38 ; bill from gape, 2.87.

Bill, ridge of upper mandible and whole tip of both dark slaty, remainder dusky, smoky, white ; irides dark brown ; legs and feet plumbeous.

169 ter.—Thriponax feddeni, Blanford.

I have procured this species as far south as the head-waters of the Thoungyeen, and though not common in this valley, it is widely spread. In March 1878, I saw a number and shot a young male on the Zammee choung ; again near Kaukarit on the Houndraw river it may be said to be fairly common.

A pair procured here on the 16th August measured in the flesh as follows :—

Male.—Length, 15.8 ; expanse, 26.3 ; wing, 8.2 ; tail from vent, 6.3 ; tarsus ; 1.2, bill from gape, 2.3.

Bill slaty ; irides yellow ; legs and feet plumbeous ; claws horny.

Female.—Length, 16.6 ; expanse, 26.3 ; wing, 8.61 ; tail from vent, 6.8 ; tarsus, 1.2 ; bill from gape, 2.1. Colors of the soft parts as in the male.

The young male above referred to measured in the flesh :—

Length, 14.8 ; expanse, 24.1 ; wing, 7.79 ; tail from vent, 5.4 ; tarsus, 1.1 ; bill from gape, 1.82.

Bill light plumbeous; irides dark grey; legs and feet dark plumbeous; claws horny. The chin and throat are white, and it completely wants the crimson moustachial stripe, otherwise the plumage is as in the adult male.

171 bis.—Gecinus vittatus, Vieill.

This is one of our commonest Woodpeckers, in the Thoungyeen valley as elsewhere.

A male measured in the flesh :—Length, 12·9; expanse, 18·3; wing, 5·21; tail, 4·8; tarsus, 1·0; bill from gape, 1·67.

Bill horny, basal two-thirds of lower mandible yellow; irides reddish brown; legs and feet dirty greenish; claws horny.

A female.—Length, 12·2; expanse, 17·3; wing, 5·14; tail, 4·8; tarsus, 1·0; bill from gape, 1·55. Colors of the soft parts as in the male.

171 ter.—Gecinus nigrigenis, Hume.

The handsomest Woodpecker in the jungles I think. All through the Thoungyeen valley it is fairly common, but local.

In the great laterite belt covered with Eng (*Dipterocarpus*) forest, that runs parallel to the Thoungyeen river, north of Meeawuddy, I found it plentiful; its peculiar cry, and the rich contrast of the jet black cheeks, with the yellow of the chin and throat once heard and seen, are not easily forgotten.

A very fine pair measured in the flesh :—

Male.—Length, 12·8; expanse, 19·2; wing, 6·2; tail from vent, 4·7; tarsus, 1·1; bill from gape, 1·55.

Bill dark horny; irides sulphur yellow; legs and feet dark green; claws horny.

Female.—Length, 12·8; expanse, 19·2; wing, 5·8; tail, 4·7; tarsus, 1·1; bill from gape, 1·53. Color of the soft parts as in the male, with the exception of the irides, which were greenish yellow.

On the 18th March, I found a nest of this Woodpecker in a hole in a Pynkado tree (*Xylia dolabriformis*), on the bank of the Meplay chong. Cutting it out with chisel and hammer, I found the passage (about 10 inches in length by 1½ inch in diameter) go obliquely down, and end in a slightly enlarged chamber in which I found two white, rather long and glossy, eggs lying on chips of wood. They measure 1·18 by 0·85 and 1·19 by 0·83. I may add that I shot both male and female before cutting out the nest.

The note of this species is quite unlike that of any other *Gecinus* with which I am acquainted. It consists of from 12 to 15 whistled notes, uttered in the most rapid succession, the first very high and shrill, and each succeeding one lower, till the last

is almost base. They continually thus call to and reply to each other, and it has been by following these calls that I have procured most of my specimens.

172.—*Gecinus occipitalis*, Vig.

I have found this species all over the country. It breeds alike in the north and in the south-west in the Thoungyeen valley in April. On the 28th of that month I took five eggs out of a dried Thitpouk tree (*Tretranalles nudiflora*), on the Yoonza-leen chong.

The eggs were of the usual, glossy white, Woodpecker type.

173.—*Chrysophlegma flavinucha*, Gould.

Mr. Davison has already given this bird from the Thoungyeen valley. I found it fairly common there.

174.—*Chrysophlegma chlorolophus*, Vieill.

The same remark will apply to this as to the latter. It is even more abundant than *flavinucha*; and a wonderfully silent bird. I have never heard its note to my knowledge.

177 bis.—*Gecinulus viridis*, Blyth.

Along nearly the whole length of the Thoungyeen an almost uninterrupted belt of bamboo lines both banks, in which this little Woodpecker is fairly common.

A male shot 20th September 1879, near the mouth of the Thablooko chong, Thoungyeen river, measured in the flesh:—

Length, 10·07; expanse, 16·5; wing, 5·12; tail from vent, 3·4; tarsus, 1·0; bill from gape, 1·17.

Bill translucent white, suffused with blue, darker at base, lighter at tip; irides nut brown; legs and feet grass green; claws horny.

178.—*Micropternus phaeocephus*, Blyth.

A fairly common bird in the Thoungyeen jungles. I remember seeing one hard at work boring a hole in an ant's nest, while the ants swarmed over him. He, however, apparently took little or no notice of them.

184.—*Tiga javanensis*, Ljungh.

The commonest of common Woodpeckers in the Thoungyeen as elsewhere over the country. I subjoin a note of a nest and eggs I found. It was the 22nd March 1879, and a frightfully hot day. I was returning to camp, and my road lay through some dry, already burnt Eng (*Dipterocarpus*) jungle. Passing close to a small stunted Pyma tree (*Lagerstræmia flos-reginæ*),

a Woodpecker flew out of a hole on the side nearest to me, nearly hitting my face as it flew, and perched, or rather stuck on, as they do, to a tree not far off. Keeping my eye on her, I got one of the peons with me to widen the hole, and see whether there were any eggs. In a few moments he announced three. I then shot the bird, which proved to be the above-mentioned Woodpecker, a female. The three eggs were translucent whity pink, and rather glossy. Laid on the decayed wood in a natural hollow, a passage to which the bird had cut from the outside, at only four feet above the ground; it was a wonder that when the jungle was fired they hadn't been roasted.

186.—*Vivia innominata*, Burt.

I procured one specimen of this species not hitherto, at least since Blyth's time, obtained in Tenasserim. I shot it on the 10th March, at the sources of the Daylaw chong, Thoungyeen river, at an elevation of about 2,000 feet.

The specimen, a male, measured in the flesh:—Length, 4·15; expanse, 7·9; wing, 2·33; tail from vent, 1·3; tarsus, 0·51; bill from gape, 0·62.

Bill, upper mandible and tip of lower dark horny; base of lower dark plumbeous; irides dark brown; legs and feet plumbeous; claws horny.

191 bis.—*Megalæma virens*, Bodd.

This bird (the Chinese and not the Himalayan form) is excessively common in the Thoungyeen valley; its incessant cry being at times quite annoying.

A fine male measured in the flesh:—Length, 13·3; expanse, 19·0; wing, 5·78; tail from vent, 4·5; tarsus, 1·21; bill from gape, 2·17.

Bill and gape wax yellow; the former whitish at the top, and horny at tip; irides dark brown; legs and feet dirty sap green; claws horny.

192.—*Megalæma hodgsoni*, Bonap.

Mr. Davison has already given this from Meeawuddy and the Thoungyeen valley. It is common all over the country, but does not approach towns to the best of my belief.

A male, shot 17th March 1880, on the Meplay chong, Thoungyeen river, has the brown markings on the throat and breast, so faint as to be almost absent on the former.

195 bis.—*Megalæma davisoni*, Hume.

This Barbet, allied very closely to *M. asiatica*, is common in the Thoungyeen valley, and I have shot it on the western side

of the Dawna range, in the pass leading from Yunbine on the Salween to Koosaik near the mouth of the Thoungyeen. On the 16th March, while moving camp from the head-waters of the Meplay choung to some ten miles lower down the stream, I was fortunate enough to observe a Barbet of the above species leaving a hole in the under side of a large branch of a Pyma tree (*Lagerstræmia flos-reginæ*). On sending up a man, who with ease enlarged the entrance in the half-rotten wood with a "dah," or Burmese knife, he found two rather glossy white eggs resting on the bare wood. I found these slightly set. As soon as he announced that there were eggs, I shot the bird which had flown to a neighbouring tree, and on which I had kept a watch.

On the 20th of the same month a second nest was discovered for me by a Karen. This also contained two eggs, one of which, however, was smashed in getting it down. The nest hole was in a teak tree and similar to the first, as were the eggs. The three eggs measure respectively, 1.13" by 0.81"; 1.13" by 0.81"; and 1.08" by 0.78".

195 *ter.*—*Megalæma incognita*, *Hume*.

This little Barbet is common at certain seasons in the Thoungyeen valley, but whether it is migrant or not I don't know. Certainly during the rains and cold weather you scarcely ever hear its call so incessant in April and May.

197.—*Xantholæma hæmacephala*, *Müll.*

In the Thoungyeen valley, at least wherever *Dillenia* forests occur, the incessant note of this Barbet can be heard even at the hottest time of the day. It occurs thus in dry forests throughout the valley, and is very common at Meeawuddy and at certain places on the Meplay choung.

198 *quat.*—*Megalæma cyanotis*, *Blyth*.

This pretty little species I have found very common in the Thoungyeen valley. Nor was it rare on the Attaran. I give below a note of finding the eggs and nest, recorded long ago.

Bank Thabybee choung, Winyeo river, 12th February 1878.—Crossing a *Plioonzah*, or deserted *Toungyah* (*anglice*, cultivation clearing) this morning, I heard and saw a small Barbet, which by its call I recognized as *Megalæma cyanotis*, shouting vigorously from the top of a tall dead Pynkado tree. As I approached for the purpose of getting a shot, the bird flitted down to a thick lower branch, and disappeared on the under side. On getting under the tree I discovered a tiny hole, and immediately sent a peon up to ascertain if there were any eggs. As

he got on to the next branch below, the one in which the hole was, the little bird darted out, and though I fired hastily, I missed; however I had identified it, so I didn't much care. After cutting and hacking for a short time at the branch which was decayed more or less, the man managed to get his hand in and shouted down that there were two eggs resting on the bare wood.

These I directed him to extract carefully, tie up in his gounge-boung (head handkerchief), and let down carefully with a string he had taken up. No sooner said than done. He then cut off the decayed branch. The nest hole ran about six inches into the branch downwards, and the entrance looked as if it had been about an inch in diameter. The two eggs were pure pearly white, with a pinkish tinge from the yoke showing through, not very glossy and rather elongated in shape. They measure respectively, 1.00 and 0.97 by 0.7 and 0.69.

203.—*Cuculus micropterus*, Gould.

In the Thoungyeen valley this bird is not rare in March and April. They seem to begin to come in about the middle of February and all day long to keep up their noisy call.

A male I shot on 4th March 1880, on the Thekkaya choung, Thoungyeen river, measured in the flesh:—Length, 12.17; expanse, 22.0; wing, 7.9; tail, 6.0; tarsus, 0.8; bill from gape, 1.34.

Bill horny, below lighter and tinged yellowish towards gape; gape and eyelids lemon yellow; irides nut brown; legs and feet light yellow; the claws were curiously coloured, two front ones being horny, two hind ones milk white.

207.—*Hierococcyx sparveroides*, Vig.

Must be very rare, but is found in the Thoungyeen valley. One specimen I shot at Maulmain; and a second I shot but lost in the Thoungyeen river near Meeawuddy.

209.—*Cacomantis threnodes*, Cab.

This species does not, so far as I have as yet observed, extend into the Thoungyeen valley. Just across the hills near Kaukarit it is abundant. A specimen (*male*) shot there in my garden measured:—Length, 8.95; expanse, 12.8; wing, 4.3; tail, 4.9; tarsus, 0.62; bill from gape, 0.9.

Bill horny above; gape and under mandible yellowish pink; irides dark brown; legs and feet yellow; claws horny.

211.—*Chrysococcyx maculatus*, Gm.

This bird is not rare I think, but being of quiet retired habits, is seldom noticed. I myself have only come across it in the

dense evergreen forests of the Thoungyeen. A fine male I shot 23rd February 1880 measured in the flesh:—Length, 7·2; expanse, 13·0; wing, 4·37; tail, 3·0; tarsus, 0·6; bill from gape, 0·9.

Bill tipped horny, remainder yellowish; gape and eyelids vermilion red; irides brick red; legs, feet, and claws black. It is not quite in the fullest plumage the beautiful emerald green not descending unbroken as far down on the breast and fore-part of stomach as it does in very old birds; the feathers of these parts being still edged with white.

? 211 quat.—*Chrysococcyx limborgi*, (?) *Wald.*

I put a specimen obtained on the 7th March 1880 on the Meplay chong doubtfully down as the present species. It is identical with one so ticketed in Mr. Hume's museum; but then both birds want the distinct broad white nuchal collar, (although exhibiting apparently indications of it), and this (collar) seems the distinguishing mark of *limborgi*.*

My bird, a female, measured in the flesh:—Length, 7·05; expanse, 12·60; wing, 4·27; tail, 3·3; tarsus, 0·52; bill from gape, 0·84.

Bill, legs, and feet greenish brown; gape, edges of eyelids, and inside of mouth, orange vermilion; irides brownish red; claws horny.

214 bis.—*Eudynamys malayana*, *Cab. and Hein.*

This species is found, though not very common, in the Thoungyeen valley, during March, April, and May. Its call is the same as that of the better known *honorata*. A superb pair in my collection measured in the flesh:—

Male.—Length, 16·7; expanse, 24·9; wing, 7·9; tail from vent, 4·2; tarsus, 1·5; bill from gape, 1·68.

Female.—Length, 17·0; expanse, 25·3; wing, 8·25; tail from vent, 10·5; tarsus, 1·5; bill from gape, 1·58.

In both the irides were crimson; bill pale horny green; legs and feet plumbeous; claws horny.

215.—*Rhopodytes tristis*, *Less.*

A common bird in the Thoungyeen valley. The following is a note of finding its nest and eggs that I recorded long ago:—

On the 13th March I found a nest of the long-tailed Malkoha near Poodeesaki village in the Meplay forest,

* Until more specimens are obtained it must remain doubtful whether this is a good species or a mere accidental variety.

shooting the female as she flew off the nest. It was a loose and very untidy mass or pad of half-dried leaves and twigs, (containing three pure white, chalky cylindrical eggs,) placed in the head among the dense leaves of a pollarded evergreen of some kind. I had some difficulty in finding it, and two hours waiting before I managed to trace the bird back and shoot her.

217 quat.—*Centrococcyx intermedius*, Hume.

Although this species does cross the Dawna range into the Thoungyeen valley, still it is far more common in the plains country to the west; all up the Gyne, Hlinebooe, and Houndraw rivers it is plentifully distributed.

On the 12th July 1879 I shot a female at Kolon on the Salween river, and on dissection found inside her an egg just ready to be laid. It was pure white in color and rather long and cylindrical in shape.

The bird measured in the flesh:—Length, 20·7; expanse, 24·0; wing, 7·85; tail, 11·2; tarsus, 2·2; bill from gape, 1·9.

Bill, legs, feet, and claws black; irides deep crimson.

In the young bird the plumage is barred with dingy white on the whole of the under surface, sides and back of the neck, lower back, and upper tail-coverts, and with black on the chestnut coloured wings and upper back; the top of the head too is slightly marked with chestnut.

218.—*Centropus bengalensis*, Gm.

This bird puzzled me very much. I shot one on the 26th March 1879, and for the life of me could not make out what *Centropus* it could be. On showing it to Mr. Hume, however, he told me it was the above species in the striated phase of plumage. The specimen, a male, shot in the Meplay valley, measured in the flesh:—Length, 13·3; expanse, 17·8; wing, 5·85; tail, 7·0; tarsus, 1·5; bill from gape, 1·2; length of hind claw, 1·0.

Bill pinkish yellow, darker on culmen; irides whitish yellow; legs and feet dark slaty.

223.—*Arachnothera magna*, Hodgs.

This large Spiderhunter is excessively common in the Thoungyeen.

A pair measured in the flesh:—

Male.—Length, 7·71; expanse, 11·6; wing, 3·7; tail, 2·0; tarsus, 0·85; bill from gape, 1·8.

Female.—Length, 7·6; expanse, 10·4; wing, 3·3; tail, 1·8; bill from gape, 1·75.

Bill in both sexes dark horny; edges of lower mandible yellow (not seen when closed); irides brown; legs, feet, and claws orange yellow.

224.—*Arachnothera longirostra*, Lath.

Very common.

A pair from the Thoungyeen valley measure:—

Male.—Length, 6.1; expanse, 8.35; wing, 2.47; tail, 1.63; tarsus, 0.6; bill from gape, 1.52.

Bill, upper mandible, dark horny, lower light fleshy plumbeous; irides nut brown; legs and feet dark plumbeous blue; claws horny.

Female.—Length, 5.8; expanse, 7.6; wing, 2.3; tail, 1.6; tarsus, 0.55; bill from gape, 1.38. Colors of the soft parts as in the male.

225 *ter.*—*Æthopyga cara*, Hume.

Male, (shot 12th July 1879, Napyandan choung, Salween river).—Length, 4.91; expanse, 7.1; wing, 2.2; tail, 1.9; tarsus, 0.54; bill from gape, 0.75.

Bill, upper mandible black, lower horny reddish brown; irides dark brown; legs, feet, and claws horny brown.

Female, (shot 26th November 1879, Bawthaloo choung, Meplay, Thoungyeen river).—Length, 4.3; expanse, 6.3; wing, 2.0; tail, 1.5; tarsus, 0.5; bill from gape, 0.7. Colors of soft parts as in the male.

Sparsely distributed in the Thoungyeen valley.

223 *sext.*—*Chalcoparia singalensis*, Gm.

224.—*Cinnyris asiatica*, Lath.

224 *ter.*—*Cinnyris flammixillaris*, Blyth.

These three are the commonest Sun birds in the Thoungyeen valley. I have found them from its sources to its mouth in all sorts of jungles.

226.—*Dicaeum cruentatum*, Lin.

Not observed in the Thoungyeen valley.

226 *bis.*—*Dicaeum trigonostigma*, Scop.

See STRAY FEATHERS, Vol. VIII., p. 195.

227.—*Dicaeum chrysorrhæum*, Tem.

I shot one specimen of this in the Sinzaway, a male, which measured in the flesh:—Length, 4.1; expanse, 7.5; wing, 2.48; tail, 1.1; tarsus, 0.53; bill from gape, 0.52.

Bill dark horny ; pale bluish at base of lower mandible ; irides orange red ; legs, feet, and claws dark plumbeous.

This species I have not yet met with in the Thoungyeen valley.

237 ter.—*Dicaeum olivaceum*, *Walden*.

I got one specimen of this species at Maulmain, but have seen it nowhere else.

240 sext.—*Prionochilus modestus*, *Hume*.

This species, hitherto only procured in Southern Tenasserim, I found sparingly distributed in the Thoungyeen valley.

A female (shot 27th November 1879,, on the Meplay chong, measured in the flesh :—

Length, 4·2 ; expanse, 7·5 ; wing, 2·39 ; tail, 1·17 ; tarsus, 0·5 ; bill from gape, 0·45.

Bill horny, fleshy white at base of lower mandible ; gape yellow ; irides yellowish brown ; legs, feet, and claws plumbeous black.

250 bis.—*Sitta neglecta*, *Wald*.

This Nuthatch is fairly common in the dry forests of the Thoungyeen valley.

A male, (shot 20th January 1880,) on the Thekkaya chong, measured :—

Length, 5·8 ; expanse, 10·0 ; wing, 3·1 ; tail, 1·8 ; tarsus, 0·65 ; bill from gape, 0·89.

Bill and legs dark horny ; feet dirty brown ; claws horny ; irides dark brown.

253.—*Dendrophila frontalis*, *Horsf*.

Fairly common in the Thoungyeen valley.

On the 18th February I found a nest in a hole in a branch of a Pykado tree (*Xylia dolabriformis*), but I was too early for eggs.

254 bis.—*Upupa longirostris*, *Jerd*.

Common in the dry forests of the Thoungyeen valley.

260.—*Lanius colluroides*, *Less*.

I got this at Maulmain (S. F., Vol. VI., p. 203,) and on the 4th March 1880 shot a female in dry *Dillenia* forest on the Thekkaya chong, Thoungyeen river. This measured in the flesh :—

Length, 7·55 ; expanse, 10·8 ; wing, 3·3 ; tail from vent, 3·4 ; tarsus, 0·92 ; bill from gape, 0·98.

Bill horny; gape fleshy white; irides dark brown; legs plumbeous; feet blackish.

261.—*Lanius cristatus*, Lin.

This Shrike comes as a mere straggler to the Thoungyeen valley, frequenting open cultivation clearings, glades in the forest and borders of quins.

A very rufous female, shot 13th December 1879, on the Meplay choung, measured in the flesh:—

Length, 8·0; expanse, 11·8; wing, 3·61; tail, 3·6; tarsus, 1·1; bill from gape, 0·9.

Bill horny; base of lower mandible, gape and edges plumbeous white; irides brown; legs and feet plumbeous; claws horny.

263.—*Tephrodornis pelvicus*, Hodgs.

This Woodshrike is very common in the Thoungyeen forests. Specimens differ very much in shade and tint of color *inter se*.

267.—*Hemipus picatus*, Sykes.

Occurs throughout the Thoungyeen valley.

Male, (shot 28th March 1879, on the Meplay choung) measured:—Length, 5·6; expanse, 7·9; wing, 2·25; tail, 2·49; tarsus, 0·45; bill from gape, 0·7.

Bill, legs, feet, and claws black; irides dark brown.

Female (shot 12th December 1879, in the same locality):—Length, 5·55; expanse, 7·7; wing, 2·15; tail, 2·4; tarsus, 0·45; bill from gape, 0·68. Colors of the soft parts as in the male.

269 *bis*.—*Volvocivora intermedia*, Hume.

All the Thoungyeen specimens I have are clearly referable to this race.

A pair procured on the Meplay choung measured:—

Male.—Length, 9·7; expanse, 14·7; wing, 4·87; tail, 4·55; tarsus, 0·85; bill from gape, 1·0.

Bill, legs, feet, and claws black; irides nut brown.

Female.—Length, 9·6; expanse, 14·5; wing, 4·8; tail, 4·5; tarsus, 0·82; bill from gape, 1·0. Colors of the soft parts as in the male.

270.—*Graucalus macii*, Less.

Common as this bird is on the west side of the Dawna, it is rare and locally distributed in the Thoungyeen. Young birds have the under surface much barred and spotted with brown.

271 ter.—*Pericrocotus elegans*, Mc.Clell.

This species is common in the Thoungyeen valley.

275.—*Pericrocotus roseus*, Vieill.

Less common than the above and more a bird of the plains country.

277.—*Pericrocotus immodestus*, Hume.

I got one female of this species on the Thablooko choung and a second on the Taoou choung in the Thoungyeen valley. It is characterized by the dull yellowish wash on the rump and a trace of yellow on the wings.

The two measured in the flesh as follows :—

Female (shot 24th January 1879).—Length, 8·0 ; expanse, 11·0 ; wing, 3·7 ; tail, 3·85 ; tarsus, 0·6 ; bill from gape, 0·8.

Female (shot 25th March 1880).—Length, 8·0 ; expanse, 11·0 ; wing, 3·6 ; tail, 4·0 ; tarsus, 0·6 ; bill from gape, 0·8.

The color of the soft parts were identical in both ; bill, legs, feet and claws black ; irides dark brown.

278.—*Buchanga atra*, Herm.

In the Thoungyeen valley I have only seen this species at Meeawuddy, where I have seen a number at different times of the year.

280 bis.—*Buchanga pyrrhops*, Hodgs.

This bird is rather common in the dry *Dillenia* forests of the Thoungyeen where ten or a dozen will sit on adjoining trees at an immense height. I have found them wary to a degree.

282.—*Chaptia ænea*, Vieill.

A common bird all over the country, including the Thoungyeen valley.

I have put all my specimens down as this species, and not as *malayensis*, which in my humble opinion should be joined with this and knocked on the head. If depth of colouring, however persistent, is to be of specific value, all the *Pericrocoti* will have to be separated.*

283.—*Bhringa remifer*, Tem.

A rare and locally distributed species in the Thoungyeen forests. I have seen it at the sources of the Thoungyeen, high

* It is not exactly a question of depth of coloring in this case. The difference relied on here is the comparatively dull grey rump of *malayensis* as compared with the metallic coloring of the corresponding parts in *ænea*.—A. O. H.

up in the Meplay choung, and near Koosaik, the old road crossing over to Myneloongyee.

285.—Dissemurus paradiseus, Lin.

This species is very common all over the country. In the Thoungyeen valley it chiefly affects bamboo forests.

There is a point in the succession of plumage of this bird that I have never seen alluded to, and that is, that on the first growth of the two long tail feathers the shafts of these are webbed on both sides the whole way down, broader on the inside; only for about an inch above the racket does the web narrow. It is not till the second moult that the tail assumes the adult form.

286.—Chibia hottentotta, Lin.

During the breeding season in the end of March and in April, I saw a great number of nests round and about Meeawuddy; but all inaccessible, as they were invariably built out at the very end of the thinnest branches of Eng (*Dipterocarpus*) Teak, Thingan (*Hopea odorata*), and other trees.

Except during those two months, I have not seen the bird plentiful anywhere.

290.—Hypothymis azurea, Bodd.

Common all through the Thoungyeen valley.

291.—Leucocerca albicollis, Vieill.

All through the Thoungyeen valley at elevations above 1,500 feet, in dense evergreen jungle, this species is to be found, but even then scarce.

A female, I shot in the Meplay East Watershed range, measured in the flesh:—Length, 7·4; expanse, 8·9; wing, 2·9; tail, 3·88; tarsus, 0·74; bill from gape, 0·72.

Bill, legs, feet, and claws black; irides dark brown.

? 292.—Leucocerca aureola? Vieill.

Two specimens that I shot, I refer, with great hesitation,* to the above bird. They were procured in dry Eng forest in the Thoungyeen valley.

* The five species of *Leucocerca* that we obtain are easily separable.—

(1.) *L. aureola* has a very broad white supercilium, more or less covering the entire forehead and extending to the nape. The throat is black, more or less mottled with white. The breast and abdomen pure white. There are two rows of conspicuous triangular white spots on tips of the wing-coverts.

(2.) *L. albicollis* has a conspicuous, though narrow, white supercilium not extending quite to the forehead in front or backwards much behind the eye. It has more or less of the throat white, and the breast and abdomen dusky.

295.—*Culicicapa ceylonensis*, Swains.

This pretty cheery little species is found all over the province, being most numerous in the evergreen forests.

299.—*Alseonax ferrugineus*, Hodgs.

The one specimen I got of this species was shot on the 20th October, between Thingangyeenoun in the Thoungyeen valley and Tounjah, the top of the pass over the Dawna. I saw another in April at the head-waters of the Htenoo-choung lower south. The bird is easily recognizable by its ferruginous tint and the circle of conspicuous white feathers round the eye.

301.—*Stoporala melanops*, Vig.

This bird is scattered widely over the country from October to April. In the Thoungyeen valley I have invariably found them by the banks of streams.

304.—*Cyornis rubeculoides*, Vig.

This bird is very common in bamboo jungles all through the country.

I procured a young bird on the 13th August 1879, at Kaukarit on the Houndraw river, that puzzled me not a little; it is in the rufous garb of the young just changing into the blue of the adult. I had never seen or shot the bird in this stage before.

(3.) *L. leucogaster* has a very narrow supercilium, not quite extending to the forehead; chin and throat white; black transverse band at base of throat more or less spotted with white; centre of breast and abdomen white, more or less tinged with fawn.

(4.) *L. perlata* has a trace of a white supercilium, and the throat and breast dusky, with large oval white spots; abdomen white.

(5.) *L. javanica* has no supercilium, or only a faint trace of one. Throat white; a transverse band at base of throat blackish without spots; middle of breast and abdomen white; the latter tinged with fawn.

The Thoungyeen specimen is an extremely indifferent carbolized one, and the lateral tail-feathers are not half grown, but it seems to differ from *aureola*.—1st, in wanting the triangular spots at the tip of the wing-coverts, which spots are present, even in the youngest *aureola*, though in this they are buff coloured instead of white; 2nd,—in the four central tail-feathers being entirely black, and there being less white on the lateral tail-feathers, 3rd,—in the chin, throat, and upper breast being white. In *Aureola* the black feathers of the throat are always more or less fringed at the tips with white, but even where these fringes are most widely extended, (and in some specimens they are almost entirely wanting) there is always a band of dark feathers at the junction of the throat with the breast to which they do not extend; there is no such dark band in this specimen. In other respects the bird does not differ from Indian *aureola*, though perhaps the mantle is greyer and paler.

If the differences thus indicated prove to be constant in other specimens obtained in this locality, the bird will have to be separated and might stand as *burmanica*, but it has to be noticed that a Thayet Myo specimen in our museum seems to furnish a connecting link between the present specimen and Indian ones; the tail and throat are as in the latter, but the upper surface is like that of the Thoungyeen specimen, and the spots on the coverts are almost obsolete.—A. O. H.]

323.—*Erythrosterna albicilla*, *Pall.*

It is wonderful how early some of the cold weather visitants to Burmah and Tenasserim come in. I have got specimens of this bird in the beginning of September in the Thoungyeen forests when the rains were in full blow still.

326.—*Erythrosterna maculata*, *Tick.*

I got a specimen of this species at about 1,500 feet elevation in the Meplay valley. I have not observed it elsewhere.

343 *bis.*—*Myiophoneus eugenii*, *Hume.*

I have seen this species in various places from Hpapoon in the north to the sources of the Thoungyeen. On the Zamme and Winyeo it is not common even in the higher sources of the same, but throughout the Thoungyeen valley, and specially in the Meplay and its tributaries, it abounds.

Once when encamped for a few days at the sources of the Queebaw choung a feeder of the Meplay, I had very good opportunities of watching a pair that frequented a rocky stream just below where my tent was pitched. Early in the morning, while it was still dark, one or other of them would sit on a particular large rock in the opposite bank and whistle a few cheery notes, at intervals now and then until it was light; when both would fly up the stream, and hunt about for their breakfast of shells. In search of these they would wander far up the hill side away from the water, but seemed invariably on finding a landshell to bring it to the banks to eat, where, if it was a large one, they battered it against the rock and picked out the animal piece-meal. The number of broken shells and fragments along the course of that little choung was incredible; every little piece of rock had a pile near it. They seem to me far more silent birds than their Himalayan and South Indian representatives.

344 *bis.*—*Hydrornis oatesi*, *Hume.*

This species may occur in the Thoungyeen valley as Mr. Davison got it at Mooleyit, but I have never myself come across it.

344 *quat.*—*Pitta cyanea*, *Blyth.*

I have found this Ground Thrush fairly common both at Kaukarit and in the Thoungyeen valley. It keeps far more to the ground than do *moluccensis* and *culcata*. A permanent resident in the Thoungyeen forests.

345 bis.—*Pitta moluccensis*, P. L. S. Müll.

This bird, during May and June, is so common in and around Kaukarit and in the Thoungyeen, that a dozen could be easily procured in a morning.

346.—*Pitta cuculata*, Hartl.

I only once procured this bird, and that was at the foot of the hills on the Thoungyeen side of the Tounjah pass.

346 ter.—*Anthocincla phayrii*, Blyth.

This excessively rare *Pitta*—for *Pitta* it is—straggles into the Thoungyeen valley. I procured two specimens, one of which, to the best of my belief, was a female. I sexed it myself and can scarcely think I could have been mistaken; but then Mr. Hume has a specimen, sexed as female, from Thatone, which as far as looks go ought to be the real female; it has the plumes behind the ear shorter, wants the velvet black about the head and cheeks, and has just a suspicion of pink on the under tail-coverts, whereas my sexed female is identical with the male. The probabilities are that I have made a mistake and sexed my bird wrong. Still there is a chance that the old adult female assumes the same livery as the male, for on the 5th April 1879 I came on two of these birds trotting about with sticks and twigs in their mouths as if they were going to build a nest. I watched them for nearly three-quarters of an hour, but failed to discover any nest or beginnings of one: at last one flew away, and I shot the other, which proved to be a male. These two were identical in plumage and may have been a pair.

The following are the measurements in the flesh of the two specimens I have procured:—

Male.—Length, 9·3; expanse, 13·7; wing, 4·2; tail, 2·25; tarsus, 1·1; bill from gape, 1·5.

Bill black; legs and feet dark fleshy; irides dark brown.

? *Female*.—Length, 9·6; expanse, 14·2; wing, 4·16; tail, 2·2; tarsus, 1·32; bill from gape, 1·54.

Bill horny black; irides dark brown; legs, feet, and claws fleshy white.

350 bis.—*Zoothera marginata*, Blyth.

In some places, as for instance on the east flank of the Meplay East Watershed, this species is not uncommon. Out of the Thoungyeen valley I have not met with it.

A pair, procured 20th December 1879, on the Hteekleethoo chong, measured in the flesh:—

Male.—Length, 9·9; expanse, 16·0; wing, 5·15; tail, 3·2; tarsus, 1·1; bill from gape, 1·5.

Bill horny, fleshy white at gape and base of lower mandible ; irides dark nut brown ; legs, feet, and claws dusky white.

Female.—Length, 9·3 ; expanse, 15·9 ; wing, 5·0 ; tail, 3·2 ; tarsus, 1·1 ; bill from gape, 1·45. Colors of the soft parts as in the male.

351.—Cyanocinclia cyana, Lin.

Visits the Thoungyeen valley in common with all Burmah. I have never seen a female in the complete blue garb of the male.

355.—Geocichla citrina, Lath.

Very rare in the Thoungyeen valley. I have only procured it once at Thingangyeenoun. I procured one too on the Attaran not far from Maulmain. Both localities are further north than it was ever obtained by Davison.

371.—Oreocinclia dauma, Lath.

I shot one specimen of this on the Daylaw choung, Thoungyeen river, on the 29th January 1880. It is a male and measured in the flesh :—

Length, 10·6 ; expanse, 17·4 ; wing, 5·65 ; tail, 4·15 ; tarsus, 1·4 ; bill from gape, 1·3.

Bill horny, whitish at base of lower mandible ; gape, legs, and feet yellow ; claws horny.

384 bis.—Gampsorhynchus torquatus, Hume.

This species is not uncommon in the higher spurs of the Dawna range as beyond Tounjah in the Nubboo pass, and a little way up Maul-at. I came across a large flock of them on the Meplay East Watershed range, in dense evergreen forest.

Male measured in the flesh :—Length, 9·7 ; expanse, 12·2 ; wing, 3·9 ; tail, 4·95 ; tarsus, 1·2 ; bill from gape, 1·05.

Bill fleshy white, shaded with horny on the ridge of upper mandible ; irides yellow ; legs and feet pale plumbeous ; claws pinkish.

Two females measured respectively :—Lengths, 9·7 and 10·10 ; expanse, 12·35 and 12·5 ; wings, 3·82 and 4·02 ; tails, 4·15 and 5·10 ; tarsi, 1·20 each ; bills from gape, 1·1 each. Colors of soft parts as in the male.

387.—Trichastoma abbotti, Blyth.

This is a very common species in the Thoungyeen evergreen forests ; and it extends along the base of the Dawna to, at any rate, as far as the mouth of the Thoungyeen river.

387 bis.—*Trichastoma minus*, Hume.

I have only met this bird on two successive years in one spot, viz., the sources of the Queebaw choung, Meplay river.

A male measured in the flesh:—Length, 5·9; expanse, 8·1; wing, 2·49; tail, 2·05; tarsus, 1·0; bill from gape, 0·8.

Bill greenish horny above; lower mandible, legs, and feet fleshy brownish; irides reddish brown; gape yellow; claws horny.

The following is a note I recorded two years ago:—

On the 15th March I found a little domed nest made of dried bamboo leaves, and lined with fine roots, placed in a cane bush a foot or so above the ground. It contained three tiny white eggs, with minute pink dottings chiefly at the larger end; one egg, however, is nearly pure white. I shot the little bird off the nest which Mr. Hume identifies as this species.

388 bis.—*Alcippe phayrii*, Blyth.

Common enough throughout the Thoungyeen valley. Elsewhere I have only noticed it on the Yocnzaleen.

390 quat.—*Turdinus crispifrons*, Blyth.

390 quint.—*Turdinus brevicaudatus*, Blyth.

I have little doubt that both these species occur in the Thoungyeen valley, since there are numbers of isolated limestone ranges and peaks, on which the former ought to be found; and as for the latter it has been got at Mooleyit. Personally I myself have never come across these two birds in the Thoungyeen.

390 sext.—*Turdinus guttatus*, Tick.

This bird occurs sparingly in small flocks in thick evergreen or bamboo jungle on the main range and higher spurs of the Dawna. I have procured it at Tounjah on the road from Kaukarit to Meeawuddy, and on the Meplay East Watershed range at the head waters of the Queebaw choung.

Male.—Length, 7·1; expanse, 9·4; wing, 2·8; tail, 2·55; tarsus, 1·02; bill from gape, 0·94.

Bill dark plumbeous, lighter at tip; irides nut brown; legs, feet, and claws a greenish yellow brown.

393 bis.—*Stachyris rufifrons*, Hume.

This species is rare in the Thoungyeen valley. It occurs wherever the jungle is pretty open, allowing an undergrowth of grass to spring up. I have never seen it in evergreen forests.

A fine pair measured in the flesh :—

Male.—Length, 5·0 ; expanse, 6·8 ; wing, 2·25 ; tail, 1·75 ; tarsus, 0·73 ; bill from gape, 0·57.

Bill bluish plumbeous ; irides crimson ; legs, feet, and claws fleshy yellow.

Female.—Length, 4·85 ; expanse, 6·5 ; wing, 2·1 ; tail, 1·7 ; tarsus, 0·73 ; bill from gape, 0·57. Colors of the soft parts as in the male.

The female differs from the male in having the rufous of the forehead and head paler.

395.—*Mixornis rubricapillus*, *Tick*.

A very common bird throughout the province. In the Thoungyeen valley it seems to affect bamboo jungle and open forest with grassy undergrowth. I have never seen it in evergreen or dry *Dillenia* forests.

399.—*Pellorneum subochraceum*, *Swinh*.

As common as the last. I can add nothing to Mr. Davison's account of it, S. F., Vol. VI.

403.—*Pomatorhinus leucogaster*, *Gould*.

A rare bird. I have only shot one specimen at the headwaters of the Thoungyeen.

403 *bis*.—*Pomatorhinus olivaceus*, *Blyth*.

This is the *Pomatorhinus* of the Thoungyeen valley being found from the sources to the mouth of that river. A note recorded two years ago of a nest that I found is given below :—
4th March.—Having to go over the ground along the southern boundary of the proposed Meplay reserve, I had to cut my way through dense Wahgoke bamboo (*Bambusa* *sp.* ?), a nasty, bending, hard bamboo, to go through a long belt of which is hard work. To make it worse in this case several clumps had been burnt by fire and blown down. As I was slowly progressing along, bent almost double, out of a little hollow at my feet, a bird flew out with a suddenness that nearly knocked me down. I looked into the hollow, and there under the ledge of the sheltering bank was a nest of dry bamboo leaves lined with strips of the same shredded fine. It was cup-shaped, loosely made, about 1½ inches in diameter, and the same in depth, containing three pure white eggs perfectly fresh ; (measured afterwards they proved respectively, 0·98" × 0·71", 0·99" × 0·73", and 0·99" × 0·73") ; gun in hand I watched, hiding myself behind a clump of bamboos about thirty yards off. For an hour I watched, but the bird did not return,

so I marked the spot and went on. Returning back the same way just before dusk, I managed to start her again, and to get a hurried shot; she fell and I secured and recognized her as *P. olivaceus*.

405 quat.—Orthorhinus tickelli, Hume.

This is another species that, to the best of my belief, follows the line of the Dawna mountains and its spurs to as far as the mouth of the Thoungyeen at any rate.

Male.—Length, 11·2; expanse, 13·0; wing, 4·42; tail, 4·30; tarsus, 1·5; bill from gape, 1·78.

Bill dark slaty brown, blackish at base of upper mandible; irides deep brown; legs and feet fleshy slaty; claws horny.

Female.—Length, 11·4; expanse, 13·5; wing, 4·2; tail, 4·2; tarsus, 1·6; bill from gape, 1·63.

Bill light slaty brown; irides dark red; legs and feet fleshy slaty; claws horny.

A young female, shot on the 8th February 1880 on the Queebaw choung, a feeder of the Meplay, exactly resembles the old birds in plumage, but differs extraordinarily in length of bill; this, measuring straight from gape to point, only 1·3 inches.

407 bis.—Garrulax belangeri, Less.

Common in the Thoungyeen valley as elsewhere.

408 ter.—Garrulax chinensis, Scop.

This species is, as far as I know, rare in the Thoungyeen valley. I have only once come across a flock, and that was in October, on the Thablooko choung near Kyonkhet on the Thoungyeen river.

412.—Garrulax pectoralis, Gould.

413.—Garrulax moniliger, Hodgs.

These two species are very apt to be confounded as they nearly always go about in parties together and have the same note and habits. I have observed, however, that *pectoralis* is not only a much more silent bird, but is perhaps partially migratory, which *moniliger* certainly is not. I found the former much commoner during the rains, both at Kaukarit and in the Thoungyeen valley than at other seasons.

Both are to be found in the Thoungyeen.

446 bis.—Hypsipetes concolor, Blyth.

I have found this bird rare in the Thoungyeen. As far as I know it keeps to the sides of the Dawna mountains and never descends into the plains country.

A male measured in the flesh:—Length, 10·1; expanse, 15·3; wing, 4·8; tail, 4·4; tarsus, 0·7; bill from gape, 1·2.

Bill, legs, and feet deep red; claws horny; irides dark brown.

448 ter.—*Hemixus davisoni*, *Hume*.

449.—*Alcurus striatus*, *Blyth*.

These two species no doubt occur in the Thoungyeen valley, but I have never come across them.

451 bis.—*Criniger griseiceps*, *Hume*.

I have shot this noisy little Bulbul in the evergreen forests near Hpapoon, and again found it common throughout the Thoungyeen forests.

451 ter.—*Criniger gutturalis*, *S. Müll.*

I have only seen this bird once, when I shot a specimen at Maulmain on the 13th May 1879. It was doubtfully sexed as a female, and in plumage resembles the species I have entered it under, but differs in the much paler tint of the upper surface and in the white of the throat descending to the upper breast.

452 ter.—*Ixus finlaysoni*, *Strickl.*

This species is common alike through plains and hills, but never to any great elevation. It is found more plentifully in the evergreen forests of the Thoungyeen than anywhere else, that I know of, in the province.

452 dec.—*Iole viridescens*, *Blyth*.

Common everywhere, except in the dry *Dillenia* forests. The specimens I have shot of this bird differ very much in shade of color from one another.

456.—*Rubigula flaviventris*, *Tick.*

Common enough in the Thoungyeen forests, affecting chiefly the neighbourhood of villages and clearings. The following is a note of finding a nest and eggs I recorded in April 1878:—On the 14th April I happened to be putting up for the day in one of the abandoned Karen houses of the old village of Podesesakai at the foot of the Warmailoo toung, a spur from the East Watershed range of the Meplay river. Having to wait for guides, I had nothing particular to do that day, a very rare event in my forest work. I devoted it to a fruitless search for bears. I had returned tired and rather dispirited and was moving about among the ruined houses, between

and amongst which a lot of jungle was already springing up, when, just as I passed a low bush about 3 feet high, out flew a Black-crested Yellow Bulbul; of course the bush contained a nest, a remarkably neat cup-shaped affair, below and outside of fine twigs, then a layer of roots, above which was a lining of the stems of the flowers of the "theckay" grass. It contained three eggs on the point of hatching, out of which I was only able to save one. It is one of the loveliest eggs I have seen; in color I can liken it only to a peculiar pink granite that is so common at home in Ireland. Its ground color I should say was white, but it is so thickly spotted with pink and claret that it is hard to describe. It measured 0.85×0.61 inches.

457 bis.—*Brachypodius melanocephalus*, Gm.

This Bulbul I have found locally distributed; in the Thoungyeen valley it is anything but common. I only once saw a few near Meeawuddy. At Kaukarit and Maulmain it abounds during June and July, but I have not noticed it during the cold and hot weathers.

460.—*Otocompsa emeria*, Lin.

Common, though rather sparsely—a pair here, three or four there—distributed all over the country. In the Thoungyeen I have not found it so abundant as in the plains.

462 bis.—*Molpastes nigropileus*, Blyth.

Common as this Bulbul is throughout the plains from Maulmain to Kaukarit, it is strange that it never, as far as I know, straggles over into the Thoungyeen valley, where its place is taken by the next species.

462 ter.—*Molpastes atricapillus*, Vieill.

Excessively abundant in the Thoungyeen valley from the sources of that river to its mouth; but I have found it nowhere else.

463 bis.—*Phyllornis chlorocephalus*, Wald.

465.—*Phyllornis aurifrons*, Tem.

Both these species I have found abundantly distributed in the richly wooded parts of the Thoungyeen valley as elsewhere in the province.

468.—*Iora tiphia*, Lin.

This species is common throughout the country. As a rule its nest is well hid, but one I saw in the compound of a house

in Maulmain was placed in the exposed leafless fork of a tree, not above six feet from the ground. It contained no eggs when I examined it, and was deserted a day or two after. This was in the beginning of May.

468 *quint.*—*Iora lafresnayii*, Lath.

I once got a straggler of this species on the Zammee river as mentioned in STRAY FEATHERS, Vol. VI., App. I, p. 516. A second specimen was shot by me on the 8th February 1880, on the Queebaw choung, Thoungyeen river. It was a male and measured in the flesh:—

Length, 6·79 ; expanse, 9·5 ; wing, 2·8 ; tail, 2·4 ; tarsus, 0·85.

Bill from gape, 1·0 ; bill, legs, and feet plumbeous ; the ridge of the upper mandible shaded with horny ; irides brown ; claws horny.

469.—*Irena puella*, Lath.

Common throughout the Thoungyeen as elsewhere in evergreen forests.

The following note on a nest and eggs that I took may be interesting:—

On the 11th April I was slowly clambering along a very steep hill-side overlooking the Queebaw choung, a small tributary of the Meplay stream, when from a tree, whose crown was below my feet, I startled a female *Irena puella* off her nest. I could see the nest and that it contained two eggs, so I shot the female who had taken to a tree a little above me. On getting the nest down, I found it a poor affair of little twigs, with a superstructure of moss, shaped into a shallow saucer, on which reposed two eggs, large for the size of the bird, of a dull greenish white, much dashed, speckled, and spotted with brown. They were so hard set that I only managed to save one, which measured 1·09 by 0·77 inches.

472.—*Oriolus melanocephalus*, Lin.

Common in the Thoungyeen, as throughout the province.

475.—*Copsychus saularis*, Lin.

The same remark applies to this as to the above species. I have not only found it in open country, but also in the densest evergreen forests.

476.—*Cercotrichas macrura*, Gm.

This bird is as common as the preceding, but never like it approaches very close to or perches on the tops of houses.

The following is a note about its nidification:—

On the slope of a steep spur of the East Watershed range of the Meplay river, in dense bamboo forest, I found, on the 4th April 1878, a nest of the above bird. A Woodpecker had made a hole in a partially dry Wahbo bamboo (*Bambusa brandisiana*) of immense girth. Of this the Shama had taken advantage, and having stuffed up the hollow from the next knot below to within three inches of the hole, with dry bamboo leaves, had above that made a loose cup-shaped nest of twigs and roots. I was eating my lunch, seated on a rock not far from the bamboo in question, and saw the female, after making two or three short flights and balking herself in the direction of the hole, finally enter it. I approached very cautiously, and stuffing my handkerchief into the entrance hole, managed to secure eggs and bird. The former were four in number, slightly set, of an oily green color, much spotted, speckled, and dashed with umber brown. They measured respectively, $0.9'' \times 0.62''$, $0.87'' \times 0.62''$, $0.85'' \times 0.61''$ and $0.85'' \times 0.62''$.

481.—*Pratincola caprata*, *Lin.*

483.—*Pratincola indicus*, *Blyth.*

Both these species are found sparingly through the Thoungyeen valley—the former as a permanent resident, the latter as a cold weather migrant. In the plains about Kaukarit and the banks of the Gyne river they abound.

486.—*Pratincola ferreus*, *Hodgs.*

A mere straggler to the Thoungyeen valley. I shot one specimen in dry *Dillenia* forest on the banks of the Thekkaya choung, on the 4th March 1880. It occurs, but I have not personally come across it, elsewhere in the province.

507 *bis.*—*Larvivora cyane*, *Pall.*

By the sides of streams, and along the edges of cultivation clearings, I have found this bird solitary or in pairs. In the Thoungyeen valley it is rarer perhaps, (less often seen at any rate) than on the Houndraw and Gyne.

518.—*Arundinax ædon*, *Pall.*

I have been unfortunate in collecting reed birds. Somehow or another I have never come across any but this species, and that only on two occasions, once on Gwoongyee choung, Zamme river, and once at Kaukarit. I have never noticed it in the Thoungyeen valley.

530.—*Orthotomus sutorius*, Penn.

Occurs throughout the Thoungyeen valley as elsewhere in the province.

538 *bis*.—*Prinia beavani*,* Wald.

This is the common *Prinia* of Tenasserim, and is found throughout the province. I have not noticed that it keeps particularly to long grass. I have shot it just as often among bamboos, and in the thick undergrowth of evergreen forests as in Kine or other grass.

539.—*Cisticola cursitans*, Frankl.

This species is common all along the Gyne and portions of the Houndraw; and at Kaukarit on the latter river it abounds. In the Thoungyeen valley, on the contrary, I have found it rare.

544 *quat*.—*Drymoica extensicauda*, Swinh.

About Kaukarit on the Houndraw river I found this species in June 1878 very common. They were then breeding, and I found several nests, all, however, unfinished; these were in material and make very like the nests of *D. inornata* which I had taken years ago in India. My taxidermist got one specimen of this bird at Maulmain. In the Thoungyeen valley I have never yet come across it.

556 *ter*.—*Phylloscopus schwarzi*, Radde.

I have not paid the attention I should have to these troublesome little Warblers, and have consequently obtained only a few specimens of still fewer species.

Of the above, I obtained two specimens—one shot on the 2nd March on the Hteekleethoo choung, a small tributary of the Thoungyeen, is a male and unmistakeable.

It measured in the flesh:—Length, 5.55; expanse, 7.8; wing, 2.51; tail, 2.3; tarsus, 1.0; bill from gape, 0.63.

Bill horny, at base fleshy white; gape yellow; irides brown; legs and feet fleshy yellowish white; claws brown.

The second specimen of this species (also a male) was shot on the 4th March 1880, at Thekkaya choung, elevation about 1,500 feet, on Thoungyeen river. Structurally it is nearly identical with Indian examples of *indicus* with which I have compared it, but the entire upper surface, including wings and tail, is suffused with dull olive green, instead of being dull earth grey;

* Has this species ever been compared with *P. supercilialis*, Salvad. U. di B., 249, 1874? The two supposed species seem to be identical.—A. O. H.

and the centre of the abdomen is a purer yellow than I have ever seen in Indian *indicus*; the bill is a trifle broader also than *indicus*. The superciliary stripe is buffy, as in *indicus*; the wing lining and under tail-coverts are precisely as in this species, but the throat is whiter and less buffy; the breast and flanks are somewhat differently coloured, and the centre of the abdomen, as already mentioned, is a sort of greyish yellow. In some respects the bird is intermediate between *indicus* and *affinis*, while it is almost identical on the upper surface with *schwarzi*.

The dimensions were as follow:—Length, 5.35; expanse, 7.50; wing, 2.3; tail from vent, 2.32; tarsus, 0.86; bill from gape, 0.63.

Bill horny above, below fleshy yellowish white; gape yellowish; iris dark brown; legs yellowish; feet tinged plumbeous; claws horny.

Mr. Hume and I both think that for the present this must be accepted as an abnormally coloured and abnormally small *schwarzi*, although if other similar specimens should be obtained, it may deserve specific separation. Mr. Brooks, to whom also the specimen, a singularly perfect and beautiful one, was submitted, remarks as follows:—

It is an undoubted example of *P. schwarzi* from its generally smaller appearance, viz., in bill, wing, tail, and tarsus. I should certainly take it to be a female. Compare it with the first Paphoon female that you obtained. I think the coloration will be found to correspond fairly well. The points of identity I go by are:—(1), the fine long supercilium reaching to the very nape; (2), dark eye band; (3), the *schwarzi* leg and foot; (4), *schwarzi* yellow buff tail-coverts contrasting with the rest of the plumage. In upper surface it is unmistakably identical. Cheeks are identical.

"I don't understand the variation of lower surface, some being white and some yellow, as a *Locustella*, but I have seen the same variation in other collections. It may be that yellow indicates last year's nestlings, or may be peculiar to the female. Nothing but further research can settle the point. I think there is the same difference to be observed in the bills of male and female *P. magnirostris*; but even if correctly sexed,* which I very much doubt, it is decided *schwarzi*; 9th July 1880."

558 bis.—*Phylloscopus plumbeitarsus*, Swinh.

Two specimens were obtained in the Thoungyeen valley, unfortunately both males. Their dimensions in the flesh were respectively:—Lengths, 4.55 and 4.15; expanse, 7.1 and 6.8;

* I am positive I sexed the bird correctly.—C. T. B.

wings, 2.1 and 2.0; tails, 1.7 and 2.0; tarsus, 0.78 and 0.7; bills from gape, 0.65 and 0.57.

Bill brown; irides dark brown; legs, feet, and claws light plumbeous.

565.—*Reguloides superciliosus*, Gm.

Personally I have only observed it in the Thoungyeen valley, where I found it sparsely scattered about the edges of cultivation clearings.

569 *bis*.—*Cryptolopha tephrocephala*, Anders.

Sparsely scattered through the Thoungyeen. Elsewhere I have not noticed it.

574 —*Abrornis superciliaris*, Tick.

I have shot this bird on the Zammee choung, where I got a nest and eggs, *vide infra*; and I have more than once seen it in the Thoungyeen forests.

The following is an account of a nest I found, recorded in my note book:—

“Khasat village—Khasat choung, Zammee river, 9th March 1878.

“My camp to-day was pitched in the midst of a dense bamboo brake, close to a path leading to the village.

“About ten feet from my tent, on this path, passers-by had cut one of the bamboos out of a clump and left it leaning up against it; between two knots of this a rough hack had broken an irregular hole into a joint.

“Sitting outside my tent and looking carelessly about, my attention was attracted to what I took to be a leaf fluttering down close to the abovementioned bamboo, which to my surprise disappeared before it reached the ground. Wondering at this, I got up and approached the place, when from the aforementioned hole in the bamboo, out darted a little bird; and looking in, I saw a neat little nest of fibres placed on the lower knot with three eggs, white, densely speckled, chiefly in a ring at the larger end, with pinkish claret spots.

“I went back to my tent, watched the bird return, and shot her, as on being frightened off, she flew out a second time. It proved to be the above species.

“I took the nest and eggs. The latter, I regret to say, were lost subsequently through the carelessness of a servant, but I had luckily measured and taken a description of them.

“Their dimensions were respectively, 0.57 × 0.42, 0.59 × 0.42, and 0.59 × 0.44.”

586.—*Henicurus schistaceus*, *Hodgs.*

From east of Tounjah, on the road from Kaukarit to Meeawuddy, to the foot of the hills on the Thoungyeen side, and along the whole valley of the Thoungyeen, this handsome Fork-tail is to be found frequenting the banks of every stream almost. Elsewhere I have not yet found it.

Toiling along the steep ascents and descents on the road from Kaukarit to Meeawuddy on the Thoungyeen river, on the 1st March, I came to a small stream, rocky and covered with boulders. As I wished to get a few Fork-tails for my collection, I approached cautiously. On the left I could see nothing. On the right—yes, there hopping out from under a fallen log, was a specimen of *H. schistaceus*. Next moment I had rolled it over, and secured the body as it came floating down the stream. With some trouble I worked my way up to the fallen tree, and after a good hunt succeeded in finding the nest, beautifully concealed in a crevice between the roots on the underside of the tree. Nest made of moss felted together into a cup about 2 inches deep and the same in diameter, lined with the skeletons of peepul leaves, and containing three slightly set bluntish oval eggs, pure dead white, sparsely speckled and spotted, chiefly at the larger end, with pale brown.

On the 13th March, lower down in the valley of the Meplay river, a feeder of the Thoungyeen, I found a second nest, similarly wedged into the crevices of the roots of a fallen tree, in a little rocky stream. Nest, not two pins different to the last one, contained three unfledged young ones. Two of the eggs taken as above described, measured 0.87 × 0.62 and 0.85 × 0.63, respectively.

590.—*Motacilla leucopsis*, *Gould.*

591 *quat.*—*Motacilla ocularis*, *Swinh.*

592.—*Calobates melanope*, *Pall.*

593.—*Budytes cinereocapilla*, *Savi.*

I have shot these four species of Wagtails in the Thoungyeen valley which they visit in the winter, in common with other parts of the country.

595.—*Limonidromus indicus*, *Gm.*

A permanent resident, to the best of my belief, throughout the Thoungyeen valley, as it seems to be in the province.

596.—*Pipastes maculatus*, *Hodgs.*

A rare winter visitant to the Thoungyeen. Elsewhere during that season it occurs more abundantly.

597.—*Corydalla richardi*, *Vieill.*

A winter visitant. It arrives in great numbers in October and November. I shot one once on the Thoungyeen river in dense evergreen jungle, when my attention was attracted to the bird by its running in and out among the undergrowth like a mouse. It was neither a sick nor a wounded bird as far as I could make out.

600.—*Corydalla rufula*, *Vieill.*

Common alike in the Thoungyeen valley, and in the plains country to the west of the Dawna, but far more plentiful in the latter. It is a permanent resident.

605 *bis.*—*Anthus cervinus*, *Pall.*

I have found this in flocks in April, going west, both on the Houndraw and in the Thoungyeen valley.

630.—*Herpornis xantholeucus*, *Hodgs.*

This, a busy restless little bird, is very common in the Thoungyeen valley. Elsewhere I have only seen it on the Yoonzaleen choung.

650.—*Melanochlora sultanea*, *Hodgs.*

I have found this common in all the well-wooded parts of the country, especially in the Thoungyeen valley.

On the 25th March 1880, near Meeawuddy, I saw two of these birds enter a hole in the decayed branch of a Zimbun tree (*Dillenia pentagyna*), but in cutting it open I found nothing. I cannot say whether they intended laying their eggs there or not. There was no semblance of a nest.

660.—*Corvus macrorhynchus*, *Wagler.*

This bird seems scattered through the length and breadth of the land, but is seldom seen in greater numbers than two or three together. It is comparatively common in the Thoungyeen valley.

663 *bis.*—*Corvus insolens*, *Hume.*

Very common at Maulmain. Some have penetrated to Kaukarit, and a few stragglers have reached Meeawuddy even, but the species is a pure town bird, and never found in the forests as a rule.

669.—*Garrulus leucotis*, Hume.

Like Mr. Davison I have found this very handsome Jay affecting only the dry *Dillenia* and Pine forests so common in the Thoungyeen valley. I have seen it feeding on the ground in such places with *Gecinus nigrigenys*, *Upupa longirostris*, and other birds. I shot one specimen, a female, in April, near the Meplay river, that must have had a nest somewhere, which however I failed to find, for she had a full formed but shell-less egg inside her.

671 bis.—*Urocissa magnirostris*, Blyth.

This species I have only found common in the Thoungyeen valley. Elsewhere it seemed to me scarce. Below I give a note about its breeding.

I have found three nests of this handsome Magpie—two on the bank of the Meplay choung on the 14th April 1879 and 5th March 1880, respectively, and one near Meeawuddy on the Thoungyeen river on the 19th March 1880.

The first contained three, the second four, and the third two eggs.

These are all of the same type, dead white with pale claret coloured dashes, and spots rather washed out looking, and lying chiefly at the large end. One egg has the spots thicker at the small end. They are moderately broad ovals and vary from 1.19" to 1.35" in length, and from 0.93" to 0.8" in breadth.

The nests were all alike, thick solid structures of twigs and branches, lined with finer twigs; about 8 or 9 inches in diameter, and placed invariably at the top of tall straight saplings of Teak, Pynkado (*Xylia dolabriformis*), and other trees at a height of about 15 feet from the ground.

673.—*Cissa chinensis*, Bodd.

This bird is very common in the Thoungyeen valley from the head-waters of the river to its mouth. For an account of its nidification, see S. F., Vol. V., p. 85.

674.—*Dendrocitta rufa*, Lath.

Like the former species this is very common, but it affects open jungle and cultivation clearings more than *C. chinensis* does. It is worthy of remark that I have two specimens, shot at Kaukarit on the Houndraw river on the 3rd May and 11th August, respectively, that entirely want the dirty white tippings to all but the two longest tail feathers, such as all other birds of this species which I have shot have; moreover, they are of a slightly darker shade above. They cannot how-

ever be considered more than a variety, as on the same date, off the same tree, I shot one of the ordinary coloured Magpies.

678 quat.—*Crypsirina varians*, Lath.

I have not found this species in the Thongyeen valley, and as far as I know it does not cross the Dawna range. About Maulmain, on the Attaran, Gyne, and Houndraw rivers, it is very common.

683 bis.—*Sturnopastor superciliaris*, Blyth.

Not a jungle bird at all. Common about Maulmain, and at all the larger villages in the interior. I have seen a few about Meeawuddy.

684.—*Acridotheres tristis*, Lin.

686.—*Acridotheres fuscus*, Wagl.

Both these birds are fairly common about Kaukarit, and I have seen a few about Meeawuddy and near a large Shan village at Koosaik. About Maulmain they abound.

688 bis.—*Sturnia nemoricola*, Jerd.

This is the representative of the Brahminy Maina in Tenasserim, and is fairly common all over the country. I have seen it in the Thongyeen valley.

689 sext.—*Sturnia sturnina*, Pall.

About this bird I know nothing. My only specimen, a young male, was shot out of a large flock seated on some dead trees near a cultivation clearing on the banks of the Houndraw river. It measures:—Length, 7·5; expanse, 13·0; wing, 4·1; tail, 2·0; tarsus, 1·05; bill from gape, 1·0.

Bill plumbeous blue; irides dark brown; legs and feet brownish green; claws horny.

I have not come across this bird in the Thongyeen.

691.—*Calornis chalybaeus*, Horsf.

A southern bird, but which strays up as far as the Attaran, where I shot a specimen on the 10th February 1878, near Khayasee. It was among a vast number of *Eulabes*, *Pigeons*, *Irenas*, and other birds feeding on a fig tree in fruit. I have not seen it in the Thongyeen.

693.—*Eulabes javanensis*, Osbeck.

One of the commonest and most widely spread birds in the province. The following is an account of its nidification:—

This bird lays two distinct sizes of eggs, all however of the same type and colouration. Out of holes in neighbouring trees, on the bank of the Meplay on the 13th March 1880, I took two nests, one containing three, and the other two eggs. The first lot of eggs measured respectively, 1.15" $\times$ 0.77", 1.15" $\times$ 0.80", and 1.16" $\times$ 0.79", while those in the second nest 1.30" $\times$ 0.95", and 1.27" $\times$ 0.93" respectively. All the eggs, however, are a pale blue, spotted chiefly at the larger end with light chocolate. The nests were in natural hollows in the trees and lined with grass and leaves loosely put together.

698.—*Munia rubronigra*, *Hodgs.*

This is the only *Munia* I have noticed in the Thoungyeen valley, where it is sparsely distributed wherever there is a large extent of Kine grass. On the Houndraw and Gyne rivers it is common.

710.—*Passer montanus*, *Lin.*

I observed a few of these at Meeawuddy. At Kaukarit and in Maulmain it is abundant.

723.—*Euspiza aureola*, *Pall.*

This species is a migrant through the country. This year (1880) in March a large tract of bamboos seeded near Meeawuddy, and there must have been some thousands of these birds feeding there.

771.—*Treron nipalensis*, *Hodgs.*

Not a rare bird in the Thoungyeen, but less common than *O. phayrii*.

I found several nests of this bird which breeds in the Thoungyeen forests throughout the end of February and the whole of March. My first four nests were all found in one day, and all were little platforms of straws on horizontally growing bamboos, containing each a couple of unfledged young. This was on the 3rd March. Again on the 22nd March, I got a nest similarly placed with two eggs so hard set that I failed to save them.

The only egg I got was on the 28th March, near Yok village in the Meplay district. It was placed in the usual flimsy nest in the fork of a small tree about 10 feet above the ground, and was pure white in color and perfectly fresh. I procured the female to make certain.

773 bis.—*Crocopus viridifrons*, Blyth.

I have only come across this fine green Pigeon in the Thoungyeen valley. It is not uncommon on the banks of the Meplay, where I found a nest as detailed below:—

At the place where the Hteechara choung flows into the Meplay stands a grand old *Ficus* tree, which in March is loaded with fruit and becomes the resort of Hornbills, Pigeons, Barbets, and innumerable other birds. On the 16th of the above month, I found in a small *Zizyphus* tree (*Zizyphus jujuba*), growing about twenty yards from the *Ficus*, a nest of this Pigeon containing two pure white eggs slightly set. The nest was the usual careless few twigs laid cross and across, and was not more than twelve feet from the ground. I shot the female as she flew off. The eggs measured, $1.23" \times 0.90"$ and $1.22" \times 0.81"$ respectively.

776.—*Osmotreron phayrii*, Blyth.

I have found this the commonest green Pigeon on the Thoungyeen and the higher parts of the Houndraw river. Elsewhere I have not come across it.

780.—*Carpophaga ænea*, Lin.

This common Imperial Pigeon I have seen in the north on the Yoonzaleen choung, on the Attaran, Gyne, and Houndraw rivers, but nowhere in such numbers as in July on the Salween, where, in one day, driving them backwards and forwards between a few *Ficus* trees in fruit, I managed to bag over thirty.

It is not rare in the Thoungyeen.

On the 19th March, on the road from the village of Podresakai to Meplay, I found a nest of the above Pigeon with the usual solitary egg, which proved to be hard-set. It was easily seen from below through the flimsy nest of a few sticks and straws laid cross and across a horizontally growing bamboo, where a smaller shoot had forked out from it. I shot the female as she flew off and sat on a neighbouring tree.

The egg is pure white and slightly glossy, measuring $1.8"$ by $1.32"$.

795 bis.—*Turtur tigrinus*, Tem.**797.—*Turtur humilis*, Tem.**

Both these Doves are common, the former frequenting even dense evergreen forests, the latter affecting cultivation clearings.

798.—*Chalcophaps indica*, Lin.

This also is common; in the Thoungyeen especially so. In the middle of the day it has a habit of squatting in groups on the ground at the foot of bamboo clumps.

803.—*Pavo muticus*, Lin.

During three years' constant search I have never succeeded in shooting one of these birds in Tenasserim. In the Thoungyeen they are very rare. In the Attaran I both heard and saw them, but they are so wary that I never succeeded in getting within shot.

803 *quat.*—*Polyplectrum tibetanum*, Gm.

This occurs to my knowledge in the Thoungyeen valley, for I have seen its feathers lying on the roadside, where some Karen hunter had succeeded in snaring or shooting one, but personally I have never come across it here.

In the Sinzaway reserve I shot one in April 1877.

811 *ter.*—*Euplocamus lineatus*, Vig.

This Pheasant is fairly common in the Thoungyeen jungles. I procured one specimen, a male, on the 16th October 1879 on the Hteekotaw chong, which, in the bold markings on the tail, approaches *E. crawfordi*.

812.—*Gallus ferrugineus*, Gm.

Common throughout the province wherever suitable bamboo cover occurs.

824 *ter.*—*Arboricola brunneopectus*, Tick.

I have only shot or seen this species on the east side of the Dawna range, and on its higher spurs.

The dimensions of a pair shot near Tounjah taken in the flesh were:—

Male.—Length, 10·9; expanse, 19·5; wing, 6·05; tail, 2·8; tarsus, 1·5; bill from gape, 0·92.

Bill horny; bare skin of face and throat reddish pink; irides brown; legs, feet, and claws pale pink.

Female.—Length, 10·75; expanse, 18·5; wing, 5·5; tail, 2·6; tarsus, 1·5; bill from gape, 0·92. Colors of soft parts as in the *male*.

824 *quat.*—*Arboricola chloropus*, Tick.

Besides getting a pair of these at Maulmain (*vide* S. F., Vol. VI., p. 447), I have seen this bird only in the lower hills of the Thoungyeen valley.

831.—*Excalfactoria sinensis*, *Lin.*

About Kaukarit on the Houndraw river and on the hill at Maulmain this little Quail is common in June, July, and August. In the Thoungyeen I have flushed it a few times.

834 *bis.*—*Turnix maculosa*, *Tem.*

I have only once come across this Quail, when I flushed a covey near the banks of the Meplay river on the 11th April 1878. I only succeeded in getting one, a male, which measured in the flesh :—

Length, 6·5; expanse, 12·8; wing, 3·4; tail, 1·2; tarsus, 1·03; bill from gape, 0·77.

Upper mandible, and tip of lower, horny; gape, and remainder of lower mandible, yellow; legs and feet dull yellow; irides yellowish white.

842.—*Glareola orientalis*, *Leach.*

I have only shot this species at Kaukarit. As far as I know it does not occur in the Thoungyeen valley.

845.—*Charadrius fulvus*, *Gm.*

This is very common in the cold weather both in the Thoungyeen valley, near Meeawuddy, and about Kaukarit. It leaves about the end of May. One specimen, shot 1st May 1879, has nearly the whole under surface black.

849.—*Ægialitis dubia*, *Scop.*

I have not as yet gone in for these little Plovers, the Waders, and other water-birds; but one specimen of the above species I procured at the mouth of the Thoungyeen, and I know it occurs at Kaukarit on the Houndraw river.

855 *bis.*—*Lobivanellus atronuchalis*, *Bly.*

Common throughout the Thoungyeen as elsewhere.

857.—*Hoplopterus ventralis*, *Cab.*

Common along the course of all the larger rivers, including of course the Thoungyeen, but does not ascend any of their small tributaries as far as I know.

870.—*Gallinago sthenura*, *Kühl.*

871.—*Gallinago gallinaria*, *Gm.*

I have shot both these at Kaukarit and in the Thoungyeen valley. See also S. F., Vol. VIII., p. 196.

873.—*Rhynchæa bengalensis*, *Lin.*

Numerous enough at Kaukarit on the Houndraw river, and at Maulmain; in the Thoungyeen the Painted Snipe is rather scarce.

891.—*Rhyacophila glareola*, *Lin.*

892.—*Totanus ochropus*, *Lin.*

893.—*Totanus hypoleucus*, *Lin.*

These three Sandpipers are winter visitants to the Thoungyeen valley as well as other parts of the country. Except these I have neither procured nor observed any Snippets in the Thoungyeen.

900.—*Parra indica*, *Lath.*

This handsome bird is very common in quins (*anglice* marshes) throughout the Thoungyeen valley as elsewhere.

902.—*Porphyrio poliocephalus*, *Lath.*

It is strange that in the Thoungyeen, so close to Siamese territory, I should have got the above species, and not Mr. Elliott's newly described species *edwardsi*.

907.—*Erythra phœnicura*, *Penn.*

913.—*Hypotænidia striata*, *Lin.*

In some places, as in the Attaran and near Kaukarit, on the Houndraw river, these two species abound. In the Thoungyeen valley, as far as I know, they are very scarce. I only once or twice came across them.

915.—*Leptoptilus argalus*, *Lath.*

I have seen this species close to Kaukarit, but it does not, to the best of my belief, cross over into the Thoungyeen valley.

929.—*Buphus coromandus*, *Bodd.*

I have once or twice come across small parties of this Heron herding with buffaloes in the Thoungyeen valley. On the Houndraw, Gyne, and Attaran rivers I found it common.

930.—*Ardeola grayi*, *Sykes.*

Common in the Thoungyeen valley as elsewhere.

931.—*Butorides javanica*, *Horsf.*

I have never seen this species in the Thoungyeen valley. On the Attaran it is common.

932.—*Ardetta flavicollis*, Lath.

During the rains this was common in some places in the Meplay and at Laidawgyee. I have shot it also at Kaukarit.

933.—*Ardetta cinnamomea*, Gm.

This Bittern, though it seems fairly abundant at Kaukarit, I have never yet seen, (though it probably may occur there,) in the Thoungyeen valley. See also S. F., Vol. VIII., p. 197.

951.—*Nettapus coromandelianus*, Gm.**952.—*Dendrocygna javanica*, Horsf.**

These two species occur in some of the larger quins (marshes) in the Thoungyeen valley, but never in such numbers as in other parts of the country. I have never seen any Teal or Duck, except these two species, anywhere in the Thoungyeen.

965.—*Querquedula ciria*, Lin.

A few of these I observed once in the great Yangoke river, (half marsh, half pond), near Kaukarit in November.

1007.—*Phalacrocorax pygmæus*, Pall.**1008.—*Plotus melanogaster*, Penn.**

Both these occur, sparsely distributed, throughout the Thoungyeen valley as elsewhere.

The Game Birds of India.

(Reprint from the "Asian.")

ADDENDA ET CORRIGENDA.—*Edited by* A. O. HUME.

No. 2.

DURING the last few months there has been an important addition to the Game Birds of India, in the discovery, in Eastern Assam, of *Ceriornis temmincki*, the Chinese Crimson Tragopan; the female of *Lophophorus sclateri*, the Crestless Moonal, unknown when our first volume was published, has been obtained, and I have received a few notes in regard to species included in both the first and second volumes.

Of this new information I have now to submit what the Law Commissioners would, I hope, be pleased to accept as an "orderly synthesis."

THE GREAT INDIAN BUSTARD. (Vol. I., pp. 7, *et seq.*)—

"I have seen Bustard in the Betul District between Badnur and Muttai, and once near Satna (between Jabalpur and Allahabad); in the latter instance the bird was close to the Railway when the train passed, and did not appear to mind the rattle and noise. I was surprised, for I had always imagined them to be very shy birds."

J. A. BETHAM.

THE BENGAL FLORICAN. (Vol. I., pp. 23, *et seq.*)—

To Mr. F. A. Shillingford, of the Kholassy Factory, Purneah, I am indebted for the first egg of this species that I have succeeded in procuring.

This egg is of the same type as regards texture and colouration as many of those which I possess of the Great Indian Bustard and Lesser Florican, but is intermediate in size, and conspicuously more elongated than those of either of the others. It is more of the shape of a hen's egg, but rather more elongated than this even, and decidedly more compressed towards the small end. The shell is firm and strong, smooth and compact, but has little gloss. The pore-pittings are very inconspicuous.

The ground colour is a dull pale green stone colour, and it is rather sparingly streaked and blotched with dull, rather pale brown, somewhat greyer in some spots, more olivaceous in others.

It measures 2.6 inches in length by 1.76 in breadth.

Mr. Shillingford says:—

"The Florican's egg I myself picked up in June last. The female bird was seated on it when I first saw her about five yards distant; when she rose I found one egg. There was no attempt at a nest; the egg was lying on damp mud with the few blades of grass that were growing near trodden down. Young birds have several times been caught in this district."

"The Bengal Florican is very common in the Khadir of the Ganges (right bank) in the Muzaffarnagar and Saharanpur districts, especially the former.

"In May 1871, I shot a hen Florican in the Patli Dun, on the banks of the Ramganga, many miles inside the outer range of the *quasi*-Siwalik Himalayas.

"On the 5th of February at Mahewa, close to the Jumna, in the extreme west of this, the Allahabad district, I twice put up a hen Florican (*S. bengalensis* of Jerdon); not the small Leek Florican (*S. auritus* of Jerdon) of Central India, but the

large Florican which we meet with in the grass plains of Rohilkhand and Northern Oudh. Most unfortunately I had only Quail shot in my gun when she first got up, and I only tickled her, and when I put her up the second time, she was out of shot. I could not put her up again, and next day had to leave the locality. I never heard of a Florican here, and am curious to know what you think of the occurrence. It most certainly was a *Florican*, and not a *Bustard*. I have seen hundreds and shot scores of them."

A. M. MARKHAM.

"It may be worth noting that I have seen and shot Florican in the Mymensingh district, as I see you do not mention that as a known locality. It occurs not infrequently along the skirts of the Mudhopore jungle.

The Black Partridge is common in the grass glades of the same jungle.

S. H. FASSON.

THE LARGE OR BLACK-BELLIED SAND-GROUSE. (Vol. I., pp. 47, *et seq.*)—

"The late General Mc.Master killed a bird of this species, (a male,) on the plains near Sirhpoor (? between Ahmedabad and Deesa) on the 7th May, but it may have been a chance or wounded bird, though apparently strong and quite at home. (I take the above from a note made by General Mc.Master in the margin of his Jerdon.)"

R. H. C. TUFNELL, M.S.C.

THE SPOTTED SAND-GROUSE. (Vol. I., pp. 53, *et seq.*)—

"Near Rajanpore, on the Punjab Frontier, these birds were extremely plentiful in August last, running about on the open 'pat,' or among the stunted tamarisk bushes."

R. H. C. TUFNELL, M.S.C.

THE CORONETTED SAND-GROUSE. (Vol. I., p. 57.)—

I stupidly said that I could find *nothing* recorded of the habits of this species, when in reality years ago I had put the following on record:—

"Sir William Merewether tells me that the flight and cry of *P. coronatus* are both quite different from those of all the other species. They have a curious fluttering flight, and appear often to hover in the air, especially before settling, and their cry is a twittering one."

"While at Vitakri, in Beluchistan, I procured several specimens of this Sand-Grouse, of which the following are the measurements and description:—

"Measurements of a male specimen:—Length, 11·5; wing, 7·0; tail, 3·5; tarsus, nearly 1 inch.

"Legs feathered to base of tarsus; toes bare, armed with largish scuta; hind toe minute and raised.

"Tail graduated, all feathers, except the two central, tipped white.

"Primaries brown, with inner edges light; quills whitish; and general coloration not unlike that of *arenarius* above, but neither sex has any massed black on the lower parts.

"*Male*.—*Head*.—Black stripe on each side of bill and under chin; occiput brownish grey, bordered by a line of light grey extending from the base of the bill round the eye and meeting on the nape; beneath this a broad band of yellow; above marbled grey and yellowish brown, beneath unspotted grey, inclining to fulvous on the abdomen.

"*Female*.—Upper head lighter than in the male, minutely striated with black, and bounded by a band of yellow from chin and throat round nape of neck; upper parts pale brown, minutely banded with black; breast light grey, banded darker; abdomen white, banded (in some specimens *spotted*) darker.

"The specimens, from which the description is taken, were killed in December."

R. H. C. TUFNELL, M.S.C.

THE PAINTED SAND-GROUSE. (Vol. I., pp. 59, *et seq.*)—

"As regards the occurrence of this bird in the Mysore province I can speak, from experience, of its being anything but rare on the wooded islands of the Cauvery, near Seringapatam. The largest bag I can remember making in that part of the country was thirteen birds killed near French Rocks on 17th October 1878, by Major St. John and myself. They breed in the same place."

R. H. C. TUFNELL, M.S.C.

"The country in which I have found these most abundant consists of low, flat-topped hills, such as are found in the Nerbudda valley, south of Mhow. These hill-tops have patches of black soil on them, and are covered with thin tree jungle. This year, in Khandesh, I have found these birds common on the same sort of ground, and have noticed them in the evening on

the cart tracks, where they were probably dusting themselves, as there is no grain traffic on these roads. In both places, but more especially in the Nerbudda valley, I generally got about a brace whenever I went out shooting for an hour or two. I agree with Jerdon in thinking they have crepuscular or nocturnal habits, as I have seen them flitting round when it was practically dark."

W. J. HEAVISIDE, *Captain, R.E.*

THE CLOSE-BARRED SAND-GROUSE. (Vol. I., pp. 65, *et seq.*)—

"At page 65 it was stated that this bird had not been as yet obtained in Beluchistan. It may, therefore, interest your readers to know that two specimens were procured last November on the Bhor plain in that country. And the officer who killed and gave them to me told me that he saw many more of the same species on the plain. I think I saw a small flock of these birds near the same place in the beginning of January, but could not be certain."

R. H. C. TUFNELL, *M.S.C.*

THE COMMON PEA-FOWL. (Vol. I., pp. 81, *et seq.*)—

"Hoonsoor, Mysore, 25th April.—Took a Pea-Fowl's nest containing four fresh eggs. One of my men first found it about a week ago; it then contained only one egg. This seems to be an early date for Pea-Fowl to lay in the *South*, though I see that some are said to lay in April in the *North*."

CHARLES MCINROY, *Major.*

THE EASTERN OR BURMESE PEA-FOWL. (Vol. I., pp. 93, *et seq.*)—

"The Peacock found in this, the Chittagong district, is the Eastern or Burmese Pea-Fowl, *Pavo muticus*.

"I have seen a live specimen, and have heard of small flocks at Jooykhola in Fatikchiri, the extreme north of the district, at Gurjunia and at Ramoo in the south, and at Rangunia on the Kurnafoolee, where one was shot the other day. These small parties, of four or five birds each, are the only ones I have had *khobar* of, and they seem to stick a good deal to those neighbourhoods, so that when I asked in various parts of the district if there were any Pea-Fowl about, I used to get the answer, 'There are none here, but there are some near Gurjunia, or at Ramoo, &c.,' as the case might be. I saw the place they frequent at Gurjunia; it is

a great stretch of high reed jungle and elephant grass, filling a wide valley between forest hills."

H. FASSON.

THE GREY PEACOCK-PHEASANT. (Vol. I., pp. 105, *et seq.*)—

"The Polyplectron of this district (Chitagong) is undoubtedly, as you say, *Polyplectron tibetatum*, and the *Mathura*, *Euplocamus horsfieldi*.

"They are both very common in all the heavy jungles of the district, the Polyplectron rarely to be seen or shot, but not unfrequently snared with horse-hair by the village boys—the *Mathura* often put up and shot when beating for Jungle-Fowl.

"The Polyplectron is in this district invariably called 'katmoir'; and is not known by any of the vernacular names given in your book. I do not know what 'kat' is intended to signify; 'moir' is of course 'Peacock.'"

H. FASSON.

THE MOONAL. (Vol. I., pp. 125, *et seq.*)—

"Here, in Chamba, they call the male *Nilgur*, and the female *Nulwai*."

C. H. T. MARSHALL, Major.

"I see that you are not aware of the Moonal being found out of the Himalayas, or westward of Cashmere. So you may be glad to hear that it is common in the Sufaid Koh here (Kurru, Afghanistan). Freshly-killed birds were brought in by the natives to Shalozan last winter. The natives here (Turies) all call the Moonal, *Kukur*, but I cannot say whether this is its specific name or applied to all Pheasants indiscriminately."

W. T. FAIRBROTHER, 29th P.N.I.

THE CRESTLESS MOONAL. (Vol. I., p. 135, *et seq.*)—

I am indebted to the Chief Commissioner of Assam, Sir S. C. Bayley, for a magnificent specimen of the male of this species, the first of the kind that I have been able to procure.

The specimen was skinned and stuffed by some of the Mishmis, and the manner in which it has been stuffed is peculiar. The skin having been taken off the body, a neat

slight basket has been made out of strips of slender bamboo. The basket is in the shape of a Florence flask, but the neck portion, instead of being round, is spread out into a wide fan, so as to support the tail.

Over this basket-work the skin has been neatly pulled. No other stuffing has been used, and the consequence is that, for its size, the specimen is about the lightest I ever saw.

Looking through my former description, I find that I have omitted one important point, and that is, that the basal portions of the tail feathers (completely hidden by the upper and under tail-coverts) are black, with a few imperfect narrow white bars.

The dimensions of this specimen do not differ materially from those given in the "GAME BIRDS" by me, but there is a strong spur, 0.61 in length, on each leg.

A female of this species has at last been obtained from the Mishmis, who brought it down to Sadiya, and a description and plate of it has been given in the P. Z. S.

The female differs from that of the common Moonal in having the ground colour of the whole lower back, rump, and upper tail-coverts creamy, profusely variegated with dark brown, and in having the tail feathers (which are black) broadly tipped with this same creamy colour, and crossed higher up with numerous narrow transverse zig-zaggy bars of the same colour.

The general style of coloration, too, is much more uniform, and the bird is smaller. The following is the published description of this female:—

"Description.—Head and (upper) back very rich dark umber-brown, each feather of the former with a V-shaped pale ochre mark; each of the latter has a centre line of a richer brown, finely mottled towards the margins; a broad extent of the rump and upper tail-coverts are pale ochraceous white, very finely and delicately mottled with dark brown; tail above rich black, with six or seven narrow whitish bars, and tipped with the same (the counter colouring of the male); shoulder of wing very rich dark chestnut brown; the shafts pale ochraceous; primaries rich dark umber; secondaries slightly mottled with brown; cheeks and throat dark umber, markings like those on the head; chin white; breast, abdomen, and thighs dull umber, most delicately and finely mottled with pale ochre; underside of tail black, with narrow white bars; the legs appear to have been of a pale grey, and the bill whitish."

"Wing, 11.5; tail, about 8; tarsus, 3; bill at front, 1.75."

I have not as yet, myself, seen a female.

THE CHINESE CRIMSON TRAGOPAN.

When our first volume was published, the occurrence of this species within our limits was quite unsuspected. For full particulars of this species, *vide ante*, STRAY FEATHERS, Vol. VIII., p. 201, *et seq.*

THE KOKLASS. (Vol. I., pp. 159, *et seq.*)—

"In Chamba the people call this species the *kukrola* or simply *kuk*."

C. H. T. MARSHALL, Major.

THE BLACK-BREASTED KALIJ. (Vol. I., pp. 197, *et seq.*)—

"I notice you say that you have not information of the *Mathura* Pheasant (*Euplocamus horsfieldi*) occurring in Southern Chittagong. I can speak distinctly to this, as I have seen and shot *Mathuras* on several occasions in Thanna Chukurea, near Doolooahazara. I have also twice seen them put up when beating for Jungle-Fowl in Thanna Puttea."

H. FASSON.

THE RED JUNGLE-FOWL. (Vol. I., pp. 217, *et seq.*)—

"Jungle-Fowl, which the people call *kura*, afford very fine sport here in Chittagong. The low hills which fringe the bases of the various ranges are divided by numerous narrow valleys, which have been now converted into long winding strips of paddy cultivation, while the hills themselves still remain clothed with scrub jungle and forest. The birds attracted to the cover these more or less isolated hills afford, by the rice in the intervening valleys, may be flushed, in great numbers, by coolies beating through the scrub, and afford fine shooting to sportsmen posted in the valleys, as the birds cross these, seeking new cover in the next of these low hills. They fly under these conditions very fast, and take hard hitting to bring them down."

H. FASSON.

THE GREY JUNGLE-FOWL. (Vol. I., pp. 231, *et seq.*)—

"Adverting to the remarks of Mr. Davidson in the "GAME BIRDS OF INDIA," and of Major McInroy in the "*Addenda et Corrigenda*" on the Grey Jungle-Fowl, as a bird for the table, I beg to record my experience.

"When living at Mount Aboo some years ago, I shot numerous Jungle-Fowl at the foot of the hill, in the *cold* weather, and always found them (old and young of both sexes) excellent eating, reminding one of the flavour of an English Pheasant. On turning to the account of the bird in the first volume of the *GAME BIRDS*, I was surprized to find it cried down as an article of food, and intended writing to you before; however, perhaps it is as well I delayed doing so, as my opinion now is changed from the following circumstance:—At the beginning of March, this year, I shot a pair of Jungle-Fowl (*male and female*) near Belgaum, in the afternoon, and in the evening after returning home my butler said they smelt so strong that he did not consider them fit for table. Having decided upon skinning them, I had them put upon one side till the following day, when I discovered that the strong odour, referred to by the butler, arose from the crops of the birds being charged to the muzzle with human excrement.

"This may be an exceptional case, but as food is scarce in the hot weather, I have no doubt myself that, at that season, they feed constantly upon the filth I have mentioned, so recommend those who regard the flesh as 'palatable and gamey' to satisfy themselves in future before ordering them for table, as to the source from which that 'gamey' flavour is produced.

"I may add that two Pea-Fowl, shot the same day, had their crops also bulged with the same disgusting food, and yet all of the birds were shot in a wild jungle far away from any village, and where only a few wood-cutters existed. In the cold weather and in the rains, when food is abundant, I dare say they may be fit for table, and indeed I know from experience that they are excellent eating; but in the hot weather, when their natural food is scarce, there can be no doubt, from the above facts, that they are the foulest of feeders, as also are the Grey and Black Partridges, some of the Button-Quails, and numerous other species of so-called Game Birds that I could mention."

E. A. BUTLER, *Captain, H. M.'s 3rd Regt.*

THE PAINTED SPUR-FOWL. (Vol. I., pp. 255, *et seq.*)—

"I have shot the Painted Spur-Fowl in the wooded rocky hills in the south of Allahabad. They are fairly common there."

A. M. MARKHAM, C.S.

"I have shot the Painted Spur-Fowl at Rhotas, a place 30 or 40 miles up the Sone from Dehree, where the grand trunk road

crosses that river. It is common in the hills on the Gya and Shahabad sides of the river."

W. FORSYTH.

THE HIMALAYAN SNOW-COCK. (Vol. I., pp. 268, *et seq.*)—

"Here, in Chamba, they call the Snow-Cock *Galound*."

C. H. T. MARSHALL, *Major*.

Lieutenant Fairbrother, of the 29th P. N. I., writing from Kurrum, 29th June 1880, says:—"A party which ascended the highest peak (Seetaram, 15,000 feet) a week ago, came across a brood of Snow-Cock, and captured all the chicks (nine I think), but later released them. The parents were not obtained, though fired at with a small rifle, the party having no gun." As no specimens were preserved, we cannot even yet be quite *positive* what the species is that inhabits the Safaid Koh, but there is little doubt that it is the same as the Himalayan one.

"It may be interesting to your readers to know that, in 1875, I myself shot the Himalayan Snow-Cock, about 13,000 feet above sea level, above the Neelni Nulla in Cashmere. The best description of the place, where I actually shot these birds, will be to say that I found them on high ridges above the Upper Trisangum Nulla, about four easy marches from Bundypur, on the Wuller Lake. I myself only found them in this particular place, but I have no doubt that there are plenty of them scattered over the district surrounding Gurais and Tilail; subject to the condition they would not be found lower down than about 13,000 feet at any rate prior to the end of September.

"Above this altitude I believe they occur throughout the higher spurs of the Haramook mountain, &c.

"Where I shot the birds I could have killed a good many as there was a large pack thereabouts, and *they were certainly the tamest game birds I ever came across*. The largest of the two I shot was a male; it weighed 8lbs., and measured over 30 inches in length, and 44 in expanse. The other was a female not very much smaller, but wanting the blunt spurs. What struck me particularly about these birds was their tameness and singularly musical call. When walking they carry their tails like an ordinary hen."

A. C. BRUCE, R.E.

THE PAINTED PARTRIDGE OR SOUTHERN FRANCOLIN. (Vol. II., pp. 19, *et seq.*)—

Mr. J. G. Horsfall has kindly sent me a specimen of the Partridge found in parts of the upland taluks of the Masulipatam district, and this proves to be No. 819, *Francolinus pictus*, the Painted Partridge or Southern Francolin.

THE GREY PARTRIDGE. (Vol. II., pp. 51, *et seq.*)—

"This despised bird is common in Shakawattee and Bikanir, and appears to me to be very good eating there. The flesh was more tender and juicy than usual, owing, I believe, to their feeding on white-ants : these insects are easily got at in that sandy country, as they work very much on the surface of the ground."

W. T. HEAVYSIDE, *Captain, R.E.*

THE BLUE-BREASTED OR PAINTED QUAIL. (Vol. II., pp. 161, *et seq.*)—

Mr. Laird writes to say that he had confounded two species, and that the birds he got ten miles south of Belgaum prove to have been the painted *Bush Quail*, and not this present species.

At the same time I notice that Jerdon says that he recorded one specimen in his catalogue from Belgaum. So that possibly a straggler may occur in this district occasionally, though hitherto neither Mr. Laird nor Captain Butler (who first drew attention to the matter) have met with it there.

"With reference to the remarks in Volume II of "THE GAME BIRDS," regarding the distribution of *Excalfactoria chinensis*, I write to say that in December last I shot a pair of this species, near Goodavancherrie, Chingleput district, some 20 miles from Madras. I was shooting Snipe at the time, and got the cock, but lost the female amongst the long grass."

F. BIDIE, *Central Museum, Madras.*

THE BURMO-MALAYAN BUTTON-QUAIL. (Vol. II., pp. 183, *et seq.*)—

To Mr. H. Fasson, I am indebted for a fine specimen of *Turnix maculosa*. The Burmo-Malayan Button-Quail, shot on the 13th December, at Jooykhola, Thanna Fatikchiri, district Chittagong.

I hope those correspondents, whose remarks I have above quoted, will accept this as an acknowledgment of their contributions. Generally I venture to hope that those who send me information will be satisfied with seeing their facts duly recorded under their own names in these papers, and will not interpret the non-receipt of a separate private acknowledgment as any indication of a want of gratitude on my part for the assistance they have rendered. The fact simply is, that where communications are plain and to the point, and I have no further questions to put, I cannot always find time to write merely to acknowledge their receipt.

Once for all let me say how thankful I am to every one who contributes even the smallest scrap of new and reliable information.

In conclusion, it is with great regret that I have to announce that, again owing to circumstances beyond our control, the appearance of the third volume is delayed. It may be the 1st of October before it issues. It is all written; the plates are all in India, and half of the text is printed, but there are no covers and no title page.

A. O. HUME.

A few remarks on *Schœnicola platyura*.

BY W. EDWIN BROOKS.

THE Editor was kind enough to lend me his solitary example of this rare and obscure bird, which I carefully examined. I quite agree with him that it has very much the appearance of a large *Dumeticola*, as we have hitherto used this term, but there are one or two points in which it differs from *Dumeticola*, which I shall presently refer to; and this being the case, I think the generic term *Schœnicola* should be retained solely for *S. platyura*, unless other species of the same genus should be discovered.

The distinctive points worthy of notice in this bird are—

1.—A rather strong and well-curved bill, differing considerably from the rather straight slender one of *Dumeticola*, which is almost like that of *Locustella*. In being much compressed at the sides, the bill of *Schœnicola* is not unlike that of *Dumeticola*, i.e., when it is looked upon from above.

2.—There are a pair of very strong curved rictal bristles at each side of the gape. These strong bristles won't agree with *Dumeticola*.

3.—The tail is excessively graduated, the outer feathers being rather more than one inch short of the central ones; and the tail-feathers generally are of a peculiar broad or squarish shape at the ends instead of being oval or slightly lanceolate as in *Dumeticola*.

It is worthy of note that there are really twelve feathers in the tail, but the outer pair are only seen when the long under tail-coverts are lifted up, which accounts for the bird having been originally described as having only ten.

4.—The feathers on the forehead are stiff and strong, which is a characteristic not possessed by *Dumeticola*.

Schænicola is not unlike *Bradyptetus*, but the latter has a slender straight bill, much compressed at the sides, and the rictal bristles are very fine and hardly observable; they are also straight. The tail of *Bradyptetus*, as far as I can ascertain from the specimens I have examined, has only *ten* feathers. It is not so strongly graduated as in *Schænicola*, the outer feathers being about half an inch short of the tip. The wing of *Bradyptetus* is very close to that of *Schænicola*, and in the full soft body plumage, and the broad ample tail, the two genera are much alike, as indeed, they also are to *Dumeticola*.

A remarkable peculiarity in *S. platyura* is the very long slender foot, compared with the size of the bird. This long foot, with such slender toes and small claws, is, I think, somewhat distinctive of *Schænicola*.

Looked at in a good light, the whole back and upper tail-coverts are cross rayed, the bars being at narrower intervals than on the tail. The upper surface of the bird is quite as red, and of a richer tone than in *Tribura luteoventris*; below it is quite as red a bird, but with a less amount of central albescent or fulvous white than in that species. This central whitish patch is interrupted by the light reddish brown across the breast. The lower tail-coverts are pale, slightly reddish brown, and have much lighter edges. The central ones are about .85 short of the tip of the tail.

There is the usual small sylvine notch at end of the upper mandible.

The Editor has shown that *Dumeticola* was founded upon an *Acrocephalus*, and as there is really no structural difference between *Tribura* and the birds we have hitherto termed *Dumeticola*, he proposes using the term *Tribura* for the whole lot. I think this decision is a very correct one, and much better than inventing a new generic term. There is a rather stronger development of first primary in *Tribura*, and it is said never to be spotted, but these differences are not important. We have both spotted and unspotted *Turdus*, and one *Locustella* is

spotted below, while another is quite plain. In some of the *Phylloscopi* the first primary is very small, while in others it is largely developed. *Tribura* will, therefore, do very well for all the group, whether spotted or unspotted.

I forgot to note in the proper place that the cross bars on the under side of the tail of *S. platyura* are most remarkable. They are exceedingly bold and of a blackish brown, far more distinct than the bars on upper surface of tail. The tail feathers are not pale tipped as in some *Locustellas*.

[*Note by the Editor.*—On the whole I have come to the conclusion that *Schænicola platyura* may reasonably be retained in a genus of its own. It is very close to the group of birds that we formerly called *Dumeticola*, and to which I later extended the term *Schænicola*, but still there is a difference in the bill (a slight one, but still appreciable), and a clear difference in the strong rictal bristles and long foot and ample much graduated tail. *Tribura*, therefore, appears to me now to be the proper term to apply to the *olim*, *Dumeticola* group, as most certainly whatever may be said about *Schænicola platyura* there is no valid generic distinction between *Dumeticola affinis* and *Tribura luteoventris*.

The following additional information about *Schænicola platyura*, received recently (*in lit.*) from Mr. Frank Bourdillon, will be interesting to all who are concerned with this troublesome group:—

“Last week, April 17th, I made an expedition to the Cola-thoorpolay Patnas” (you will possibly be able to recall the name) in search of more *Schænicolas*. I was only there two days, and on the second I was fortunate enough to bag three specimens. They are funny little birds and difficult to collect (at least without blowing them to bits), for they skulk in long grass and brushwood at the edges of forest, and only appear for a second or two at the very muzzle of one’s gun.

“I found that very early in the morning, and late in the evening, when there was barely enough light to see them at 20 yards, they were less shy, and would take short flights or sit warbling on a bare rock, somewhat as *Corydalla rufula*, does in the middle of the day. Their song is a pleasing, but very feeble warble, which also contains one or two harsh notes. In flight they appear much overweighted by their broad and long tails, and the way in which they hurl themselves out of a tuft of grass at one’s feet to drop suddenly into another just before one can bring the gun to bear on them is quite annoying. In covert their comparatively long and strong legs enable them to run and creep about with great activity.

"The following are the *measurements* recorded in the flesh of the three *Schœnicolas* I secured :—

(a).—*Male*, (breeding).—Length, 6·19; extent, 8·06; wing, 2·62; tail, 2·5; tarsus, 0·84; bill, 0·6; at front, 0·43.

(b).—*Male*, (breeding).—Length, 6·75; extent, 8·25; wing, 2·62; tail, 2·5; tarsus, 0·81; bill, 0·62; at front, 0·43.

(c).—*Female*, (not breeding).—Length, 6·19; extent, 8·06; wing, 2·5; tail, 2·43; tarsus, 0·87; bill, 0·6; at front, 0·47.

"Irides pale clay brown; bill above plumbeous, below pale horny white; legs, feet, and claws pale brownish.

"Although some of the birds were obviously breeding, I unfortunately failed to discover a nest."]

Notes on the Nidification of certain species in the neighbourhood of Chaman, S. Afghanistan.

BY H. E. BARNES.

CHAMAN, as most of my readers already know, is situated on the Kandahar side, and at the base of a range of mountains known as the Khoja Amran, and has been selected as a post to guard the entrance to the Khojak Pass between Quetta and Kandahar. The fort is situated within half a mile of, and nearly opposite to, the entrance to this pass;—in fact from the fort itself the numerous windings of the ascent dotted here and there with strings of camels laden with Commissariat supplies, &c., are visible to a great distance. East and south-east of Chaman the range is continued, and to the north lies an immense sandy plain covered with stunted shrubs and southernwood (*Artermsia Sp.*), and, here and there, where rocks occur, boasting a sprinkling of puny trees known as the "Wun," a species of *Pistacia* which covers the mountain heights and fills the innumerable ravines of the Amran range growing, in these situations, to a height of nearly thirty feet.

The plain referred to is singularly level, and is only broken here and there, at rare intervals, by a few low rocks or sandy undulating ridges and dry water-courses. This semi-desert extends for nearly seventeen miles, and except the burying beetle, which infests the plains, a lizard which is as numerous, a few hares, foxes, chikara deer, and *Corvus lawrencii*, the Neophron, *Pterocles arenarius et coronatus* and *Galerida cristata*, the plain may be said to be devoid of animal life, while on the mountain ranges, which rise nearly perpendicularly in some places, and in others at a considerable angle, the presence of Magpies, Lammergeyers, Kestrels, Chukor, and Seesee, &c.,

makes one forget the perils and dangers of a ramble, and the prohibitive order which forbids British residents to stray outside the camp.

On my arrival here during winter, I was much struck with the paucity of bird-life, although in Beloochistan, outside of and in the Bolan, birds were not uncommon, especially those species found also in Sind.

Amongst the hills in the vicinity of Chaman, the only species that I met with during November were—*Caccabis chukar*, *Ammoperdix bonhamsi*, *Pica rustica*, and Wagtails of several species; while on the plains, *Galerida cristata*, *Passer montanus*, *Corvus lawrencii*, the Lammergeyer, *Pterocles arenarius* and *Columba livia* were also common.

About the latter end of January we experienced a succession of severe snow-storms, and many birds were in consequence driven down from the hills, amongst which I noticed the Indian Cuckoo (*Pal. casiotis*) in large flocks, *Turdus atrogularis*, evidently in course of migration to a more congenial clime, as well as *Hirundo rustica* in small parties, and *Saxicola deserti*.

As the weather became warmer, the Scavenger Vulture (*Neophron percnopterus*) appeared in small numbers, also a *Milvus*, which I cannot myself determine, but which I am confident is neither *govinda* nor *major* vel *melanotis*. For *affinis* it is much too large; it does not bear the white wing patch said to be so conspicuous in *major*, nor is the wing mottled as in *govinda*.

The plumage of the lower parts is of a dark rufous color, each feather having a dark central streak; the wing lining is similar, and so are the thigh coverts and flanks; the outer webs of quills are nearly black; the inner web of a greyish brown, transversely barred darker; scapulars edged with rufous.

The crown of the head is yellowish brown, with dark central streaks to each feather.

These characteristics are of course not present in any of the species of *Milvinae* known in India.

In April, Hawks and Falcons began to show themselves, and the most numerous were—*Lithofalco æsalon*, *Cerchneis tinnunculus* and *Accipter nisus*. Marsh Harriers, too, arrived about the same time, and *Circus swainsoni* and *cyaneus* were also obtained by myself and friends in our rambles over and across the Khojak. *Saxicola picata* et *isabellina* were also common. *Lanius lahtora*, *erythronotus* et *vittatus* were the only Shrikes seen. *Cyanecula suecica*, with *Budytes melanocephala*, *citreola* et *calcaratus* were found in some numbers along the streams.

The following notes are most incomplete I feel; but my leisure is too limited to permit my doing justice to the subject

at present, and I cannot pretend now to do more than refer briefly to those thirty-one species that I know to breed here.

1.—*Vultur monachus*, *Lin.*

Is fairly common and breeds on the Khojak. A full fledged young one was brought in about the end of May, and was stated to have been taken from a nest on the edge of a cliff at Morgha Chaman, about 16 miles north-east from here.

Unfortunately it only lived for a month.

6 bis.—*Neophron percnopterus*,* *Linn.*

The Scavenger Vulture is common, but I did not observe it before the end of February.

It generally builds in trees, and by the end of April the young are hatched.

7.—*Gypaëtus barbatus*, *Lin.*

The eggs I have of the Lammergeyer are not, I regret to say, well authenticated; but I have myself no doubt that they belong to this species. They were brought in to me by friendly Afghans, who said that only a single egg was found in each nest, and described the eyries as being in almost inaccessible places on the highest peaks of the Khojak. The eyries being at a considerable distance from here, I was unable, owing to the disturbed state of the country, to go personally and see for myself. In fact, camp orders prevented my wandering so far beyond our limits.

7.—*Cerchneis tinnunculus*, *Lin.*

The Lark Kestrel is very common, but I did not observe it until March. The first eggs found were taken from a deserted Magpie's nest (*P. rustica*). They resemble those of *Falco chiquera*, of which I have taken many near Deesa.

The eggs, of which I possess a large series, average, 1.4 by 1.2.

42.—*Haliaëtus leucoryphus*, *Pall.*

An egg, supposed to belong to this species, was brought to me on the 18th March. The nest was a huge structure composed of sticks, and was unlined.

It is oval in shape, pure white, and measures 3" by 2.28."

* Specimens received from Quetta and Kandahar show that it is this species and not *N. ginglymanus* that occurs there.—*Ed. S., F.*

? 56 quat.—*Milvus migrans*, Bodd.

The Kite, which has so puzzled me, *vide* remarks above, has been identified by Mr. Murray as *M. migrans*. I cannot of course vouch for the correctness of this identification. This species, whatever its real name, breeds towards the latter end of March and the commencement of April, and neither eggs nor nests can be distinguished from those of its relative *M. govinda*.

The eggs measure about 2.2" by 1.75."

76 ter.—*Carine bactriana*, Hutt.

I found two young birds of a species which I identify as above on the 3rd June, in a hole in a tree, about nine feet from the ground. I cannot be certain of the identification, but I shot the parent birds, and they will be identified later by the Editor.

82.—*Hirundo rustica*, Lin.

The Chimney Swallow is not uncommon; still they do not occur in such numbers as they do in Kandahar, where almost every out-house contains nests. They breed in May. I found two nests affixed to the roof of a "*Landy*," used as a native hospital. One contained three young birds, and the other three eggs, spotted not unlike those of *Hirundo filifera*; one egg was pure white.

They measure .72 by .5.

111 bis.—*Caprimulgus unwini*, Hume.

Not uncommon, and breeds in May, as I obtained a young bird barely able to fly about the end of that month.

121.—*Merops apiaster*, Lin.

The European Bee-eater is very common, especially on the hills about the end of April. I have not been able to find a nest, but I feel certain they breed somewhere about the hills. On dissecting several females at the end of May, I found the ovaries well developed, and containing eggs larger than peas. This, coupled with the fact that they are still common (July), convinces me that the birds breed here; but up to the present time not a single nest has been found, nor are any holes seen anywhere in the vicinity, where the birds appear most numerous.

? 158.—*Picus scindianus*, Gould.

The Sind Woodpecker is very common and breeds during April and May. I have not succeeded in obtaining eggs, but I

found a nest containing three young birds on the 6th May—one of which I kept and have succeeded in rearing.

248 quint.—*Sitta neumayeri*, Mich.

This Nuthatch is very common on the hills. It appears to choose very different localities to build in. In some instances a hole in the face of a rock is selected, and this it lines with agglutinated mud and resin, continuing the lining case until it projects in the shape of a cone to fully eight inches. It seems fond of decorating its little palace with feathers to a distance of two or even three feet, and is thus a conspicuous object; but most nests are found in holes in trees, and even here feathers are stuck into crevices all around. They are usually well lined with camel's hair.

They breed in March and April. The eggs are usually four in number (I have sometimes found five), are oval in shape, more or less glossy white, and more or less densely or sparsely (generally most densely towards the large end) spotted and blotched, with varying shades of chestnut to reddish brown, more or less intermingled with pale purple and occasionally purplish grey. Some eggs are very richly marked. Some are almost pure white. They average 0·87 by 0·57.

254.—*Upupa epops*, Lin.

The European Hoopoe arrives during March, and commences to breed soon after. I have been very unfortunate in procuring eggs, although I have many times found young birds. All the nests I have examined have been in holes in trees, slightly cleared out by the birds, and all having an offensive smell.

The only egg I have was obtained in a peculiar manner, but in such a way as to leave no doubt of its identity. An Afghan found a nest containing three eggs, which he accidentally broke; he caught the parent bird which, strange to say, laid another egg in his hand. I confined the bird in a cage, hoping she would lay again, but during the night she escaped. The egg is a very pale skim milk-blue, nearly white, rather rough and chalky in texture and oval in shape.

256.—*Lanius lahtora*, Sykes.

The Grey-Backed Shrike is extremely common, breeding about the end of March, in much the same situations as in India. I have collected many specimens, and failed to detect any difference between the Indian species and that found here. Of a large series, the average of 12 is ·97 by ·75.

278.—*Buchanga atra*, *Herm.*

The King Crow is very uncommon. I only saw one specimen—a male. Its testes were abnormally large, showing that it was breeding. I searched for its mate, but without success. Possibly further in the hills they are more common.

489.—*Saxicola picatus*, *Blyth.*

The Pied Stone-Chat arrives early in March. The first nest was found on the 20th of that month; it was built in a hole in a tree, and was composed of dry grass, lined with feathers, and contained four eggs of a very delicate greenish blue tint, absolutely speckled with rusty brown or pale brownish red at the larger end, where the markings form an irregular zone.* A few specks of the same colour are scattered over the rest of the surface of the egg. The average of 12 eggs is $\cdot 81$ by $\cdot 56$.

491.—*Saxicola isabellinus*, *Rüpp.*

The Desert Stone-Chat, if not a permanent resident, at least arrives much earlier than its congeners.

I have not been able to find a nest, although I have spent many an hour searching for them. That they do breed here is quite certain, as an Afghan brought in a young one for sale about the end of March, but I could not extract any information from him; he could not talk Hindustani, and my Pushtoo is very weak.

645.—*Parus nipalensis*, *Hodgs.*

This Tit is very common, and remains with us all the year round. I found a nest on the 10th April, built in a hole in a tree; the nest was composed entirely of sheep's wool; it contained three incubated eggs, white, with light red blotches, forming a zone at the larger end. They measured $\cdot 69$ by $\cdot 48$.

550 bis.—*Scotocerca inquieta*, *Rüpp.*

These birds are quite common about here on the plains, but I have not observed them on the hills. They commence breeding towards the end of March; the nest is globular in shape, not unlike that of *Franklinia buchanani*, but somewhat larger, built invariably in stunted bushes about two feet from the ground. It is well lined with feathers and fine grass, the outer portion being composed of fibres and coarse grass. The normal number of eggs is six. I have found less, but never more, and whenever a lesser number has been taken they always proved to be fresh laid.

* I have taken eggs of *Cercomela fusca* at Aboo, very similar to these.—H. E. B.

The eggs are oval in shape, white, with a pinkish tinge when fresh, very minutely spotted and speckled with light red, most densely at the larger end. The average of twelve eggs is .62 by .43.

668 bis.—*Pica rustica*, Scop.

The Magpie is not uncommon in the hills, wherever there are trees, but it seldom descends to the plains. They commence breeding in March, in which month and April I have examined scores of nests, which in every case were built in the "Wun," a species of *Pistacia*—the only tree found hereabouts. A stout fork near the top is usually selected.

The nest is shallow and cup-shaped, with a superstructure of twigs, forming a canopy over the egg cavity. The eggs, generally five in number, are of the usual corvine green, blotched, spotted, and streaked, as a rule, most densely about the large end with umber mingled with sepia brown. The average of thirty eggs is 1.25 by .97.

706.—*Passer domesticus*, Lin.

The Common Sparrow is ubiquitous in the summer; in winter not one is to be seen.

I shall merely note the fact that it breeds here.

710.—*Passer montanus*, Lin.

The Tree Sparrow is a resident, and occurs, especially in the cold weather, in great numbers; but as the weather gets warmer it is not noticed so often, retiring probably further into the hills to breed. I have only succeeded in obtaining a single egg, and this was taken from a hole in a tree. This egg does not differ much from that of *Passer domesticus*.

716.—*Emberiza buchanani*, Blyth.

Is very common, appearing in the plains about Maroh, but they retire to the hills in May, when I believe they breed, although I have been unable to verify the fact. But the testes of the males and ovaries of the females are much enlarged at this season. I found an empty nest at the foot of a stunted bush, which I believe to belong to this species.

This was on the Khojak.

784.—*Palumbus casiotis*, Bp.

I did not see the Indian Cushat until midwinter, when they appeared in vast flocks, and continued abundant until the commencement of June, when they retired to the hills and commenced breeding. The eggs are small for the size of the

bird, only measuring 1.53 by 1.13. They are pure white, without the slightest tint of ivory, and are fairly glossy.

794.—*Turtur senegalensis*, Lin.

The Little Brown Dove is not very common during summer, and between October and March I did not see a single specimen. I found them breeding in May.

796.—*Turtur risorius*, Lin.

The Common Ring Dove arrives about the second week in March, and breeds during May, at which time they literally swarm.

799.—*Pterocles arenarius*, Pall.

The Large Sand Grouse is very common. I found them breeding in May. The eggs, three in number, are, as regards shape and color, exact counterparts of those of *Pterocles exustus*, but are of course much larger. They average 1.8 by 1.35.

801.—*Pterocles coronatus*, Licht.

The Coronetted Sand Grouse is not very common. I have only seen a single pair, which I shot, and from the spot where I flushed them I found three eggs, so hard set as to be unfit for specimens. They measured 1.5 by 1.06.

820.—*Caccabis chukar*, Gray.

The Chukor is very common on the hills, and in the nullahs at their base, but is rarely seen far out on to the plains. They commence to breed about the end of March, or early in April. There is no nest; the eggs are deposited on the ground in a depression under a bush. I have never found more than eight eggs, but the Afghans assert that they often lay 15 or 20. The eggs are somewhat peg-topped shaped, of a pale stony color, speckled and blotched with lavender brown. They average 1.61 by 1.4.

821.—*Ammoperdix bonhami*, Gray.

The Seesee is not uncommon, but is not so often met with as the Chukor. It breeds at the same time and in precisely similar localities.

The eggs are not unlike those of *O. pondiceriana*, but scarcely as large. The average of 12 eggs is 1.36 by 1.1.

855.—*Lobivanellus indicus*, Bodd.

The Red Wattled Lapwing is rare owing to the scarcity of water. I have only noted two pairs, and have found but one nest, similar in all respects to those found in India; it contained four eggs, hard set.

This was on the 10th May.

This is but a short list. Doubtless many other species would be found to breed here, were the neighbourhood to be thoroughly explored; but it must be remembered that such collections as I have succeeded in making were got together under adverse conditions. That I worked in a time of war, when my legitimate and far more important duties left me but scant leisure, and when my nest-hunting rambles were rigidly limited by necessary camp regulations.

On a new species of *Tribura* (*Dumeticola*).

BY EUGENE W. OATES.

And note on the same,

BY W. EDWIN BROOKS.

***Dumeticola intermedia*, Sp. Nov.**

Description, Male.—Whole upper plumage olive-brown, tinged with rufescent, and more strongly so on crown of head, wings, and tail; tail indistinctly cross rayed in most examples, and very conspicuously so in some; a distinct greyish white supercilium; chin, throat, and centre of abdomen dull white; breast pale ochraceous brown, becoming darker on the flanks; under tail-coverts pale brownish, broadly edged and tipped with dull white; under wing-coverts bright pale brownish white; tail feathers, when perfect, with light greyish brown tips, not abrupt and well defined as in *Locustella certhiola*, but blending into the colour of the tail.

Five other examples, all males, agree with the above description. Two other males differ only in having a few small, faint and rather cloudy brown spots on the lower throat; a ninth male has similar throat spots, but the whole lower plumage is suffused with dull buffy yellow; the supercilium is also of this colour.

The tenth, a *female*, has chin, throat, breast, and centre of abdomen, a uniform dull buffy yellow; supercilium, cheeks,

and sides of neck, the same, but more dusky; sides of breast and flanks yellowish, but washed with dusky; in other respects like the males; all have the cheeks slightly mottled with pale brown. This is the case with all Reed Warblers and Locustelles.

The total length of one male was 5.55; expanse, 6.9; tail, 2.4; wing, 2.18; tarsus, .78; bill from gape, .65. The tail is much graduated, and the feathers are shaped as in *Locustella*. The outer pair fall short of the tips of the central pair by 1.0, the next pairs successively by .6, .4, .2, and .1. The first primary is .5 long, with the inner web slightly sinuate towards the end; the third primary appears slightly the longest, the fourth and fifth almost equal to it, but the latter a shade the shortest; the second .3, and the sixth .1 short of end of wing; the second is equal to the eighth or ninth.

My friend Mr. Brooks, to whom I submitted my specimens, assures me that *intermedia* differs from all the allied species with which he is acquainted, and urges its description as new. He has kindly promised to add a note to this paper stating in what respects the new bird differs from some others of the genus.

This bird frequents scrub jungle on the banks of the Pegu river, two miles above the Canal Lock. It was the only locality where it was met with, and ten specimens were shot between the 22nd December and 23rd February, after which date no more were procured, though careful search was made for them. They run on the ground, and consort with *Locustella lanceolata*.

The habits of both appear to be very similar. Both have a somewhat similar low note, by which alone they can be found. They run on the ground between the tufts of grass and low bushes, and are seen with the greatest difficulty.

Note by W. E. Brooks.

The colour of the upper surface is somewhat like that of *Acrocephalus dumetorum*, but much more inclined to reddish; but it is not so rufous as in *Acrocephalus ugricolus*. But for the Locustelle-like, pale-tipped, lower tail-coverts, this bird might almost have been taken for a Reed Warbler of the *phragmitis* type; but it has a very much larger first primary than that species. This first, or bastard primary, is, however, much of the same size and shape as that of *Acrocephalus bistrigiceps*; the bill is also similar in form to that of *bistrigiceps*, but longer and more compressed at the sides, like *Locustella* and *Dumeticola*. The form of the wing is that of *Dumeticola*, but with a slightly smaller first primary. This

first primary is much too large for *Locustella*, and we have not the streaked *Locustella* upper plumage. As therefore style of coloration, and especially the bordered lower tail-coverts, the shape of the bill, the legs and feet, the wing and tail, and the long upper and lower tail-coverts, all agree with *Dumeticola*, I think it should stand in that genus. Mr. Hume has shewn that the type of the genus is *strepera*, which is a true *Acrocephalus*, and he proposes to place all the *Dumeticola* group in *Schœnicola*. I think this is a mistake, for the following reason: *Schœnicola platyura*, Jerdon, is said to be a *Timaline* bird with only *ten* tail feathers,* and its bill is described as rather stout. I have not seen it myself, but only go by a sketch of Dr. Jerdon's, his description and Mr. Hume's in STRAY FEATHERS, Vol. VII., pp. 37, 38. If *Schœnicola platyura* be a *Timaline* bird with only ten tail feathers, our birds with *twelve*, and very close to *Locustella* and *Acrocephalus*, cannot be placed in its genus. For my own part, I think a new generic term is wanted instead of *Dumeticola*.

I measured Mr. Oates's ten examples, and as a few measurements may be useful I give them:—

No.	Sex.	Wing.	Tail.	Bill at Front.	Tarsus.	REMARKS.
1	Male ...	2.15	2.30	.45	.75	
2	" ...	2.17	2.22	.43	.75	
3	" ...	2.12	2.30	.45	.75	
4	" ...	2.02	2.20	.43	.75	
5	" ...	2.05	2.20	.43	.75	Slightly yellow below.
6	Female.	2.14	2.17	.43	.75	Yellow below.
7	Male...	2.04	2.12	.45	.75	[NOTE.—This is a buffy yellow
8	" ...	2.10	2.15	.45	.75	like that of <i>L. hendersoni</i> in
9	" ...	2.08	2.15	.43	.75	fresh moulted plumage, and not
10	" ...	2.08	2.08	.45	.75	the reddish ochraceous yellow of <i>Tribura luteoventris</i> .]

In colour of upper surface this bird is of a reddish brown, slightly tinged with olive on the back. It is not nearly such a dark rufous brown as *Dumeticola affinis*, but as before observed, somewhat resembles the upper surface colour of *Acrocephalus dumetorum*, only more rufous, especially on wings, tail, and crown of head. *D. major* is of a much greyer brown than the new bird. It is in fact an intermediate bird, both as regards size and colour, between *major* and *affinis*; and hence its name. The bill is about as much longer than that of *affinis* as it is shorter than that of *major*; in other respects *major*

* This is a mistake. I have since had an opportunity of examining Mr. Hume's specimen of this species, and have recorded a separate note on it, *vide supra* pp. 209-11. —W. E. B.

and *intermedia* appear to be much of the same size. As in the case of *major*, it is comparatively a short winged bird with reference to its total length. Although one total length is on record, I think this species will, as a rule, average fully 6 inches. The lower surface is very similar to that of *major*, and considerably lighter than in *affinis*. As in *affinis* and *major*, the tail is cross-rayed, but more conspicuously so than in those two. The sides of the head, including the cheeks, are very like those of *major*, but more tinged with rufous. Some examples have a few minute cloudy pale brown spots on the upper breast, similar to those of *major*, but much less conspicuous and fewer in number. The bill is more slender, compressed at sides towards tip, and straighter on culmen than in *affinis*.

This species cannot be mistaken for *D. mandellii*, which is a much closer ally of *D. affinis*, and even more decidedly rufous, approaching *D. luteoventris* (*Tribura luteoventris*).

I have endeavoured to be particular in comparative differences, as one description, apart from dimensions, would almost apply to *affinis*, *major*, *mandellii*, *luteoventris*, and *intermedia*. All are reddish brown above, greyish white below, with pale brown on sides of breast and flanks; the latter, however, very reddish in *luteoventris*. Except *luteoventris*, all are sometimes plain and sometimes spotted on the throat or upper breast. *D. major* is well distinguished by its long bill; but with regard to the others, no one would be able to identify surely any one of them by the best description that could be written. They must be seen and compared to understand them. The same remark may be made with regard to *Phylloscopus*, where I have seen the most amusing mistakes made by very careful men.

P.S.—The Editor, before publishing this note, desired to see a specimen of the new species, and on receipt of a single and not very typical example of *D. intermedia*, expressed doubts as to whether it was properly separable from *Tribura luteoventris*, of which, by the way, I had had no specimens to compare it with.

Mr. Oates, having again sent up the type and another specimen, I have carefully recompared these with Mr. Hume's series of *luteoventris*, and can now say that closely-allied as the two species undoubtedly are, the latter is always so much more rufous in tone as to be fairly separable by colour alone, apart from the fact that the bill of *intermedia* is somewhat longer, as a rule, than that of *luteoventris*.

As I rely a good deal upon the great difference of plumage, it may be well to note that all the specimens of *intermedia* were collected in the cold season, when as yet there can have been but little weathering or fading of the plumage.

The Editor considers it advisable, for the reasons stated, S. F., VII., 37, to drop the name *Dumeticola* altogether, and is further disposed, agreeing with me, to restrict the name *Schœnicola* to *platyura*, and to use the name *Tribura* for all the birds hitherto classed by me as *Dumeticola* and by him as *Schœnicola* as well as for *luteoventris*. As these birds are all really congeneric, I am inclined to agree, and the new bird should therefore stand as *Tribura intermedia*, Oates.

Note by the Editor.

I am disposed to agree with Mr. Brooks. I have only seen three specimens of *T. intermedia*, but these though structurally very close to *T. luteoventris*, appear to differ from this latter so persistently in colour, and *I think*, sex for sex, in length of bill as to be specifically separable.

We all know how birds of this class fade between the autumnal moult and the end of the breeding season; and it might occur to some that *intermedia* was only the pale, non-rufous summer plumage of *luteoventris*. There is not much more difference between them than there is between the summer or *terricolor*, and winter or *longicaudata*, plumages of *Drymæca inornata*. But then we have a good series of *T. luteoventris*, including a female shot in May off her eggs, and this summer plumage, though far less rich and deep than that of the end of October, is still *altogether* more rufous in tone than that of *intermedia* killed in January. So different, that considering the seasons at which the specimens were collected, it is impossible at present not to consider the two distinct, though very closely allied and representative species.

Another point of considerable importance is that in one or two of the brightest colored *intermedia*, the lower surfaces were yellow, but this yellow, Mr. Brooks tells me, (I have not myself seen these specimens) was the clear buffy yellow of spring *Locustella hendersoni* and *lanceolata*, and not at all the rufous or ferruginous yellow of *luteoventris*.

On the whole *luteoventris* is a bird so comparatively well known to me, and of which we have such a sufficient series, that we can say pretty certainly within what limits it normally varies; and although one can never speak certainly as to the tone of plumage which a single sickly bird may assume—and I therefore hesitated to accept *intermedia* on the faith of a single specimen, having now seen three all alike and having obtained a positive assurance that all ten specimens were alike as regards general tone—I am quite prepared to admit *Tribura intermedia* as *prima facie* a good species.

A. O. H.

Additional Note on *Alseonax cinereo-alba* or *latirostris* and *Alseonax terricolor*.

BY W. E. BROOKS.

I HAVE had an opportunity of examining the large series of these birds in my friend's, the Editor's, museum; and, although the two are very closely affined, still I think they are separable.

The following are the points of difference worthy of notice:—

1. *Cinereo-alba* has a somewhat shorter bill; it is also slightly wider at base, and generally its outline, when looked upon from above, is more bulged or slightly convex at the sides than that of *terricolor*, which latter has the sides of the bill almost straight.

2. The bill is very black above in *cinereo-alba*, and the black on the apical portion of the lower mandible is most striking, and extends about half way towards the base; this black is replaced by pale brown in *terricolor*, and this brown is of less extent.

The upper mandible of *terricolor* is generally much paler, and frequently only an ordinary rather light brown.

3. As a rule, *cinereo-alba* has a decidedly shorter tail, from one-eighth to one-quarter of an inch.

4. Upper plumage of *cinereo-alba*, as a rule, is darker and greyer. The white of lower surface purer, and the dusky across the breast is greyer in *cinereo-alba*, and browner in *terricolor*.

5. The first primary of *cinereo-alba* is shorter, as a rule, and more pointed than in *terricolor*. In both species, however, the size of this little feather is variable, and especially so in *cinereo-alba*. I would not attach so much importance to this distinction, but still it is worthy of notice and is sometimes of assistance.

I think the superior blackness of the lower mandible, and the great extent of this blackness, together with the almost invariably shorter tail in *cinereo-alba*, are very good distinctions, and might be taken as conclusive, when we only get the paler billed and longer tailed bird in the northern parts of India. I have seen one or two South Indian examples referable to *cinereo-alba*, and some of the Burmese examples appear to be referable to *terricolor*; but *terricolor* appears to be as scarce in the east as the other is rare in the west.

The young birds of each are more difficult to separate than the older birds, being similarly pale toned, the bill often included.

I have so very often observed the black bill and the short tail in eastern examples, that I cannot resist the conclusion that it is a distinct species from *terricolor*.

Further observation as to notes, nests, and eggs may throw some light on the subject.

Note by the Editor.—I cannot agree with Mr. Brooks as to there being two species. As to size and shape of bill and first primary, this is equally variable in both supposed forms. As to the supposed difference in the length of the tails, I cannot convince myself that it is real. I entirely agree that two types may be selected—one altogether greyer, with black legs and feet and black bill, and the terminal portion of the lower mandible black (*cinereo-alba*); and the other altogether browner, with brown legs and feet, and brown bill and very little brown even at the tip of the lower mandible (*terricolor*).

But I notice that every reliably typical *cinereo-alba*, in my large series from the Malay Peninsula, Tenasserim, Burma, all parts of India and Ceylon, (and I have both forms from all these localities) was killed in November, December, January, or February, and every typical *terricolor* in April to October, and I myself have no doubt whatsoever that the former is the winter, and the latter the summer plumage, though there are no doubt several puzzling February, March, and April birds, which might belong to either form, and which show that all the birds do not change their tone of plumage synchronously, and that some remain grey long after others have turned brown.

At the same time I have failed to meet with a single "*terricolor*" killed in December or January, or a single "*cinereo-alba*" killed in May, June or July.

A. O. H.

Notes.

I HAVE, lying by me, four or five large cases containing between 2,000 and 3,000 rejected skins. Probably at least 600 species are represented in this lot.

Many are *vile*, all are indifferent specimens, too indifferent to offer as exchanges (though worse have often been *sold* to me) or to retain in our museum.

Although such poor specimens, they are quite good enough to enable any one to learn the species from them, or for comparison, or indeed for purposes of study.

They are useless to me, but before throwing them away, I want to make sure that no one else who is working at ornithology would like to have them.

If any one wants skins merely to learn by (they are all correctly named), I shall be delighted to send them out of this lot, one or two specimens of every species it contains. Only I will not be at any expense about them. Those who want them must pay the cost of their transit by bullock train to the Umballa Railway station, whence they can be sent bearing by Rail to any station indicated.

If there should chance to be several applicants they will be served in the order in which their applications are received, and as the lot must contain single or at most two or three specimens only of *many* species, the later applicants will receive fewer species.

Six weeks from the date of the issue of this notice, I shall destroy all the skins not applied for up to that date.

I HASTEN to draw attention to a fact that I have only just discovered, namely that my *Suya albogularis*, shot by Davison on the east coast of Acheen, Sumatra, in January 1873 (S. F., I., 459., 1873,) is apparently identical with Dr. Anderson's *Suya superciliaris*, P. Z. S., 1871, p. 212, procured at Momien in Yunan, and subsequently obtained by us on the higher slopes of Mooleyit in Tenasserim (S. F., VI., 350).

Sumatra being outside our limits, I have never looked at my type from the day I described it, until the present time, when it occurred to me to see what the bird was like, and, directly I got it out, I recognized it. The only peculiarity of the Sumatran specimen is, that the cap is greyer, and that it entirely wants the peculiar black speckly streaky markings on the breast. It has, however, quite as strongly marked as the specimens which we identified as *superciliaris*, the grey markings on the sides of the breast, which are not alluded to in Dr. Anderson's description, and of which no trace is shown in his plate (Yunan Expeditions, pl. 51). But then in his description he tells us that the faintly-black-spotted breast is one of the distinguishing characters of the species, although no trace of this either is observable in the plate, so I attach no great importance to this omission, from both plate and description, of these rather conspicuous grey markings. The Mooleyit and Sumatran specimens are clearly identical, but it is just within the limits of possibility that they may represent a southern representative species, and may be distinguishable from *superciliaris*, but I do not think this likely, and the occurrence of this Momien bird in Mooleyit and Sumatra is interesting. Doubtless we shall later obtain it on some of the higher hills of the Malay Peninsula.

COMPARING A specimen of the true *Burnesia gracilis* collected by Canon Tristram at Genazareth, 9th March 1864, a male, with Indian specimens, of the same sex, killed at the same time of the year, of *Burnesia lepida*, I am compelled to agree with Mr. Brooks that they are just separable. In *gracilis* the bill is decidedly larger, the whole upper plumage is darker and browner, and the dark striations are slightly broader. But the most conspicuous difference is in the antepenultimate dark bars of the lateral tail feathers, which in *gracilis* are conspicuously broader, darker, and far better defined than in any of the numerous specimens of *lepida* in the museum.

Of course it is necessary in the case of all birds of this class to compare birds killed at the *same season* of the year. In the winter the bills of *lepida* are pale, brownish horny above, yellowish horny below. In the summer they are black. In the early part of the winter the entire plumage is darker and browner, and it gradually fades and grows greyer and greyer until the close of the breeding season.

Doubtless *gracilis* goes through precisely the same stages, yet the darkest and brownest November *lepida* is not by any means so dark or brown as this sixteen-year-old March specimen of *gracilis*. I cannot discover any difference in dimensions, or in wing formula, though, perhaps, the first primary of *lepida* may be a trifle larger.

I HAVE received recently two more specimens of *Abrornis jerdoni*, Brooks, from Mr. Cripps from near the eastern extremity of the valley of Assam. I have now four specimens, and entertain no doubts that it is a perfectly good and distinct species.

TO CAPTAIN BUTLER and Mr. Laird I am now indebted for specimens of *Sturnia blythi*, the validity of which species I formerly, erroneously, questioned.

The essential difference between this species and *malabarica* has never, I think, been pointed out.

It has been called the White-headed Mynah, and the whiteness of the head has always been insisted on as its distinguishing characteristic; but this, as I formerly showed, is invalid. The heads of *malabarica* vary from French grey to a white, every bit as pure as that of *blythi*; the real difference lies in the breast, and the bird should be designated the White-breasted Tree Mynah. No matter how white the head, neck, and throat may be in *malabarica*, the breast is always, in adults, more or less rufous. Some of the elongated linear lanceolate throat plumes, often pure white, may overhang

the upper part of the breast, but none of the breast feathers themselves in adult *malabarica* are ever pure white. On the other hand in *blythi*, not only in adults, but in all fairly fully plumaged birds, the whole of the breast feathers are as pure white as the throat, and it is this whiteness of the entire breast in adults which constitutes the distinguishing characteristic of the species. The white head will, no doubt, often suffice to separate *blythi*, but *malabarica* occur, though these are no doubt the exception, with just as white heads and the real diagnosis of the species consists in the white breast.

Of the distinctness of the adults there can be no doubt; nor when the whiteness of the breast is sufficiently attended to, can there be any difficulty in separating the adults of the two species. The quite young birds are, as far as I can judge, inseparable; but *malabarica*, although when it first leaves the nest it is entirely sordid white underneath, soon begins to acquire some slight tinge of colour on the breast (and abdomen,) and directly this is the case it is separable from the young of *blythi*.

But three-quarter grown specimens of *blythi* are in this respect apparently quite inseparable from some specimens of a like age of *nemoricola*, (which often have the breasts quite white,) when these, as is not unfrequently the case, especially in the females, show no white on the wing. When they show white on the wing they are of course at once separable, but when this is not the case, the birds are only to be separated by the almost entire absence, on the rump and upper tail-coverts of *blythi*, of the fulvous or rufous tinge which is almost always observable on those parts in birds of that age of *nemoricola*.

I may add that if I doubted the authenticity of this species it is due to Jerdon having put forward specific characteristics, every one of which are invalid and having ignored the only valid one. He says (*Illust. Ind. Orn.*):—

“It differs from the common Grey-headed Mynah in being larger in all its dimensions, in the colour of the head and neck, in the primaries not being tipped with grey, and in some other slight points.”

As a matter of fact, it is not larger than *malabarica*. The wings vary, as in that species, from about 3.75 to nearly 4.2, according to age and sex. In the colour of the head and neck it can be matched by many specimens of *malabarica*, and the primaries in the very finest adults, such as one kindly lent me to look at by Mr. Laird, are quite as conspicuously tipped with grey as those of *malabarica*.

The real characteristic difference of the species consists in its white breast, and it should be called, henceforth, the White-breasted Tree Mynah.

OF LATE YEARS, the range of *GOISAKIUS MELANOLOPHUS* within our limits has been found to be far more extended than was formerly supposed.

Jerdon only seems to have known of it as from Malacca, Sumatra, and Japan, but Layard had long previously reported its occurrence in Ceylon.

We procured it in the Nicobars, and later in Southern Tenasserim, and all through the Malay Peninsula. Mr. Inglis sent it to us from Cachar. We obtained it near Dibrughur, in Assam, and Mr. Cripps sent it to us from near Sibsagar in that province. Mr. Frank Bourdillon sent it to us from Southern Travancore, and now Mr. Laird has obtained it as far north in the Peninsula of India as the Belgaum District, and to him I am indebted for the oldest and most perfect specimen I have yet seen.

Probably this species is less rare, and more widely spread in zones of heavy rainfall, than has hitherto been suspected, it having escaped detection owing to its purely nocturnal habits.

MR. DRESSER, in a recent number of the *Birds of Europe*, figures and describes *Chatura caudacuta*, Latham (*ciris* of Pallas, and *nudipes* of Hodgson *apud* Dresser) with a broad white frontal band. The specimen he figures is said to have come from the Himalayas.

It is curious that out of ten very fine adults of both sexes, sexed by dissection, from various localities in the Himalayas, namely Hazara, Cashmere, Kotegurh, Darjeeling, and native Sikkim, not one single specimen shows the smallest trace of this white band; on the contrary the deep brown, glossed with green, runs down unbroken right to the bill. Moreover Hodgson, when he described his *nudipes*, made no mention of this white band.

On the other hand *every one* of my Australian specimens shows the white band distinctly.

I can discover no other constant difference between the two forms, but I suspect that the Asiatic and Australian forms are entitled to be kept distinct. Mr. Dresser will be able to ascertain whether any undoubted Himalayan examples exhibit the white frontal band.

I may notice here that *Hirundo ciris*, of Pallas, which Mr. Dresser quotes as a synonym of *caudacuta*, has nothing whatsoever to do with this bird, as is obvious from Pallas' description.

"*Corpus supra totum nigrum. Gula cinerea; caeterum subtus nigra; sed subcaudales ex albo-lutescentes, punctis nigris paucis.*"

Clearly this cannot possibly apply to any specimen, old or young, of either *caudacuta* or *nudipes*.

For the present Indian readers had better follow my list and retain our Indian birds as *nudipes*; unless some extraordinary fatality has attended my collections, all the Himalayan birds belonging to one type, and all the Australian to another, the two forms are specifically separable.

Mr. Dresser will probably be able to throw more light on the question.

I HAVE BEEN trying to make out the two species *Accipiter gularis*, and *virgatus*. I find that *gularis* occurs in the Himalayas from Sikkim to Mussoorie, and that in this species the wings of males (nine specimens) vary from 7·6 to 7·8, while in the females (eight specimens) they vary from 8·0 to 8·2

The true *virgatus* also occurs in this same region, and also further west in the Himalayas, and throughout the entire Continent and Peninsula of India and Burmah and the Malay Peninsula. The bird is variable to a degree in size, but it never approaches *gularis*. I have only 26 specimens, but in these the wings of males vary from 5·75 in a tiny bird, apparently just out of the nest, from the Andamans, to 6·9 in an old adult obtained near Darjeeling, while the wings of females vary from 7·0 in a very young Malayan specimen to 7·5 in the nearly adult ones from the same locality—7·3 being an old adult female from the Andamans.

When we come to *Accipiter stevensoni*, I feel that I am on very insecure ground, and I fear that I may not have identified the species correctly. My reason for doubting this is, that both Messrs. Gurney and Sharpe treat *stevensoni* as if it was a race of *gularis* and *virgatus*, whereas the birds that I have called *stevensoni* are distinguished at once from both these forms by the absence of the central gular stripe, which is exhibited by every single one of my forty-three examples of *gularis* and *virgatus*, old and young, and no trace of which appears in any of my supposed *stevensoni*, male, female or young, and no trace of which I may add, is shown in Mr. Gurney's original figure of this species (*Ibis*, 1863. pl. XI), or that in P. Z. S. 1878, p. 936.

In my *stevensoni* or supposed *stevensoni*, the wings vary from 6·4 to 6·7 in males, and 7·3 to 7·6 in females.

I HAVE admitted *Hypolais pallida*, Hemp. and Ehr., in our Indian list, but I am somewhat doubtful whether I have been right in this. *Pallida* does occur, I believe, in Western Beluchistan, and so would be included in our larger list, but the Sind birds, on the strength of which I admitted this

species to the Indian list, is not, I am now disposed to think, *pallida*, but rather abnormal *rama*.

Comparing *rama* and *pallida*, the two birds are very close, the differences appear to consist mainly in—

1st.—The somewhat superior size of *pallida*, the wing in which almost always exceeds 2·5, and runs to 2·65, while in *rama* the wing varies from 2·3 and rarely exceeds 2·45. This, however, is by no means a sufficient diagnosis as occasionally a *rama* has a wing of 2·5, and *pallida* (*eliaca*) a wing of less than this—still this is an indication.

2nd.—*Pallida* has a smaller first primary and a longer step between the tip of this and the tip of the second primary than in *rama*. In *rama* this step is generally less than one inch; in *pallida* it is generally over 1·1.

3rd.—A slight difference in the wing formula, the second primary in *pallida* being apparently either equal to, or a little longer or shorter than the 6th primary, while in *rama* it is equal to, or a little longer or shorter than the 8th primary.

As regards all other points—colour, bill, &c.—there is really no appreciable difference; and according to Mr. Blanford, throughout Persia and Beluchistan, intermediate forms occur which he considers hybrids. I don't believe in the hybrid theory, and I have grave doubts in my own mind as to whether *pallida* ought to be specifically separated. However, most ornithologists are agreed so to separate it.

THE RE-DISCOVERY by Mr. Scrope B. Doig, C.E., on the Eastern Narra, Sindh, of *Passer pyrrhonotus*, Blyth, which has so long been considered a doubtful bird, is a most noteworthy event, and not amongst the least important results of that gentleman's earnest and intelligent labours in the cause of ornithology.

Blyth's and Jerdon's descriptions are, to a certain extent, correct, and the bird is distinguishable at once from *Passer domesticus* by its very much smaller bill, which closely resembles that of *Passer cinnamomeus*, and by its tiny legs and feet. The only fault I have to find with the description is, that Blyth says of the male, "rump feathers dull maroon," while Jerdon says, "a chestnut stripe from the eye to the nape, the rest of the plumage maroon," whereas in the specimen sent to me there is no maroon at all, the rufous being everywhere chestnut, unicolorous with the stripe behind the ear. Except for the very small bill, legs, and feet, the bird is quite of the type of the common Sparrow, but it is everywhere very much smaller, and the following are the more conspicuous differences in the plumage. The grey of the crown is duller and more ashy; the red patch behind the eye, the mantle, and

the rump are chestnut, not the maroon of the common Sparrow, and descending right to the lower tail-coverts. There is no black and no white band on the wing. The whole of the lesser and medium wing-coverts are chestnut, but the greater secondary and tertiary coverts and tertiaries, instead of being as in the common Sparrow, so broadly edged with rufous as in the closed wing, to leave scarcely any other colour visible, are, in *pyrrhonotus*, hair brown like the quills, narrowly margined with pale fulvous or whitey brown.

The 2nd to the 6th or 7th primaries have the outer webs at the bases a dull white (not in the least fulvous), forming a distinct wing spot. On the interscapular region there are a few black streaks similar to, but less strongly marked than in, the common Sparrow. There is the usual black throat stripe, but though the specimen sent was a breeding male, this stripe only occupies one-third of the breadth of the throat, instead of at least one-half, as in the common Sparrow, and does not, as in this latter, descend on to the breast; the ear-coverts are a grey, with a dusky line dividing them from the chestnut of the side of the posterior part of the head. With these exceptions the plumage of the male does not differ from that of the common Sparrow, but the total length cannot have exceeded 4.8 against 6.5 in the common Sparrow; the wing is only 2.6 against 3.0 to 3.2 in the common Sparrow; the tarsus, very slender, is 0.65 against, say, 0.75 to 0.8 in the common Sparrow, and the mid-toe and claw about 0.6 against 0.8 in *domesticus*; bill at front from margin of feathers 0.4, and therefore very little shorter than that of the common Sparrow, but very much more slender.

The female similarly differs in the small feet and bill from the female of the common sparrow; but the only specimen sent is so extremely indifferent, the bird being in moult to begin with, and having had at least half the feathers shot out, that I can only say that the plumage seems very close to that of female *domesticus*, but with less striation on the interscapular region and a greyer crown, and that it appears also to show the white wing spot, which in the female, as in the male, *domesticus* is far less marked, and pale fulvous.

Of the distinctness of this species there can be no doubt. It is none of the African Sparrows, *castanopterus*, *motitensis*, *Swainsoni*, *simplex*, *diffusus*, &c., and it seems to be a thoroughly good species. How it is that it has for so long escaped notice, (the only specimen previously obtained having been procured fully forty years ago by Sir Alexander Burnes, at Bhawalpur,) we shall be better able to explain when we know more about the distribution of the bird. It is not impossible an Arabian species which only comes to Sindh to breed, but we

must now wait for further particulars from Mr. Doig, who promises shortly a paper on the nidification of this and some other species.

IN THE IBIS for 1871, at page 31, I noted a specimen of a young bird which I had obtained in Kumaon, and which the late Mr. Verreaux had pronounced to be the young of *Rubecula akahige*.

Recently re-examining this specimen I find that the bird in question is undoubtedly the young of *Niltava sundara*. Dr. Jerdon, it will be remembered, at the time considered that this was probably the young of some species of *niltava*, and I have no doubt now that the bird is really the young of *Niltava sundara*, as I have other similar specimens, the parentage of which is undoubted.

WHILST THIS number was passing through the Press, I received from Captain Butler a female of *Schaenicola platyura*, vide ante, p. 209, killed by him at Belgaum.

This bird was breeding, and he found the nest, but unfortunately it contained no eggs. The following are the particulars recorded by him:—

Length, 6.75; expanse, 8.25; wing, 2.62; tail, 2.62; bill at front, 0.43; bill from gape, 0.69. Irides olive brown; legs and feet fleshy brown; bill brown above, fleshy below.

This bird corresponds precisely, structurally, with the Travancore specimen, but being killed late in summer, its colour is everywhere much paler. Above, it is a dull, pale, rather light rufescent brown, almost as faded as a summer *Hypolais caligata*; but the transverse barrings on the upper surface of the tail come out stronger than in the earlier killed bird.

The entire lower surface is white, everywhere, except on the throat, tinged with fulvous fawn, a little darker, and with a faint olive tinge on the flanks.

We thus have this species now, recorded from Southern Travancore by Mr. Bourdillon, in about 8° N. Lat., from the Goodalore Ghat leading down from the Nilgris to the Wynaad in about 11°30", and from Belgaum in about 60° N. Lat. all along the west coast.

The question now arises, can this be an African species? I have not the time or materials for working this out myself thoroughly; but the peculiar strong rictal bristles, the long slender feet, and the strong barring on the tail ought to render the comparison with African birds of the same type easy. Provisionally I am disposed to suggest that our bird is congeneric, if not identical, with *Catriscus apicalis*, Licht., in which

case Cabanis' generic name *Catriscus* (Mus.-Hein. Vol. I., 43 note) will have to give place to Blyth's *schœnicola*.

Nothing but a comparison of birds will settle these points. English ornithologists, desirous of clearing up the matter, should refer to Mr. Frank Bourdillon (10, Calverley Park Gardens, Tunbridge Wells,) the re-discoverer of the species who has two or three specimens of it with him.

MR. SHARPE, I notice, at page 72 of the *Ibis* for 1879, says :—
 “Mr. Low sends two eggs of *Leptoptilus javanicus* along with the head of the old female. The eggs are pale greenish blue; axis, 2·7 inches; diameter, 1·95 inch.”

I think these eggs must be accepted with reservation. In the first place these eggs are too small for the bird. The eggs of *Leptoptilus argalus* average considerably above 3·0 inches by 2·25. Those of *Mycteria australis*, a much lighter bird than *javanicus*, average fully 2·9 by 2·15. In the second place the eggs seem rather too elliptical for this class of bird. In the third place this group of Storks does not lay pale greenish blue eggs.

Mr. Oates has taken, as he believes, the eggs of this species, and these eggs are similar to those of *argalus*. I suspect that the eggs received by Mr. Sharpe are really those of *Ardea sumatrana* to which the description and measurements would apply well enough.

Letters to the Editor.

SIR,

I do not know whether it is a matter of interest to you to know that coming through the Red Sea, on the 6th May, I caught a Kestrel Hawk on board. We saw several parties of four or five of these birds, and I am told that they come on board nearly every voyage. The Hawk was a small one, with conspicuous white claws, such as you warned me years ago to be on the look-out for in Sind. I kept the specimen alive for three days, but just before reaching Aden it gorged itself with meat and died of suffocation. As of Henry the First we can say of it, “it never smiled again and died of a surfeit” (of beef, not of lampreys). I skinned it; but alas! during the brief interval in which I placed it in the rack in my cabin to set, a rat got hold of the skin, and only its mangled remains were subsequently discovered.

The day after we left Aden, we had another visitor on board, which I thought rather a curious one, as I suppose we were fifty miles from land. It was a Goat Sucker, the largest I ever saw,

with a large white wing spot covering I suppose the three middle primaries. It flew alongside the ship in the early morning, and several times alighted on deck, twice upon the sweetly slumbering forms of passengers. It would not, however, let itself be caught and eventually we lost sight of it.

The only other birds I noticed in particular in the voyage were what the passengers called Boobies, in the Red Sea, elegant looking Gulls, with delicately marked heads, which followed us in great flocks. This kind is always seen in crowds in the Red Sea, and I need not describe it further, as of course, you know it. Perhaps you would tell me the real name of it, as also of the Boatswain bird, a magnificent Gull which we saw three days off Bombay. It whistles like a Syrang, and hence its name. We saw three or four of these and some Storm Petrels about the same time.

CALCUTTA,
10th June 1880.

H. E. M. JAMES.

[The Kestrel was of course *Cerchneis naumanni*, the Lesser Kestrel of Europe. As for the other birds nothing positive can be said—"Boobies," are huge clumsy goose-like birds, like the Solan Goose. Perhaps "the passengers" meant "Noddies." Smoky chocolate brown birds with bluish grey crowns. If so the birds were probably *Anous stolidus*. Then Boatswain birds (*Phaeton indicus*) are not "magnificent Gulls," but slender Tern-like birds, with long pointed tails, so that here likewise it is impossible to guess what species our correspondent refers to.—*Ed., S. F.*]

SIR,

I DON'T know if any one has noticed before the fact that young painted Snipe (*Rhynchaea bengalensis*) swim capitally. This morning, while walking up a large rocky nullah, a Snipe fluttered up at my feet, and on looking down I found four young. As their quills were just beginning to grow, I think they must have been about 10 days old. On touching them they at once ran to the water then about a foot deep, and two deliberately swam right across a pool about 15 yards wide and sought refuge in a large tuft of grass on the other side.

KHANDESH DISTRICT,
26th May 1880.

J. DAVIDSON.

SIR,

I SAW a most amusing natural history fact here the other day. Talk of the principles of natural selection, &c., &c., I believe birds are awful muffs at choosing the fittest.

One of my cocks gave chase to a rather small black hen, and a larger and stronger kind rushed at him to prevent his paying his addresses, and a fight ensued. A Black Drake, seeing how matters stood, and what a mull the two had made of it, made a most determined rush at the hen, and after a long stern chase caught her and made a series of ineffectual attempts to seduce her. Meanwhile the two combatants stopped their fight and followed the hen and drake, and then they stared one on each side with long out-stretched necks, but they never tried to assist the unfortunate hen. The drake left her and there she lay, I thought dead at first, for she never stirred, but she was only exceedingly shocked and got up at last a very untidy and ruffled bird; most of her neck feathers had been pulled out by the ferocious drake. I wish Mr. Darwin had seen how the principles of natural selection are sometimes carried out.

MUDDAPUR,
25th May 1880.

W. E. BROOKS.

SIR,

I NOTICE in your Journal, Vol. VIII., 386 and 500, with reference to *Palumbus casiotis* in the collection of the Kurra-chee Museum, the notes by Captain Butler. His memory has not served him well in this instance. The example in the collection here really is *Palumbus casiotis*; the neck patch is buff and not white, and Captain Butler may be in error in stating that Mr. Murray expressed any doubts on the subject—Mr. Murray being too good an ornithologist to mistake this bird for *torquatus*. The example is not, and never could have been, labelled *Columba livia*; it is very badly mounted on a common piece of board, and is evidently the work of some native who knew very little about the art of bird-stuffing, and certainly never could have come from England. The entry in the museum catalogue is *P. casiotis*, locality unknown. Mr. Murray also refers to this example in his Hand Book of the Zoology of Sind, with the remark, "said to be from Upper Sind."

Have you any note of the nidification in Sind of *Æsacus recurvirostris*? On the Queen's birthday, when mahsir fishing at the Hubb near Minad Khan's place, I found one solitary egg lying in the sand in the river-bed; no nest of any kind. The egg is now in the museum here.

KURRACHEE,
18th June 1880.

C. SWINHOE, Major.

SIR,—Having now sent you a series of skins of 689—*STURNIA BLYTHI*, Jerdon, in various stages of plumage, I feel sure that you will agree with me in considering it a good spe-

cies. Jerdon's diagnosis seems to describe the male bird fairly enough, and I can see nothing to add to it, but he has not described the female, which is slightly different as you will see by the specimens forwarded. They arrive in Belgaum in large numbers towards the end of May, or beginning of June, in very bad plumage, and remain all through the rains, leaving again about October, by which time they are in perfect plumage.

Shortly after they leave the greyer-headed species, *S. malabarica* arrives, and is equally common all through the cold weather, but the latter species does not arrive until all of the former has left. The habits and food of both are very similar, as also the note, and they are both gregarious, occurring often in large flocks.

I fancy that the present species must, as Jerdon says, be confined to the Malabar Coast, as I have never heard of it from any other part of the country* extending to certain localities in the adjoining country, like Belgaum in the rains. Mr. Vidal has never met with it in Ratnagiri.

Let me now add a description of a remarkable albinoid specimen of 166bis—*CHRYSOCOLAPTES STRICTUS*, *Horsfield*, (*C. delesserti*, *Malh.* abud *Jerdon*) which has been procured by Mr. Laird on the Ghats, South-west of Belgaum.

DESCRIPTION.—Top of head and crest crimson, the feathers being pale or albescent at the base; upper back and greater part of the wings externally pale creamy buff, washed with pale golden yellow; lower part of back shining carmine red; ear-coverts pale brown; primaries hair brown, spotted, as usual, on the inner web with white, and having the whole, except the first two, edged exteriorly, and broadly tipped with pale buff; upper tail-coverts and tail dark brown; the lower surface, from chin to vent, whitish buff, mixed with brown, the drops on the breast being edged all round with reddish brown, and becoming larger and more conspicuous on the sides of breast and flanks; lower tail-coverts whitish buff and brown mixed; under surface of wing hair brown, transversely barred with white.

Owing to its being a bad specimen, the markings of the head, neck, and throat are omitted.

The crimson of the head, and red of the back, are much paler than in typical *delesserti*.

BELGAUM.

E. BUTLER, *Capt.*,
83rd Regiment.

[*Note*.—This issue wrongly headed (on page 1) Nos. 1 & 2, is really Nos. 1, 2 and 3 of Vol. IX.]

* Mr. Iver Macpherson has recently sent me both, a skin and eggs of this species from Mysore.

STRAY FEATHERS.

Vol. IX.]

NOVEMBER 1880.

[No. 4.]

A History of the Birds of Ceylon.

THE third part of Captain Legge's admirable work, published in September 1880, completes the HISTORY OF THE BIRDS OF CEYLON.

The work is in Royal Quarto, contains thirty-four most beautiful plates of the forty-seven species peculiar to the island, an excellent map, in which the several Zoological Provinces have been carefully traced out; and some 1,300 pages of letter-press (including the introduction) which comprise a careful description and an account of the haunts, habits, and distribution of each of the 371 species, ascertained or believed to occur on the island.

To ornithologists in Southern India this work will be almost as useful as to those resident in Ceylon; and we can, and do most earnestly, recommend all such to provide themselves with a copy of it.

Certainly no more complete and satisfactory record of the Avifauna of any British possession has ever appeared. Each order, family, and genus is carefully defined. Under each species the author first gives an useful list of synonyms and references; and in preparing this he has shown, we think, great judgment. He might, without the slightest additional trouble, have doubled the length of these lists, and thus have given an appearance of great learning and research to his work; but, in so doing, he would scarcely have added anything to its value, as he has given, as it is, almost every reference likely to be useful to Indian ornithologists. Next follow accurate descriptions and measurements of male, female, and young, with useful remarks in regard to variations in and changes of plumage, abnormal varieties, nomenclature, nearly-allied species, &c., &c.

All this in smaller type by way of introduction to the article which treats of the species, and which is divided into three sections under which, (1) the distribution, (2) the habits, and (3) the nidification are fully dealt with.

Under the first head the distribution of the species in the Island of Ceylon is naturally first considered and explained in

great detail; then, where the bird is not peculiar to Ceylon, its distribution in the rest of the British Asian Empire is dealt with; and, lastly, all other parts of the world to which it is known to extend are noticed. As regards the distribution in the British Asian Empire, this is no doubt, in many cases, imperfectly given, the necessary information not being at the author's command, but it is nevertheless, in almost every case, as perfect as the *published* materials permitted Major Legge to make it; and the attention which he has bestowed on the compilation of this section is deserving of much praise.

No less can be said of the sections which deal with the haunts, habits, and the nidification of each species,—where Captain Legge has himself been able to observe the birds, these sections leave nothing to be desired, and if in some cases, in which he has had to rely mainly upon the statements of others, the accounts are neither quite as full nor quite as accurate as they might have been, HE certainly cannot be held responsible for any such shortcomings.

Not the least useful or interesting part of the work is the introduction, in which, in very brief compass, Captain Legge has succeeded in conveying a most excellent idea of the physical geography, climate and seasons of the island, of the affinities of its ornithology, and of the several great classes into which these naturally divide themselves, to the local observer.

Taken as a whole, this is undoubtedly by far the most complete and satisfactory work that has yet appeared in regard to any portion of the British Asian Empire. It has involved years of persevering labour, and testifies not only to the industry but to the literary skill and sound judgment of its author, and by it Captain Legge has honourably earned the gratitude, not only of all those specially interested in Ceylon, but of ornithologists and naturalists generally.

A. O. H.

Note on *Tribura mandellii*.

By W. E. BROOKS.

THE Editor has kindly sent me, for examination, seven very perfect examples of this bird. On a close examination, all are found more or less spotted on the throat and upper breast. In some there are only a very few scattered small, rather cloudy, spots, which, at a cursory glance, might escape notice, but of the whole seven not one is spotless.

I have also been able to compare them with eleven examples of the closely-allied *Tribura luteoventris*, all from Mr. Hume's

collection, and not one has the slightest indication of spotting; neither is there any indication of the ash grey so conspicuous across the breast of *T. mandellii*. *T. mandellii*, as a rule, has a stronger and larger bill, and most of the bills are more or less black, as in *affinis*.

The lower surface of the body is very much more rufous in *luteoventris* than in *mandellii*.

After a very careful comparison of the two birds, with ample material before me, which Mr. Seeböhm had not, I have not the least hesitation in stating *mandellii* to be perfectly distinct. The dry skins to me will not prove anything else, and the two could not be correctly united but by observation of the birds in life. It is a pity that all Mandelli's birds are unsexed; for he never collected himself, and his native collectors were not able to sex correctly. Had they been reliably sexed, and all the spotted *T. mandellii* had turned out to be males, while all the unspotted and more rufous *luteoventris* turned out to be females, there would then have been some reason in Mr. Seeböhm's very decided conclusion that my species was a bad one. As it is, he has only begged the question, and can, in no way, prove his point, any more than he can that *Phylloscopus viridanus* and *P. plumbeitarsus* are one and the same bird—a mistake only equalled by my own some years ago that *P. tristis* was identical with *P. collybita*.

Mr. Hume has been accustomed to term *T. mandellii* *D. brunneipectus*, Blyth; but I think this is wrong; for Blyth describes his *brunneipectus* as being of the same uniform dark olive brown colour above as *D. affinis*, and our present bird being very different above from *D. affinis*, and of a much lighter and rufous brown as in *luteiventris*, Blyth's term could not, I hold, apply to it.

An examination of Blyth's type would decide the question, and this examination I hope soon to be able to make.

Blyth does not make any mention of spots on the breast, and these appear to be characteristic of *T. mandellii*.

A second list of the Birds of North-Eastern Cachar.

SINCE the publication of our first list, (S. F., V., 1, 1877), Mr. Inglis has from time to time kindly sent additional specimens, representing species not formerly included, and some of them of considerable interest.

The first list comprised 157 species. We have now 100 more species to add (making a total of 257), and a few additional remarks to add in regard to one or two species previously

included, so that the time seems to have come for publishing a second list, which is subjoined.

In this list the names of species included in the first list are printed in the ordinary Roman type, while those of species not so included, are in Antique.

Mr. Inglis's notes in regard to the several species treated of are reproduced under his own initials.

List.

8.—*Falco peregrinus*, Gm.

"This Falcon does not appear to be a resident here. I have often observed it about November hawking in the evening about dusk, and the specimens I have procured were birds perched on a tree apparently resting during a journey.—J. I."

Two specimens; a very fine, very large adult female, with a wing 14·5, and with a faint buffy pinky tinge on the breast and abdomen, and a young male of the second year, both shot near Dilkhushah.

11.—*Falco juggur*, J. E. Gr.

"This species is somewhat rare here.—J. I."

One specimen, a male, not quite adult, 26th March 1878, Enayetgunge.

16.—*Falco chiquera*, Daud.

"Is quite common in Sylhet, although rather rare here. I saw two nestlings in Cachar this season.—J. I."

A male killed on the Khooshyara river.

18 bis.—*Cerchneis pekinensis*, Swinh.

"I have only succeeded in securing two more specimens of this species, since I obtained the bird referred to S. F., V., 5. First an adult male, which I shot in December, picking him out from amongst about one hundred of the Eastern Red-Legged Hobby which were hawking white ants. Second a young male, which I killed on the 26th of March, out of a party of five which were hovering over my bungalow. Of this latter, I noted the following particulars at the time:—

"Length, 12·6; wing, 9·2; expanse, 27·75; tail, 6·5; tarsus, 1·4; bill from gape, ·7.

"Crown, head and hind neck ashy blue; chin and throat almost white, slightly tinged with cinnamon; back chestnut, also mantle; wing quite black, edged with whitish; wing-coverts ashy, dashed with rufous; tail, colour of head, with black bar, in centre;

feathers 2 inches, and side feathers $1\frac{1}{2}$ inches wide, tipped with white; chest dark cinnamon; breast or body cinnamon, though slightly lighter than chest, most feathers having a heart-shaped black spot; vent whitish, tinged with creamy; under tail-coverts almost white; under wing pure white, with a few black oblong spots on secondary and tertiary under wing-coverts; feet yellowish orange; claws pale whitish yellow; thigh-coverts light cinnamon; cere darker yellow than legs; bill bluish horny at point, somewhat lighter at base.—J. I.”

A very fine perfectly adult male of this species, procured near Dilkhushah, is clearly *pekinensis*, with the entire wing-coverts blue, except a few just where the wings join the body.

The wing is only 9.2; tarsus only 1.1. My *C. inglisi*, with nearly the whole of the wing-coverts red, is a less mature bird of this present species.

In the present adult male specimen the entire breast and upper abdomen are spotless, and there are only a few small oval brown spots on the lower abdomen; the entire chestnut of the back is uniform and unspotted, only the one longest scapular on each side is broadly blue grey at the tip, and the next longest scapular has a small blue, oval, subterminal spot, and the next has the shaft just perceptibly darker than the rest of the feather; the wing-lining is pure unspotted white. This is the most mature specimen I have ever seen, but possibly in the very old bird all marks above and below disappear.

19 *bis*.—*Cerchneis amurensis*, Radde.

“These little Falcons appear regularly here about the middle of October in hundreds. This season they appeared in large numbers, and remained about a week only. I send, amongst others, a young male showing the change from juvenile plumage.

“The following were the dimensions of an adult female which I shot out of a flock that passed over my bungalow at dusk on the 31st October:—

“Length, 11.8; expanse, 28.1; wing, 9.5; tail from vent, 5.5; tarsus, 1.5; bill from gape, 0.6.

“Chin and throat slightly creamy white; thigh-coverts and under tail-coverts light cinnamon; nine bars on the tail.—J. I.”

The young bird above referred to was killed, according to the ticket, on the 8th of May. It is sexed a male, and measured in the flesh:—

Length, 11.75; expanse, 25.25; wing, 9; tail, 5.25; tarsus, 1.25; bill from gape, 0.75.

The head, neck and entire mantle are bleached to a dull pale earthy brown; on the crown and about the nape, &c., a few new sooty black feathers are showing out. There are also

two fine adult males, both killed in the neighbourhood of Dilkhushah. The one everywhere much darker and blacker, the other paler and more slaty, with wings measuring 9·0 and 9·1, respectively, and both with the uniform snow-white wing-lining and axillaries.

41 ter.—*Polioaetus humilis*, S. Müll.

“Although not so common as *P. plumbeus* it is far from rare. I have noticed that it is more often found in the neighbourhood of rivers than jheels. *P. plumbeus*, from my experience, prefers fishing in stagnant water.—J. I.”

A single specimen of this small Fishing Eagle, the only one that I have yet seen killed within our limits, is apparently an old adult; the wing barely 16·0. It was not sexed, but was probably a female. In the nearly allied *plumbeus*, the wings of adults appear to run from 16·5 to 18·2 or 18·3; but if I have correctly identified this species, (and I have unfortunately no Malayan specimens at present in my collection to compare it with) *plumbeus* might be looked upon as merely a large Himalayan race of *humilis*. This latter is, no doubt, markedly smaller, with much smaller bill, and with a markedly slenderer, though not shorter, foot and tarsus; but I can discover no difference in the plumage, unless perhaps there is rather more white about the abdomen, and rather more feathering on the tarsus in *plumbeus* than in *humilis*. Both species have the same, more or less, mottled white bar on the lower surface of the basal half of the tail feathers, and the plumage appears to be identical, except that this particular specimen of *humilis* has the ear-coverts a pale-fawny brown, contrasting markedly with the grey brown of the rest of the side of the head—a feature which I do not observe in specimens of *plumbeus*, and which is very possibly not constant in *humilis*.

As already observed, the tarsus, though much slenderer, is very little shorter than in *plumbeus*. In the present specimen it is exactly 3 inches in length, while in one large *plumbeus*, with a wing 18·2 or more, it is, though double as thick, only 3·1 in length.

42.—*Haliaeetus leucoryphus*, Pall.

“Extremely common in Sylhet, but is not often met with in Eastern Cachar. Breeds about the beginning of December.—J. I.”

A large female, just moulting into adult plumage, killed near Dilkhushah.

56 bis.—*Milvus melanotis*, Tem. & Sch.

"Very common during the cold weather; arrived this year during the first week in September; departs about May.—J. I."

A young bird with a wing fully 19.0 and a huge white wing patch.

57.—*Pernis ptilorhynchus*, Tem.

"Not uncommon; generally seen near heavy forest.—J. I."

A female, killed 27th April 1878, of the nearly uniform, dull-brown, black-shafted type, with a scarcely noticeable crest, less than one inch in length; presumably a young bird with no grey about the face, and with a small wing, 16.0.

62.—*Phodilus badius*, Horsf.

"I have procured about half a dozen specimens of this Owl in the villages.—J. I."

One specimen killed at Dilkhushah, identical with Sikhim examples.

81 ter.—*Ninox burmanica*, Hume.

"This Owl is rather common.—J. I."

Another example, a male, killed, Dilkhushah, 25th April 1878, with a wing 8.75, of the large, dusky, chocolate-coloured *Ninox*, entered in our first list as *Ninox innominata*, but which, as I subsequently explained (S. F., VI., 40,) may, I think, be properly united with the Tenasserim birds, which I formerly named *burmanica*.

82 bis.—*Hirundo gutturalis*, Scop.

"Very common.—J. I."

These are additional specimens of the birds entered in our first list as *rustica*. There is no doubt that all are referable to *gutturalis*, though whether that form is deserving of specific separation remains to me very questionable (c.f. S. F., VI., 41.)

82 ter.—*Hirundo tytleri*, Jerd.

"Very common.—J. I."

A single, very characteristic adult of this species shot near Dilkhushah with a wing fully 4.6. The breast and the rest of the lower parts, including the lower tail-coverts and wing-lining, a rich, though not deep, chesnut. The mantle steel blue; wings and tail glossy green; and the outer tail feathers projecting 2.05 beyond the rest.

85 bis.—*Hirundo nipalensis*, *Hodgs.*

"Very common.—J. I."

Several specimens killed near Dilkhushah, on the 19th and 21st March, and 10th of May, have been sent.

85 quat.—*Hirundo substriolata*, *Hume.*

"Common.—J. I."

Two more very fine specimens, killed on the 20th of February near Dilkhushah, have been sent since those first described. I have already discussed this very fine large species (S. F., V., 264,) and have nothing now to add.

87.—*Cotile riparia*, *Lin.*

"Exceedingly common.—J. I."

A female of the European Sand-Martin killed at Dilkhushah, 15th April 1878.

101 bis.—*Cypsellus pacificus*, *Lath.*

"This Swift is very common when the weather suits it. I have seen it in hundreds one afternoon, and perhaps not observed it again for a week. It is most generally observed between September and January.—J. I."

A single specimen from near Dilkhushah obtained in December 1877.

116.—*Harpactes erythrocephalus*, *Gould.*

"This nestling is one of two, which my man was foolish enough to blow to pieces when they were perched together on a branch of a small tree. I have often seen the parent birds near the place where these infants were murdered.—J. I."

A nestling of this species, obtained on the 10th of June, is a most curious looking little bird. The entire head and body above and below is a sort of dull orange ferruginous, with the grey bases of the feathers showing through more or less. Only the feathers about the vent and the lower tail-coverts are nearly pure white. The central tail feathers are dull chesnut, narrowly tipped with black; the next two on each side pure black; the next three on either side pure white, but black on the basal one-third on the inner webs only. The wings are black; all the coverts but the primary greater and median coverts, are broadly margined with orange or rusty buff, and the greater secondary coverts exhibit traces of imperfect barrings of the same colour. The primaries are very narrowly margined on their outer webs with greyish white, and the later secondaries are freckled with the same colour on their outer webs towards their margins.

135 quat.—*Alcedo beavani*, Wald.

"Is somewhat common here. It is always found on old river courses or on small streams in forest. I have never seen it on large rivers. It is easily distinguished by the brilliancy of its colouration.—J. I."

Two specimens, both obtained near Cachar, are probably referable rather to this species than to *meninting*. They are very richly coloured, but the blue of the forehead and back is nearer to the greenish blue of the Andaman bird than to the violet blue of the Malayan one.

139.—*Serilophus rubropygius*, Hodgs.

"I obtained a few specimens of this bird during the rains.—J. I."

A single specimen, a male, obtained near Dilkhushah, 19th June 1878.

146 bis.—*Rhyticeros undulatus*, Shaw.

"Very common.—J. I."

A fully-plumaged and full-sized, but still *young* bird, as yet barely showing any traces of the plications on the sides of the bill, and with only two ill-marked plications on the casque.

147 quat.—*Palæornis indoburmanicus*, Hume.

"Exceedingly common.—J. I."

More specimens of the species entered in our former list as *P. magnirostris*, but which should now, as explained S. F., VII., 458, appear under the above title.

157.—*Picus macii*, Vieill.

"This Woodpecker is rather rare.—J. I."

A female; Barak river; 10th January 1878.

186.—*Vivia innominata*, Burt.

"Very rare. I have only secured two as yet.—J. I."

Two males from Dilkhushah.

187.—*Sasia ochracea*, Hodgs.

"Quite common in thick jungle.—J. I."

A female; Dilkhushah; 27th June 1878.

197.—*Xantholæma hæmacephala*, P. L. S. Müll.

"Common. Its monotonous call can be heard nearly a mile.—J. I."

A specimen from near Dilkhushah.

203.—*Cuculus micropterus*, Gould.

"Extremely common.—J. I."

Old and young of this species from near Dilkhushah.

207.—*Hierococcyx sparveroides*, Vig.

"Common here.—J. I."

Neighbourhood of Dilkhushah.

209.—*Cacomantis threnodes*, Cab.

"Somewhat rare.—J. I."

Other specimens, old and young, of this species entered in our first list as *Ololygon rufiventris*, obtained at Dilkhushah in March 1879.

210.—*Surniculus lugubris*, Horsf.

"Very common about April and May.—J. I."

Specimens obtained near Dilkhushah in June.

211.—*Chrysococcyx maculatus*, Gm.

"This pretty Cuckoo is very rare here.—J. I."

Male, female, and young obtained near Dilkhushah in June, July and August.

211 bis.—*Chrysococcyx xanthorhynchus*, Horsf.

"Also very rare here.—J. I."

An adult in full plumage, obtained near Dilkhushah.

214 bis.—*Eudynamis malayana*, Cab. & Heine.

"Very common in the villages.—J. I."

An adult male obtained near Dilkhushah.

224.—*Arachnothera longirostra*, Lath.

"Rather common.—J. I."

A single specimen obtained near Dilkhushah.

236.—*Dicæum cruentatum*, Lin.

"Met with all the year round, and is common.—J. I."

Specimens obtained at both Dilkhushah and at the foot of the hills at the extreme north of the Cachar District.

237.—*Dicæum chrysorrhæum*, Tem.

"Very common here.—J. I."

A male, from near Dilkhushah, 6th June 1878.

240.—*Piprisoma agile*, Tick.

"A very rare bird in these parts.—J. I."

Two males from near Dilkhushah.

263.—*Tephrodornis pelvica*, *Hodgs.*

"This Wood Shrike is rather rare.—J. I."

A young female in the first plumage; 15th June 1878.

282.—*Chaptia ænea*, *Vieill.*

"Very common everywhere here.—J. I."

A specimen with the typical dull greyish rump from Dilkhushah.

286.—*Chibia hottentotta*, *Lin.*

"Very common; is very shy and keeps to dense jungle. Is often found on cotton trees when they are in flower.—J. I."

A female, from Dilkhushah, 15th June 1878.

289.—*Muscipeta affinis*, *Hay.*

"This bird is rare. I have only seen young birds as yet.—J. I."

A young male, 11th July 1878, from Dilkhushah.

291.—*Leucocerca albicollis*, *Vieill.*

"Very common about here.—J. I."

Specimens from near Dilkhushah.

301.—*Stoporala melanops*, *Vig.*

"Very common.—J. I."

A specimen from Dilkhushah, 22nd July 1879.

308.—*Cyornis magnirostris*, *Bly.*

"Very rare, I think.—J. I."

A young bird, which had just left the nest, in the usual spotted plumage, obtained at Dilkhushah, 11th May 1878.

323.—*Erythrostera albicilla*, *Pall.*

"This bird is also very rare according to my experience, but perhaps I have overlooked it.—J. I."

Specimens from near Dilkhushah.

344.—*Hydrornis nipalensis*, *Hodgs.*

"This Thrush is very seldom seen; it keeps to thick forest. I have only observed it during the cold weather.—J. I."

A specimen obtained near Dilkhushah, a female, measured in the flesh: Length, 9·3; expanse, 13·9; wing, 4·7; tail, 2·1; tarsus, 2·1; bill from gape, 1·25.

346.—*Pitta cuculata*, Hartl.

"A friend procured one specimen of this Thrush close to Silchar.—J. I."

A specimen obtained in North Cachar.

351.—*Cyanocinclus cyanus*, Lin.

"This Thrush is not at all rare during the cold weather. It is not, however, so common as *C. solitaria*.—J. I."

A specimen shot on the Barak river close to Dilkhushah, 10th January 1878, by Mr. Davison (who ascertained it by dissection to be a female,) is one of the few specimens of this sex that I have yet met with, in the full blue plumage of the adult male.

386.—*Pyctorhis longirostris*, Hodgs.

"This bird is rare.—J. I."

A specimen from near Dilkhushah.

387.—*Trichastoma abbotti*, Bly.

"Extremely common in this neighbourhood.—J. I."

A specimen from near Dilkhushah, a female.

391.—*Stachyris nigriceps*, Hodgs.

"This bird also is very common here.—J. I."

A male, 25th July 1878, from Dilkhushah.

395.—*Mixornis rubricapillus*, Tick.

"Very common.—J. I."

Two specimens from near Dilkhushah.

396.—*Timalia bengalensis*, G.-Aust.

"Very common.—J. I."

A pair, 15th January 1878, from near Dilkhushah, with less difference in the size of the sexes than is usual. *Male*, wing, 2.45; *female*, wing, 2.65. The white of the face, chin, throat, breast and forehead of the female purer than in the male, as is also the red of the cap, which is a richer and purer chesnut than in the male; otherwise the plumage is identical.

399 bis.—*Pellorneum nipalensis*, Hodgs. (*P. mandellii*, Blanf.)

"Very common.—J. I."

A female, 1st July 1878, Dilkhushah.

402—*Pomatorhinus schisticeps*, *Hodgs.*

"Rather rare.—J. I."

A specimen, clearly belonging to this species, a male from Dilkhushah, 24th July 1878 :—Length, 9·3; expanse, 10·8; wing, 3·6; tail, 4·0; tarsus, 1·5; bill from gape, 1·3; weight, 1·5 oz.

Referring to my remarks, S. F., VI., pp. 282, 284, I have now re-examined our series, and my general conclusion is, that *POMATORHINUS NUCHALIS*, *Tweeddale*, is not specifically separable from *P. leucogaster*, of Gould, and that, despite variations discernible in plumage, &c., both these forms are very doubtfully distinct from *P. schisticeps*, *Hodgs.*

Mr. Gould's name was published at the close of 1837. Mr. Hodgson's name was first published in *Asiatic Res.*, Vol. XIX., p. 181, and I have not now the means of ascertaining when this latter was published. On this will depend, supposing we agree to unite all the three forms, which name should be adopted.

As to *schisticeps* I have a very large series of Darjeeling and Nepal specimens; they are all, with one exception, of the same type, with the more or less distinctly slaty head, larger bill and more intense, almost maroon, ferruginous of the red stripe at the sides of the neck and breast, and they are all characterized by more or less conspicuous white shaft stripes, or shafts on a greater or less number of the rufous feathers on the sides of the breast. Two Cachar specimens are precisely similar, but have less of the slaty tinge on the head. One *Thayetmyo* specimen was precisely similar.

Turning to *leucogaster* and to Gould's original description, *P. Z. S.*, 1837, p. 137, we find that it was characterized by the absence of the marked slaty tinge on the head, which is described as unicolorous with the back (*summo capite, corpore supra, alis crissoque, olivaceo-fuscis*), and by the brighter colour of the rufous on the sides of the neck and breast; and the absence of white central shafts to the feathers of this rufous band (*lateribus colli, pectoris, corporisque, nitide rufis.*)

Now these birds of Gould's were collected by Mr. Furell somewhere near Simla, and I have two specimens from the immediate neighbourhood of Simla, which answer precisely to Gould's description. The heads are practically concolorous with the back, the red is a brighter and more rusty rufous, and there are scarcely any traces of white shafting to the feathers of this rufous. These birds are absolutely inseparable from some of the Tenasserim *nuchalis*, but some of these latter differ in having the red of the sides of the neck continued right round its back as a broad nuchal collar. This is by no means an

universal characteristic; some birds show it very strongly, some birds killed at the same time and place show no more of it than do the Simla birds. One *Thayetmyo* specimen is precisely similar to the Simla birds. One Darjeeling specimen, the exception above referred to, is also not separable from the Simla birds.

Three specimens from Hill Tipperah must be classed as *schisticeps*, though their heads scarcely differ in colour from their backs, since they have the larger bill and rufous feathers more or less white striped. The same may be said of specimens from Dehra Doon and from the hills north of Mussoorie, though in some of these latter the slaty tinge on the head is well marked.

Numerous specimens from the valley of Assam, from Tippiok, Sadiya, Dibrugarh, Khawang, are all, I think, most properly referable to *schisticeps*, as all show the white shaftings of the rufous feathers most conspicuously, and all have the rufous very deep in tint, but in several the slaty tint on the crown is very feeble. Two have small bills, and one has a broad rufous nuchal collar as conspicuous as in any Tenasserim example, but deeper in tint than in any of these.

I think it is quite certain that *Pomatorhinus nuchalis* must be abandoned, as many specimens of it are absolutely inseparable from specimens collected in the same locality as Gould's types of *leucogaster*, and answering perfectly to his description.

But further reviewing our whole fairly large series, comprising nearly seventy specimens, I am very much disposed to doubt whether *leucogaster* itself is specifically distinct from *schisticeps*. There are some unmistakable *schisticeps*, with really dark slaty heads, which scarcely show any white shafting to the rufous feathers—birds too in which that rufous is of the deepest and most intense tint. There are others again in which the rufous is far lighter and more rusty, in which the shaft stripes are most conspicuous, but in which the slaty tint on the crown is extremely feeble, and there are specimens of *leucogaster* in which there are signs of white shaftings to the rufous feathers, and others which have a faint shade of slate on the crown.

On the whole, taking all the birds from Tenasserim, Pegu, Hill Tipperah, Cachar, Assam to its extreme easternmost point, and the Himalayas from Native Sikhim to Simla, I am greatly disposed to doubt whether there is more than one real species. As for size of bill every intermediate gradation presents itself. In some the entire bill is yellow, in others nearly the basal half of the upper mandible is black, and every intermediate amount of black on the upper mandible is exhibited. Between a dark, purely slaty crown, and an olive one absolutely concolorous with

the back, every intermediate shade of colouring occurs. As for the red on the sides of the neck and breast, it varies in different specimens between the most intense maroon ferruginous and the brightest orange rusty, while similarly the white shafting of the rufous feathers varies from absolutely nil to a broad, white shaft stripe to each feather.

It may be convenient to retain the birds under two names; but I doubt whether, in so doing, we follow nature; and I am sure that there will always be a good many birds in regard to which it will be difficult to decide whether to assign them to *leucogaster* or *schisticeps*.

405 *ter*.—*Orthorhinus inglisi*, *Hume*.

"I procured two specimens of this bird last cold weather.—J. I."

Since our former list was published, the entire distinctness of my *Orthorhinus tickelli* has been universally admitted; but in regard to the present species it has been suggested, firstly, that it is identical with *hypoleucus* of Blyth, which has a great red patch down the side of the neck; and, secondly, that if really distinct from this, it must be the same as *P. albicollis* of Horsfield from Assam; but this latter species is distinctly figured by Gray, with the characteristic red patch of *hypoleucus*, and there is no cause for surprise in this case at this bird having been obtained in Assam, since the birds from the Naga Hills, obtained by Major Godwin-Austen, also appear to be *hypoleucus*, whilst his specimen from the North Cachar Hills, like all my Cachar specimens, want the rufous on the sides of the neck, and are what I call *inglisi*. There is nothing at all contrary to experience in obtaining the same species in the Arracan and Naga Hills, and a distinct representative species in Sylhet and Cachar. At present I still continue to believe that *Orthorhinus inglisi* is as distinct from *hypoleucus* as *Garrulax leucolophus* is from *belangeri*.

440.—*Megalurus palustris*, *Horsf.*

"Very common.—J. I."

Two specimens of this species are remarkable as showing the extent to which the colour of this class of birds varies by exposure. Both were killed at Dilkhushah. The one killed early in September has a rich rufous brown tint throughout which has entirely disappeared from the other killed early in November.

444.—*Hypsipetes psaroides*, *Vig.*

"I have only procured one specimen of this bird. It was with a lot of common Bulbuls.—J. I."

A typical example of the Himalayan form.

452 dec.—*Iole viridescens*, Bly.

“Very rare here.—J. I.”

Specimens from Dilkhushah and the foot of the Cherra Poonjee Hills.

457 quat.—*Brachypodius cinereiventris*, Bly.

“Extremely common.—J. I.”

A typical specimen of this somewhat doubtful species (c. f. S. F., VI., 319) killed at Dilkhushah, 11th November 1879.

477.—*Myiomela leucura*, Hodgs.

“Somewhat rare.—J. I.”

A young male, obtained at Dilkhushah, 9th February 1879, in almost perfect adult plumage, but showing, on the coverts of one wing, a single oval orange buff spot, the last trace of the nestling plumage.

481.—*Pratincola caprata*, Lin.

“Rather rare, and seen only during the cold weather.—J. I.”

A pair from Dilkhushah.

487.—*Oreicola jerdoni*, Bly.

“This bird is often seen on the top of reeds along road sides; it is extremely shy and difficult to procure.—J. I.”

One specimen only is sent, an adult male of this species, which is an extremely rare one even in Indian collections. Jerdon himself only described the male in his “Birds of India;” but he appears to have presented specimens of both sexes to the British museum, and Mr. Sharpe has described the female, I think for the first time, in the fourth volume of the British Museum Catalogue.

The following are the measurements and description of a fine female obtained by the late Mr. Mandelli from Cachar:—

Length, about 5·5; wing, 2·5; tail, from insertion of feathers, 2·4; tarsus, 0·8; bill, at front from frontal bone, 0·62.

Bill blackish horny, paler on base of lower mandible; legs and feet brown.

The forehead, crown, occiput, sides, and back of the head and neck, and interscapular region a uniform faintly rufescent olive brown, which, in the lower back and rump, has a ferruginous tinge, and on the lower tail-coverts becomes pure ferruginous; the tail feathers dull hair brown, slightly paler along the margins; the wings hair brown; the median and greater coverts and tertiaries margined with pale ferruginous; the primaries and secondaries just perceptibly yellowish white on

their outer edges; chin and throat white, with a creamy tinge; breast, abdomen, vent, and lower tail-coverts pale fulvous.

This bird strongly recalls the female of *Pratincola* (or *Oreicola*) *ferrea*, but our present bird is smaller; the interscapular region and middle back is uniform, whereas in *ferrea* it is distinctly striated, as is also generally the head, and in this present species, the breast and abdomen are pale fulvous, while in *ferrea* the breast and sides of the abdomen are pale earthy brown.

I forgot to mention that in the present species there is a faint albescent streak from the nostril over the lores and above the eye; but this is not nearly so conspicuous as the corresponding streak in *ferrea*. In *ferrea* the ear-coverts are picked out, as it were, by a distinct rufous tinge; in the present species they are uniform with the rest of the upper parts.

500.—*Ruticilla aureora*, *Pall.*

"Observed only during the cold weather.—J. I."

A male obtained near Dilkhushah on the 29th December 1878.

512.—*Calliope camschatkensis*, *Gm.*

"Is not at all common.—J. I."

A fine adult male of the Ruby-throat, shot at Dilkhushah, 10th April 1878.

514.—*Cyanecula suecica*, *Lin.*

"Very common during the cold months.—J. I."

A single specimen obtained near Dilkhushah.

542.—*Graminicola bengalensis*, *Jerd.*

"Common.—J. I."

Dilkhushah.

558.—*Phylloscopus lugubris*, *Bly.*

A male obtained by Davison, on 27th December 1877, at Terria Ghat, at the foot of the Cherra Ponjee Hills. This is a less dusky and brighter coloured specimen than I have before met with, but unless there is still an undescribed species of *Phylloscopus* (as Mr. Brooks suspects) intermediate between *lugubris* and *viridanus*, this specimen is certainly *lugubris*. Its superior brightness may be due to its being a young bird.

591 bis.—*Motacilla dukhunensis*, *Sykes.*

"I have observed about a dozen of this Wagtail. I have never seen it in the open, but always found it on a shaded path or road in jungle.—J. I."

A male unmistakably of this species, killed at Dilkhushah.

593.—Budytes cinereocapilla, Savi.

"Very common.—J. I."

Specimens from near Dilkhushah.

593 ter.—Budytes flava, Lin.

"Common.—J. I."

Specimens from near Dilkhushah.

595.—Limonidromus indicus, Gm.

"Very common.—J. I."

Specimens from near Dilkhushah.

596.—Anthus maculatus, Hodgs.

"Very common.—J. I."

Specimen from near Dilkhushah.

599.—Corydalla richardi, Vieill.

"Common in the cold months.—J. I."

Specimen from Dilkhushah.

630.—Herpornis xantholeucus, Hodgs.

"Rather rare.—J. I."

A male, killed at Dilkhushah, 18th January 1879.

650 —Melanochlora sultanea, Hodgs.

"This specimen was killed in the North Cachar hills.—J. I."

A specimen killed by one of Mr. Inglis' friends somewhere in North-East Cachar.

660.—Corvus macrorhynchus, Wagl.

"Very common.—J. I."

A specimen from near Dilkhushah.

691.—Saraglossa spiloptera, Vig.

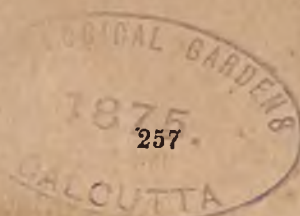
"Very rare; I have only procured one bird.—J. I."

A young male from near Dilkhushah.

693 ter.—Ampeliceps coronatus, Bly.

"I shot one of these Mynas in the month of April. I have frequently seen birds pass over the tea garden, and from their habit of flying low have been able from a height to distinguish the yellow wing marking; still the bird here is rare.—J. I."

The occurrence of this rare species so far north as Dilkhushah, in North-East Cachar, is most noteworthy.



694 bis.—Ploceus baya, Bly.

“Very common throughout this district.—J. I.”

A male in full breeding plumage; a fine old adult, as usual without a trace of yellow on the breast.

696.—Ploceus bengalensis, Lin.

“This bird is quite as common as the former.—J. I.”

Several specimens from near Dilkhushah.

702.—Amadina acuticauda, Hodgs.

“Very common; may be met with throughout the year; breeds during the rains.—J. I.”

Specimens from near Dilkhushah.

717.—Emberiza spodocephala, Pall.

“Rather rare here.—J. I.”

A pair from near Dilkhushah, 10th January 1879.

738.—Carpodacus erythrurus, Pall.

A male in nearly full breeding plumage, shot at Dilkhushah, on the 15th of March.

754.—Mirafrass assamica, McClell.

“Extremely common.—J. I.”

A specimen from near Dilkhushah.

771.—Treron nipalensis, Hodgs.

“This Pigeon is not uncommon during the rains. It congregates on trees of the Ficus tribe, and seems to feed on the fruit.—J. I.”

A specimen, a male, from near Dilkhushah, 15th June 1878.

773 bis.—Crocopus viridifrons, Bly.

“This bird is frequently met with.—J. I.”

Specimen from near Dilkhushah.

774.—Osmotreron bicincta, Jerd.

“This lovely Pigeon is among the most common we have in Cachar.—J. I.”

A female, killed, 18th April 1874; a male, 18th May 1878; near Dilkhushah.

776.—Osmotreron phayrei, Bly.

“Is also very common.—J. I.”

A male, 17th July 1878, near Dilkhushah.

782.—*Alsocomus puniceus*, Tick.

"The Purple Wood Pigeon is not very rare; some seasons I have killed many, still I was 5 years here before I procured a specimen.—J. I."

A male, 28th May 1878, Dilkhushah.

795 bis.—*Turtur tigrinus*, Tem.

"Is rather rare.—J. I."

A male, from Dilkhushah, 13th April 1878.

796.—*Turtur risorius*, Lin.

"Is very plentiful throughout Cachar.—J. I."

A female, 21st March 1878, Dilkhushah.

797 bis.—*Turtur humilis*, Tem.

"This Dove is very rarely seen. I have shot only some four birds.—J. I."

A male of the eastern race, (*not* the common Indian form *tranquebaricus* that we used to call *humilis*), from the Barak river, 10th January 1878.

823.—*Ortygornis gularis*, Tem.

"This Partridge, three years ago, was not to be found in Eastern Cachar; since that date they have become plentiful, so much so that last March a friend and I killed four birds when snipe-shooting one morning.—J. I."

Specimens from near Dilkhushah.

829.—*Coturnix communis*, Bonn.

"Coveys of the Quail may be met with from October to February. They do not breed here.—J. I."

A single specimen killed near Dilkhushah.

831.—*Excalfactoria chinensis*, Lin.

"This beautiful Quail remains here throughout the season, and breeds here. When snipe-shooting in September I flushed a covey and got two adult males.—J. I."

Specimens from Dilkhushah.

848 bis.—*Ægialitis placida*, G. R. Gr.

"Is rather common here, I think.—J. I."

An adult of this rare species shot on the Barak river.*

885.—*Tringa temmincki*, Leisl.

"Is very common on all the jheels in Cachar during the cold season.—J. I."

Specimens shot on the Barak river, cold season of 1878.

* It has also recently been obtained near Sibsagar in Assam by Mr. Cripps.

892.—*Totanus ochropus*, *Lin.*

"Common during the cold season.—J. I."

Specimens from near Dilkhushah, January to April.

897.—*Totanus calidris*, *Lin.*

"Is somewhat rare here.—J. I."

A female, commencing to assume summer plumage, shot 23rd March 1878.

902.—*Porphyrio poliocephalus*, *Lath.*

"Is not uncommon, and is yearly becoming more plentiful.—J. I."

A male, shot near Dilkhushah, 23rd May 1878.

910.—*Porzana bailloni*, *Vieill.*

A single specimen obtained near Dilkhushah.

913.—*Hypotænidia striata*, *Lin.*

"Is somewhat rare hereabouts.—J. I."

Specimens shot from March to June near Dilkhushah of the ordinary Indian and Burmo-Malayan type, not approaching the Andaman form (*H. obscuriora*.)

934.—*Ardetta sinensis*, *Gm.*

An adult male, shot near Dilkhushah, 26th July 1879.

936 *bis.*—*Goisakius melanolophus*, *Raffl.*

"Two young birds were brought to me alive during the rains. I kept them alive for a few months, feeding them on frogs and fish. A Kookie found them near the river bank in forest.—J. I."

A specimen from near Dilkhushah.

943.—*Falcinellus igneus*, *S. G. Gm.*

"The glossy Ibis is rather rare in Cachar, but is very frequently found in Sylhet during the cold weather.—J. I."

A specimen from the Balagung river, Cachar.

969.—*Fuligula nyroca*, *Güld.*

A young female from near Dilkhushah.

997.—*Phæton flavirostris*, *Brandt.*

The occurrence of this species has already been noticed, S.F., V., 498.

A. O. H.

Schœnicola platyurus.

So much has been written of late (*vide* S. F., VII., 37; IX., 209 and 234) in regard to the Broad-tailed Reedbird, that I feel a little nervous about inflicting a further yarn in regard to this insignificant-looking little skulker on the readers of STRAY FEATHERS. But looks, fortunately, even in this world are not everything, and trumpery a little bird as it may appear to the uninitiated outsider, to the ornithological adept, who has been duly admitted within the arcana of the science, it must, until we know much more of it than has yet been put on record, continue an object of much interest.

I see that my friend Captain Legge has discovered, in the British Museum drawers, a specimen from Ceylon collected by Mr. Cumming, clearly pertaining to the same species as that obtained by Mr. Bourdillon and Captain Butler; but I also see that Captain Legge only doubtfully identifies this species with *Schœnicola platyurus* of Jerdon, on the ground that the type of this having been lost, and the description being somewhat curt, "it will be a very difficult matter to determine what Jerdon's bird really was."

As a matter of fact, however, we have far greater certainty on this latter point than we have in regard to at least three-fourths of all the species named by Linné, Gmelin, Pallas, Scopoli, and in fact the mass of the older ornithologists. Their types too are lost. Their descriptions, alike generic and specific, are far more curt, more unsatisfactory, and less accurate than Jerdon's, while their indications of the localities, whence their specimens were procured, are seldom as exact as those furnished in this case by him.

As a fact we have a series of generic characters which, with one single exception, fit our bird to the T. This one exception, the number of the tail feathers, is explained by the fact that the outer tail feather on each side is hidden by the lower tail-coverts, and is, therefore, extremely likely to have escaped notice.

We have a specific description, which, though rather brief, also fits our birds perfectly.

Lastly, our birds have been procured both due north and due south of the locality in which Jerdon obtained his, and in the same range of hills.

Lastly, we have a moral certainty that no other species, to which Jerdon's description would possibly apply, occurs anywhere in the district whence he procured his specimen.

There is no earthly doubt in my opinion that our bird is *Schœnicola platyurus* of Jerdon; the only point for decision is,

is it also, as I have suggested (*ante*, p. 234) *Catriscus apicalis*, Licht. ?

We have now this species from—

- (1.) Ceylon (locality uncertain, say 7° North Latitude) collected by Cumming.
- (2.) Southern Travancore, in 8° 30' North Latitude, by Bourdillon.
- (3.) Wynaad, Goodalore Ghat, 11° 30' North Latitude, by Jerdon.
- (4.) Belgaum, 16° North Latitude, by Butler.

All the three latter localities are situated in the same chain of the hills, *viz.*, the southern section of the Western Ghats, and I personally entertain no doubt that this species will prove to occur throughout this section.

Captain Butler has most kindly sent me a series of valuable notes which I introduce here so as to keep all the information in regard to this species as much together as possible.

First he sends accurate details of seven specimens shot by him at Belgaum in August and September. Unfortunately he never measures the tarsi in his specimens :—

Sex.	Length.	Expanse.	Wing.	Tail, from vent.	Bill, at front.	Bill, from gape.	Date.
Male	... 7.12	8.5	2.81	3.0	0.5	0.68	26-8-80
"	... 7.0	8.37	2.81	3.0	0.47	0.62	26-8-80
"	... 6.75	8.5	2.81	2.87	0.44	0.62	26-8-80
"	... 7.0	8.75	2.75	3.12	0.44	0.65	1-9-80
"	... 7.25	8.62	2.62	3.12	0.47	0.65	19-9-80
Female	... 6.75	8.25	2.62	2.62	0.44	0.68	1-9-80
"	... 6.75	8.12	2.56	2.75	0.44	0.65	9-9-80

"Iris olive brown ; legs and feet brown in front, pale whitish flesh behind, and on the soles ; bill black above ; pale horny blue below ; gape black.

"In the female the legs and feet are fleshy brown, and paler than in the male ; the bill is brown above, fleshy below, and the mouth is not black inside."

On another occasion, he wrote :—

"Referring to the remarks, *ante* p. 210, on this species, I would point out one or two slight differences between my birds which are in the pale breeding plumage, and your specimen which is in the dark cold weather plumage, and to which Mr. Brooks' remarks apply :—

MR. BOURDILLON'S specimen
in cold weather plumage.

1. Mr. Brooks remarks, p. 210, para. 3, at top of the page "the outer feathers being rather more than one inch short of the central ones."

CAPT. BUTLER'S specimens in
pale breeding plumage.

1. In my specimens the difference is at least 1½ inches, if anything rather more.

2. Lower down on the same page he remarks : " Looked at in a good light, the whole back and upper tail-coverts are cross-rayed, the bars being at narrower intervals than on the tail."

3. P. 211, he says : " The tail feathers are not pale tipped as in some *Locustellas*."

2. In my specimens the tail is cross-barred, but the back and upper tail-coverts are perfectly plain, and show no signs of cross-rays in any light.

3. In all of my specimens the tail feathers are conspicuously pale tipped on the lower surface.

" On the same and following page it is noted by Mr. Bourdillon, ' that the birds he shot on the 17th April in the Assambo Hill were obviously breeding, although he failed to discover a nest.' This seems strange as the birds were then in the dark, rufescent brown, cold weather plumage, whereas they breed in the pale bleached summer plumage about Belgaum in September for certain, as I found two or three nests myself this year in that month, one of which contained four eggs, and I saw several other pairs of birds at the same time, all of which were breeding beyond a doubt. The bird may possibly breed twice a year, viz. in April and again in September. In this there is nothing very remarkable, but it is a fact worthy of note if it breeds in the dark cold weather plumage as well as in the pale summer plumage."

I cannot myself consider the breeding in April as by any means established as yet. The females examined by Mr. Bourdillon showed no traces, his brother writes to me, of this, and in some species the testes of the males *begin* to enlarge months before they actually breed.

Lastly, Captain Butler sent me for the new edition of " Nests and Eggs" a note on the nidification of this species, which I think is sufficiently important to be published at once. He says :—

" On the 1st September 1880, I shot a pair of these birds as they rose out of some long grass by the side of a rice field ; and, thinking there might be a nest, I commenced a diligent search, which resulted in my finding one. It consisted of a good sized ball of coarse blades of dry grass with an entrance on one side, and was built in long grass about a foot from the ground. Though it was apparently finished, there were unfortunately no eggs, but dissection of the hen proved that she would have laid in a day or two. On the 10th instant, I found another nest exactly similar, built in a tussock of coarse grass, near the same place ; but this was subsequently deserted without the bird laying. On the 19th September, I went in the early morning to

the same patch of grass and watched another pair, soon seeing the hen disappear amongst some thick tussocks. On my approaching the spot she flew off the nest, which contained four eggs, much incubated. The nest was precisely similar to the others, but with the entrance hole perhaps rather nearer the top, though still on one side. The situation in the grass was the same—in fact it was very similar in every respect to the nest of *Drymæca insignis*. The eggs are very like those of *Molpastes hæmorrhous*,* but smaller, having a purplish white ground, sprinkled all over with numerous small specks and spots of purple and purplish brown, with a cap of the same at the large end, underlaid with inky lilac.

These birds closely resemble *Chætornis striatus* in their actions and habits, and in the breeding season rise constantly into the air, chirruping like that species, and descending afterwards in the same way on to some low bush or tussock of grass, sometimes even on to the telegraph wires. They are fearful little skulks, however, if you attempt to pursue them, and the moment you approach, disappear into the grass like a shot, from whence it is almost impossible to flush them again unless you all but tread on them. It is perfectly marvellous the way they will hide themselves in a patch of grass when they have once taken refuge in it; and, although you may know within a yard or two of where the bird is, you may search for half an hour without finding it. If you shoot at them and miss, they drop to the shot into the grass as if killed, and nothing will dissuade you from the belief that they are so until after a long search the little beast gets up exactly where you have been hunting all along, from almost under your feet, and darts off to disappear, after another short flight of fifteen or twenty yards in another patch of grass, from whence you may again try in vain to dislodge it."

If to Mr. Bourdillon we are indebted for the rediscovery of this interesting species, to Captain Butler we owe most important information as to its distribution and life history; and this is

* No doubt the egg does resemble one of the feebly marked speckly types of the eggs of *M. hæmorrhous*; but it is extremely unlike all the more richly coloured, boldly marked types. The following is my description of the egg, taken from the MSS., new edition of "Nests and Eggs":—

"The eggs of this species, though much smaller, are precisely of the same type as those of *Megalurus palustris* and *Chætornis striatus*; moderately broad ovals with a very fine compact shell with but little gloss, though perhaps rather more of this than in either of the species above referred to. The ground colour is white, with perhaps a faint pinkish shade, and it is profusely speckled and spotted with brownish red, almost black in some spots, more chestnut in others. Here and there a few larger spots, or small irregular blotches occur.

Besides these markings, clouds, streaks, and tiny spots of grey or lavender grey occur, chiefly about the large end, where with the markings (often more numerous there than elsewhere) they form, at times, a more or less confluent but irregular and ill-defined cap.

"One egg measured 0.73 by 0.6."—A. O. H.

only one of numberless valuable contributions that he has made during the last few years to our knowledge of Indian ornithology. It is with unfeigned regret, therefore, that I learn that before this article even can be published, Captain Butler will have left India with his regiment; and we shall have lost, (but let us hope not for ever) one of the most persevering, accurate and enthusiastic field ornithologists that India of the present day can boast.

A. O. H.

Puffinus chlororhynchus.

THE GREEN-BILLED SHEARWATER.

BY CAPTAIN W. VINCENT LEGGE, R.A.*

GAVIE.

Fam. Procellariidæ.

Bill hooked at the tip, which is elevated and distinct from the base in both mandibles; sides grooved, in some furnished with lamellæ; nostrils tubular, placed on the base of the culmen and opening to the front; wings long and pointed; tail short, variable in the number of feathers; legs short, placed far back; the tibia more feathered than in the last family; feet fully webbed, the outer toe not shorter than the middle; hind toe present as a claw only.

Of oceanic habit and powerful flight. Of variable size, nesting on rocks or in holes in the ground. Sternum with one fissure in each half of the posterior margin.

GENUS PUFFINUS.

Bill rather long and slender, the tip much elevated and hooked; the gonyes curved; nostril tube flattened above, rather short, and with two orifices with a division equal to their width; wings long, the 1st quill slightly exceeding the 2nd; tail of 12 feathers graduated, rounded at the tip; tarsus much compressed, the sides protected by well-defined scutes, shorter than the outer and middle toes; hind claw very small.

Puffinus chlororhynchus, Lesson, *Traite d'Orn.*, p. 613 (1831); Newton, *Ibis*, 1861, p. 181, et 1867, p. 359.

Puffinus, sp.?, Legge, *Str. Feath.*, 1875, p. 374; Hume, *ibid.*, 1879, p. 115 (List B. of Ind.)

* This is not really an article written for S. F. by my friend Capt. Legge, but simply an extract *verbatim et literatim*, from his "Birds of Ceylon," of his article on this species. This latter has to be added to our list, and some account of it had to be given in STRAY FEATHERS, and I have adopted Capt. Legge's account, in order thus to give my readers an idea of the careful and comprehensive manner in which he deals with every species included in his work. This, owing to the circumstances of the case, is perhaps the meagreest article in the whole book.

Adult Male (Ceylon).—Length from skin, 15.5 inches; wing, 10.6; tail, 5.2; tarsus, 1.8; middle toe, 2.0; outer toe, 2.0; bill to gape (straight), 2.0; length of nostril tube, 0.3.

Iris dusky; bill dusky greenish; legs and feet fleshy white.

Above glossy smoke-brown; the wing-coverts and tertials slightly darker than the back, the latter with a greyish tinge or bloom (similar to the appearance of a Tern's wing) on the centre of the feathers; primaries and tail brownish black; beneath uniform pale brown; the chin and gorge pervaded with ashy grey; under tail-coverts dark brown, the tips slightly paler than the rest of the feathers; under wing uniform grey-brown.

Obs.—An example of this Petrel in the British Museum from Bourbon is a *facsimile* of the specimen here described; the only difference perceptible is the slightly less grey tint of the under surface. It measures:—Wing, 10.8 inches; tail, 5.0; tarsus, 1.8; middle toe and claw, 2.25; bill to gape (straight), 2.0; length of nostril tube, 0.35.

This species is very close to *P. fuliginosus*, which is larger, has a longer bill and white under wing-coverts; wing, 11.5 to 11.7 inches; tarsus, 2.1; bill to gape, 2.2.

A species of this group inhabiting the Persian Gulf, and larger than the Dusky Shearwater, *P. obscurus*, Gm., has been described by Mr. Hume as *P. persicus* (*Str. Feath.*, 1873, p. 5). It measures:—Length, 13.0 inches; wing, about 8.0; bill at front, 1.2. "Bill pale lavender, dusky at the tip; iris dark brown; legs white, with an opalescent gloss; lower part of tarsus blackish" (*Butler*). Upper plumage blackish brown, paler on the head; the under-parts white, with the flanks, axillaries, and a portion of the under wing-coverts and the longer under tail-coverts deep brown; the white of the face encircles the eye, extending backwards from the posterior angle as a narrow streak for 0.4 inches (*Hume*).

Distribution.—This species, which is one of the most interesting of late additions to the Avifauna of Ceylon, occurred for the first time on the west coast in May 1875. During the height of the south-west monsoon two individuals were met with on the Bolgodde Lake, not far from Panedura. They were on the water near the mouth of the lake, and one was shot, the other escaping. The specimen procured was sent to Mr. MacVicar, who gave it to me. In January 1875, I saw two Petrels, evidently of the same species, swimming in the sea near the fort of Trincomalie; and recently Mr. MacVicar writes to me that the Colombo Museum has acquired a specimen shot last year on the west coast. The Green-billed Petrel would, therefore, appear to be a not unfrequent straggler as far north as Ceylon. It is an inhabitant of the southern part of the Indian Ocean, and is not at all uncommon at the Mauritius, Bourbon, Rodriguez, and other islands. Mr. Edward Newton met with it at Rodriguez in October; and the Shearwater of the Seychelles, which he met with between the islands of Praslin and Mahé, is identified by him doubtfully as this species. Specimens were evidently not procured, and hence the doubtful identification; but it is probable, I think, that the birds seen were Green-billed Shearwaters. I have seen dark Petrels near the Cocos Islands, and thence southwards to the vicinity of the west coast of Australia, which I conclude belonged to the present species.

Habits.—Like other members of this family, this Petrel is purely a denizen of the ocean, dwelling on the wide waste of waters hundreds, nay thousands, of miles from land, which it rarely approaches, except for the purpose of rearing its young.

All Petrels appear to be perfectly at home in all weathers on the vast ocean expanse; and the present species forms no exception to this rule. Solitary individuals are frequently seen flying across the track of vessels passing through the trade-winds; they come in sight, perhaps, away on the weather-beam, shearing over the billows, one wing up and then down, with great speed; in a few minutes they will have crossed ahead of the ship or flown round it at a distance, making their way off to leeward, and disappearing as rapidly as they came in sight. Their flight is performed by swaying the body as it were from side to side, with the wings outstretched, and not flapping, but turned up successively from the horizontal, the course after each sudden inclination being downward and then up again with a rapid sweep, overtopping the waves, and instantly dropping again into the succeeding trough of the sea. They feed on marine substances, oily matter, the fat of whales when it can be procured, and any garbage they may find floating on the water. They sit buoyantly on the water, and must, of necessity, sleep in that position, possibly reposing a good deal by day.

Nidification.—The Green-billed Petrel breeds at Round Island, Mauritius, at Rodriguez, and probably other islands in the Indian Ocean. Mr. Edward Newton, who visited a breeding-place of this species at the first-named island, gives an interesting account of it in the *Ibis*, 1861, p. 181, stating that there is a large colony at the north-east of the island, although they are spread over the greater part of it. He observes that they are as tame as the Tropic birds but not so harmless. "They breed," he says, "under stones, and bite most awfully if they get a chance. The only way to get them out and take their single egg is to contrive to turn them round, so that one can grab their folded wings and tail. If dropped on the ground they will run about, and for some time will not try to fly; but if thrown into the air, they will glide down gently towards the sea. On going near any rock where there may be a dozen or two, one bird seems to give the alarm, and a chorus of the most extraordinary sounds immediately proceeds from under the ground. I hardly know what to compare it to, as there is nothing like it, except, perhaps, the noise made by cats when they set up their backs and squall....It is kept up for a minute or two, and increases when the individuals are hauled out in the manner above described." Two eggs of this Petrel from Round Island, for an examination of which I am indebted to Mr. Foottel, of Croydon, are elongated ovals, one slightly broader than the other, and both a little pointed at one end; they are dull white and smooth in texture, measuring 2.57 by 1.51 and 2.3 by 1.53 inches.

Sturnia blythi.

M.'s 83RD REGT.

By CAPTAIN E. A. BUTLER, H. 237, 238.)

(Vide, pp. 228, et seq., &—

—e remarks on this species, seems almost to have escaped notice. I SHOULD like to make a few more, the more so that the female seems from the cock in having the

The hen of this species differs from the cock in having the head grey (almost the same shade as the back, but slightly paler) instead of white, and in its bill half an inch. Again, in the cock-bird the whole of the throat, chin and breast are pure white, whereas in the hen the chin and throat only are whitish (not pure white), and the breast is the same colour as the abdominal parts, but slightly shaded with grey, (owing to the base of the feathers being of that colour), as are also the flanks.

Mr. Hume does not consider the whiteness of the head in the cock-bird as a distinguishing characteristic, having obtained specimens of *malabarica* also with white heads. I, on the contrary, have never* seen a white-headed *malabarica* about Belgaum, although the species swarms here in the cold weather. One thing I have noticed, and that is, that out of the large number of *blythi* that I have shot from time to time, I have never observed any white feathers in the lower tail-coverts, as is so often the case in *malabarica*. (S. F., VI., 391.)

Hens of *blythi*, except when they have the white forehead, are not at all unlike both sexes of *malabarica*; but the cocks, with their snowy-white head, neck, chin, throat and breast, cannot possibly be mistaken for that species.

As Mr. Hume remarks, it is strictly a Tree Myna, never, so far as I have observed, settling on the ground, and like *malabarica* keeps up an incessant chattering whilst hopping from bough to bough in search of food, which consists principally of berries. It is particularly fond of the berries of the wild *Lantana*, which grows in such profusion about Belgaum.

* No doubt specimens of *malabarica*, with heads as white as old adult, full plumaged males of *blythi*, are very rare. I have only seen three such out of many hundreds of specimens that have passed through my hands; but *malabarica*, with heads quite as nearly white, as all the female and young male *blythi* that I have yet seen are quite common.

I append measurements of six fully adult birds of the present species taken in the flesh, and of six adults of *S. malabarica* for comparison, all shot at or near Belgaum :—

Species.	Sex.	Length.	Expanse.	Wing.	Tail.	Bill, at front.	Bill, from gape.	Date.
<i>S. blythi</i>	... Male ...	8.12	12.25	4.06	2.47	0.68	1.0	10-10-80
"	" " ...	8.25	12.75	4.0	2.5	0.75	1.06	10-10-80
"	" " ...	8.25	12.38	4.0	2.5	0.65	1.0	10-10-80
"	... Female..	7.75	11.87	3.83	2.62	0.68	1.0	6-10-80
"	" " ...	8.0	12.25	3.93	2.75	0.75	1.0	17-10-80
"	" " ...	7.87	12.0	3.83	2.62	0.68	1.0	17-10-80
<i>S. malabarica</i> ..	Male ...	8.0	12.5	4.0	2.75	0.68	1.0	4-1-80
"	" " ...	7.87	12.38	3.87	2.37	0.68	1.0	6-10-80
"	" " ...	8.12	12.75	4.12	2.62	0.68	1.0	7-10-80
"	" " ...	7.75	12.25	4.0	2.5	0.68	1.0	23-2-80
"	" " ...	8.12	12.75	4.12	2.75	0.75	1.06	3-3-80
"	... Female..	7.75	12.25	4.0	2.5	0.75	1.0	3-1-80

In both species the iris is greyish white (or grey in some specimens) ; legs and feet vary from yellow to brownish yellow, olive yellow, yellowish olive ; bill blue at base, green in the centre, yellow at the tip.

Mergus serrator.

As mentioned in the third VOLUME of the "GAME BIRDS" the Red-breasted Marganser has to be added to the Indian list, and demands, therefore, some notice and a description in "STRAY FEATHERS."

On the 24th of November 1875, Captain Bishop shot a female Marganser, at Manoura Point, Kurrachee. The specimen was preserved, and some years later kindly sent to me by Mr. Murray of the Kurrachee museum. I did not examine it closely at the time, and it was only when writing my article on the Goosander for the "GAME BIRDS," and closely scrutinizing our large series of that species, that I discovered that Captain Bishop's bird was unmistakeably the female of the Red-breasted Marganser.

No other instance of its occurrence within our limits is known.

It is common in winter throughout China (as it likewise is in Japan), but Père David tells us that he never succeeded in procuring an adult male there ; probably chiefly the birds of the year visit China. At Lake Hanka Przjwalski found it scarce. In Mongolia he only saw it at the Dalai-Nor, and in Kansu he met with only a single specimen, a young one. Throughout Southern and South-eastern Siberia, where it breeds freely, it is more common than the Goosander. It has not yet been recorded from Yarkand, Western Turkestan,

Afghanistan or Beluchistan (unless, as is possible, the birds observed by Bishop* at Chabour and Jask on the Mekran Coast belonged to *this* and not, as he believed, the more common species) nor even in Persia or the Caspian, or Asia Minor; but I suspect it will prove to occur, as a rare straggler, in severe winters to most, if not all, these localities.

On the Coasts of Palestine it has been observed in the Sinaitic Peninsular, and has occurred accidentally in Egypt and Algiers.

It occurs throughout Europe elsewhere on passage, or as a winter visitant only, but breeding in Scotland, the Shetland and Færoe Islands, and commonly in Iceland, in Denmark, Sweden and Norway right up to the North Cape, the southern littoral of the Baltic, Finland, and Northern Russia. On the whole perhaps it is more common in the north, and less so in the south than the Goosander. In North America its range is similar to that of the latter species, but it occurs in Greenland; and, though recorded from California, hardly travels quite so far south in winter.

Generally I think it may be said to have a rather more northerly range, to extend and breed further north, and to straggle less frequently far south than the Goosander; and it is a species which I should only expect to meet with within our limits as a rare straggler.

I have no original particulars to furnish of this species. The following I compile from European and American specimens and sources:—

Males.—Length, 24·0 to 26·0; expanse, 29·0 to 32·5; wing, 9·0 to 10·0; tail, from insertion of feathers, 3·1 to 4·2; tarsus, 1·8 to 2·05; bill, at front, along culmen, 2·4 to 2·5; weight (*Naumann*) a little over 2 lbs.

Females.—Length, 22·0 to 23·5; expanse, 28·0 to 31·0; wing, 8·5 to 9·3; tail, from insertion of feathers, 2·7 to 3·6; tarsus, 1·66 to 1·83; bill, as above, 2·1 to 2·3.

In the male the bill varies from orange red to deep vermilion, is more or less dusky on the ridge, and has the nail varying from pale yellowish grey to almost black. The feet vary similarly to the bill, and are brighter externally, paler internally, and duller on the webs. The claws are light grey, duller and browner, or redder towards their bases.

In the young females there is more dusky on the upper mandible, where the red is often only a lateral band, and the feet are duller coloured than in the adult male.

In the adult male, the whole head, chin, throat, and the neck all round, for about one inch, black, glossed with metallic green

* Cf., IV., 496.

on the sides of the head and a bluer sheen elsewhere. Along the middle of the crown and occiput runs a comparatively narrow line of excessively narrow, more or less disintegrated-webbed, elongated feathers, of which the longest are over three inches in length, forming a conspicuous crest. The rest of the neck, all round, to just the base, pure white, with a conspicuous narrow black line down the centre of its hinder aspect. At the base of the neck a light brownish-rufous or pale brownish-chestnut band extends all round, narrower behind, and broadening into a crop patch in front. This band is streaked longitudinally with blackish brown. The interscapulary region and upper back, the extreme sides of the breast and the scapulars, velvet black. Outside the scapulars and between these and the wing there is a conspicuous patch of long white feathers. The primaries, and their greater coverts (which latter are darkest), the shoulder of the wing and the lesser coverts just above the carpus, blackish brown. The rest of the lesser and median coverts pure white; the secondary greater coverts black, all except the first three broadly tipped with white, but leaving a portion of their black bases visible below the white median coverts, thus forming the first black bar across the white of the wing. The secondaries black, all except the first three very broadly tipped with white; here again this white does not reach quite as far up as the white tips of the greater coverts, and thus a second transverse black bar is formed. The tertiaries, or as some call them the elongated inner secondaries, are (except the last three which are black) pure white, conspicuously margined with black. The axillaries are pure white. Just above the bases of these, at the sides of breast, there is a remarkable tuft of feathers, pure white, but everywhere conspicuously margined with velvet black. The whole of the rest of the lower parts are white, with, in life, a beautiful salmon or buffy tinge which disappears in the skin. Sides and flanks also white, but very conspicuously and rather coarsely vermiculated with greyish black. Middle and lower back, rump and upper tail-coverts also white, but *extremely*, finely, and closely vermiculated with dull black, so as to produce a general grey effect. Tail dull brown; wing lining, except along the edge of the wing and the greater lower primary coverts (which are satin grey) white.

The female has the entire crown, occiput and crest (which is similar to, but smaller than, that of the male) brown, with more or less of a dull rufous or chestnut tinge, and more or less of ashy towards the forehead; the sides of the head and neck all round pale dull brownish chestnut; the chin white, and the front of the throat more or less albescent. The breast and entire lower parts white or pinkish white in life, only at

the base of the throat and on the crop, the grey-brown bases of the feathers show through to a certain extent like hidden bars, and the sides of the breast and body and flanks are brown of the same peculiar greenish or ashy shade (though rather purer in tint) as the upper surface. The entire interscapular region, mantle, lower back, rump and upper tail-coverts, brown, with, to my eyes, a sort of greenish tinge, or some would call it ashy, most of the feathers paling towards the margins. The quills are dusky, almost blackish; the secondaries and their greater coverts black, all but the first three broadly tipped with white, but leaving a portion of the black bases of the secondaries visible below the white tips of the coverts, thus forming a more or less conspicuous, though posteriorly narrow, black band across the white wing patch. There is a second upper black band as in the male, but as the lesser and median coverts in the female are dusky ash, it is hardly noticed.

The tertiaries blackish dusky, paling anteriorly, whitish towards the tip, and the innermost one mostly white with a black outer margin. The tail feathers are much the same colour as the back.

Both sexes, as will have been gathered from the above description, resemble those of the Goosander, but may be distinguished by their smaller size, and bills much thinner in proportion to their length, especially at the base.

The adult males, moreover, are at once to be recognized by the conspicuous light brownish rufous band round the base of the neck, narrow behind, broadening out in front into a crop patch, which band is everywhere adorned by black streaks; by a narrow black band stretching down the back of the neck, a greater length of which is white than in the Goosander; by the flanks (pure white in this latter) strongly vermiculated with greyish black in the present species, and by the much longer and differently-shaped crest and other minor differences.

But we are very unlikely to get adult males in this country, and the young and females far more closely resemble those of the Goosander.

They may, however, be distinguished by their smaller size (they weigh about two-thirds of what the others do) and differently shaped bills; by their browner crowns and crests; by their entire upper surface being a tolerably dark brown, or ashy brown, or dusky slaty with a brownish or greenish tinge instead of the clear light blue grey of the Goosander; and by the white wing patch composed of the terminal portions of the secondaries and their greater coverts, which in the Goosander forms a single patch; but in the present species, (the tips

of the coverts not quite extending to where the white tipplings of the quills commence) is crossed by a dark bar, (broader anteriorly, narrower posteriorly,) dividing it into two.

A. O. H.

On an undescribed species of *Phylloscopus*.

BY W. EDWIN BROOKS.

Phylloscopus burmanicus, N. Sp.

THE first example of this bird I received from Mr. Oates without any name on the label, about May 1880, and the second example I found in Mr. Hume's museum, labelled *P. viridanus*. These two accord so perfectly, and differ so decidedly from all others with which I am acquainted, that I have no hesitation in concluding them to be specifically distinct.

The upper surface is pale olive as in *viridanus*; there is a broad yellowish white supercilium, and the usual brownish band through the eye; lower surface albescent as in *viridanus*, and tinged in the same way with dusky or grey on sides of breast and flanks; centre of lower parts faintly tinged with yellow, to the same extent as in *viridanus*; upper surface of bill light brown; lower mandible horny white. There is a very conspicuous wing bar of the same character as in *plumbeitarsus*, but no second or upper bar is visible as in that species.

The first primary is of moderate size as in *plumbeitarsus*; second a trifle longer than the 8th. There is a considerable space between 2nd and tip of wing; in one example .4, and in the other .36; this is about one-tenth longer than in *viridanus*.

The date of Mr Oates' example is 15th November; locality, Pegu. Of Mr Hume's, 12th October; locality, 100 miles north of Moulmein, both are marked as males.

The Pegu bird has the following particulars on the label:— "Length, 4.7; expanse, 7.5; tail, 1.8; wing, 2.4; tarsus, .78; bill from gape, .59. Iris brown; lower mandible of bill yellow, dusky at extreme tip; upper one brown; legs and toes yellowish brown; claws pale brown."

The Moulmein bird's wing is 2.37; tail, 1.8; bill, at front, .36; from gape, .58; tarsus, .78.

It is one of the broad *Hypolais*-billed group, like *nitidus*, *polyglotta*, *viridanus*, *magnirostris*, *lugubris*, *plumbeitarsus* and others.

From *viridanus* it may be distinguished as follows:—

(1.) The wing bar being abruptly separated from the greenish colour of the rest of the feather, while in *viridanus* the wing bar

is shaded off, or blended into the adjoining greenish colour. This distinction is alone conclusive.

(2.) The bill is larger and most conspicuously so when looked at from below, the lower mandible being longer and broader at the base. The bill is both whiter below and paler brown above.

(3.) The different shape of the end of the wing, the step between 2nd and tip being much shorter in *viridanus*. This remark also applies to *plumbeitarsus* and *lugubris*.

From *plumbeitarsus* its larger size, longer wing, only one wing bar, paler tone and longer distance between 2nd and tip of wing separate it.

From *lugubris* its very much paler tone, smaller first or bastard primary, and longer distance between 2nd and tip of wing separate it.

With an average *lugubris*, it could never be confounded, but sometimes this species is much clearer and less dusky than usual, in colour much resembling *magnirostris*, and then, if somewhat faded, it would not be unlike our new bird, save for the other points noted.

Tophotriorchis Kieneri.

IN Volume I, page 310, *et seq.*, I gave a very full description of the adult of this species, the Rufous-bellied Hawk-Eagle. At page 9 of Vol. V., while recording it from North-east Cachar, I pointed out one great difference existing in apparent adults of this species, *viz.*, that, whereas some have the chin, throat, and breast snow white, in others these parts are strongly tinged and overlaid with the rich ferruginous chestnut of the rest of the lower parts. At page 33 of Vol VII., I recorded it from Southern Travancore—a locality important because I had previously reason to doubt whether the Peninsula species was really, as it proves to be, identical with the Himalayan.

Hitherto nothing has been said of the immature plumage of this species. In fact, so far as I know, only one young bird has ever been described, and that by Mr. Sharpe, in his Addenda to Vol. I. of his British Museum Catalogue, page 458.

I find I have in my collection several young birds, one considerably younger, and two again considerably older than that described by Mr. Sharpe; and with these four and other intermediate ones, we are now in a position to understand fairly well the changes of plumage which this species undergoes.

The youngest specimen I have yet seen is a young male, shot on Singapore Island, on the 19th January. It is in the most beautifully fresh plumage, and I apprehend has only just left the nest. Broadly speaking it is a comparatively light brown above, the feathers, darker centred or shafted, and every feather tipped albescent or white; the longest crest feather is nearly two inches long; beneath it is everywhere an uniform *snow* white, except the tips of the large plumes of feathers that, springing on each side of the breast, cover the sides of the body, which tips are dark brown, and the axillaries which exhibit fulvous-brown, linear, oval, subterminal shaft-spots.

At page 312 of Volume I, I quoted the description of a specimen figured in Jardine and Selby's illustration of ornithology, plate 66. Comparing our young bird with that figure, there is no doubt, I think, that the two belong to the same species; but ours is a younger bird; the brown is not nearly so dark in our bird; and the albescent tippings to all the feathers of the upper parts seem to have disappeared in Jardine and Selby's specimen. On the other hand the primary greater coverts, which in that bird are represented as tipped with pure white, are in our bird only tipped in the same way as all the rest of the feathers of the upper surface, with a sort of yellowish or brownish white. Probably this pure white is an artistic exaggeration. Lastly, the crest in the figure is represented as occipital, whereas it really arises near the base of the occiput, and might more properly be called nuchal.

With this exception I do not doubt that, had our bird lived three or four months longer, so as to lose the pale nestling tippings to the feathers, and permit the gradual darkening of these which seems to take place, it would have agreed most exactly with Jardine's figure. That a bird of this species should have been killed on the coast near Aberdeen, as was asserted when the plate referred to was published, seems hardly credible. Mr. Gurney will probably be able to tell us whether anything further as to the history of this specimen has ever transpired.

I will now give a more detailed description of our youngest bird.

Male.—*Singapore, 19th January 1880.*—Length, 21; wing, 14; tail, from insertion of feathers, 7·9; tarsus, 2·6; bill, from gape, straight to point, 1·5.

The feet and cere were pale creamy yellow; the irides pale yellow; bill and claws horny black; lower mandible yellowish at base.

Forehead and a narrow line over the eye fawny white; a strongly-marked black line running downwards from the posterior angle of the eye over the ear-coverts, rather more

than an inch in length; crown, occiput, nape, and back of the neck fawny brown; every feather tipped with albescent or yellowish white, and all the feathers of the crown and central part of the occiput more or less centred with dark brown; crest springing from the centre of the base of the occiput with the terminal visible portions deep brown, narrowly tipped whitish like the rest of the feathers; interscapular region and scapulars a rather pale hair brown, the feathers tipped albescent, dark shafted, and on the interscapular region especially darkening towards the centres; feathers of the back, rump, and upper tail-coverts similar, but not dark centred; the three or four longest scapulars with the whole visible portions dark brown; lesser and median coverts, and tertiaries, the same hair brown as the back, and similarly tipped, but the tippings more decidedly white; primaries, secondaries, and greater coverts blackish brown, all the feathers narrowly tipped (*very* narrowly in the case of the first five primaries) with white or brownish white; the tail a greyish olive brown, pretty broadly tipped with pure white, and with eight rather narrow, transverse blackish brown bands, of which only five are visible on the central tail feathers below the upper tail-coverts; entire lower surface of the body, axillaries, and wing-lining uniform snow white, except—

(1.) The terminal halves of the ear-coverts, which are warm fawny brown, black at the extreme tips where they join the black line already referred to.

(2.) The terminal portions of the elongated plume of feathers starting on either side of the breast, which terminal portions are in the longest feathers blackish brown, tipped white, and in the others brown shafted or with brown shaft stripes.

(3.) The axillaries which each exhibit either a dark shaft near the tip or a fawny-brown, linear-oval, shaft-spot near the tip.

(4.) One or two of the earlier primary greater lower coverts, which exhibit an imperfect blackish brown bar.

On the lower surface of the wing the first five primaries exhibit a *very* conspicuous notch; *above* this notch the feathers are white, greyish brown towards the shafts, with three or four narrow, transverse, dusky bars; *below* the notch, the feathers are dark brown, silvery grey towards the shafts, with three rather indistinct, transverse, dark brown bars on this grey. The lower surface of the tail is grey, with five to seven narrow, transverse, dark brown bands; on the outer web the outer margin is also of this same colour.

The bird described by Mr. Sharpe would seem to be somewhat older, and to have begun to acquire the yellow tinge of

plumage of the lower surface, &c., which characterizes the next stage, and which in its full intensity only appears, I think, at the next moult. I quote his description :—

“*Young*.—Above dark brown, the feathers lighter on their margins; wing-coverts coloured like the back, but the greater series with narrow, white margins; hind neck paler than back, rufous brown, with dark brown longitudinal centres, causing a slightly streaked appearance; quills blackish, with whitish brown shafts; the secondaries paler brown, like the scapulars, all the quills narrowly banded with black, nearly obsolete on the primaries, but more distinct on the secondaries, especially underneath, where the lining of the wing is whitish; tail dark brown, whitish at tip, and crossed with seven or eight rather narrow bands of black; crown of head dark brown, with tiny cream-coloured tips to the feathers; the occipital crest black, and 1·9 inch long; forehead and eyebrow very broad, rich creamy buff; cheeks and entire underparts creamy white, as also the tarsal feathers and under wing and tail-coverts; the greater under wing-coverts with a few indistinct blackish bars. Total length, 20·5 inches; wing, 13·3; tail, 8·5; tarsus, 2·5.”

Next we have a supposed male killed in April 1876 in Sikhim. Generally this specimen is black or intense blackish brown above, but with the *rich* creamy *yellow*, almost a maize yellow, of the bases of the feathers showing through, about the nape, and with the entire lower surface of this same rich creamy yellow, but with a few black linear lanceolate shaft spots on the feathers of the breast and sides of the abdomen, and with the tibial plumes, and the lower tail-coverts, intermingled with a slightly duller shade of the chestnut of the adult. The wing-lining is still white, but the axillaries are bright chestnut (not quite so red as in the adult), with a narrow black shaft stripe; the tips of the lateral pectoral plumes are black preceded by chestnut, and a very few of the feathers across the middle of the abdomen are here and there tinged with chestnut, showing that this colour first comes not by a moult, but by a change in the tint of the existing feathers. The forehead and the line over the eye extending in this bird, half an inch beyond the posterior angle, are of the same rich yellow, as the under parts, and the ear-coverts are of this colour also, but with black shaft stripes, and the longest of them broadly tipped with black. The tail is very similar to that of the younger bird, but so much darker in tint that on the central feathers, at any rate, the transverse bars are scarcely discernible. The white tips to the rectrices have disappeared, and the feathers are only just perceptibly paler margined at the tips.

Later again, to judge from another young bird, a supposed male purchased at Malacca, as the chestnut begins to creep over the abdomen, the rich yellow tinting fades away, the forehead becomes black, and the stripe over the eye almost disappears.

There seem, therefore, to be four recognizable stages :—

(1.) As it leaves the nest; uniform, snow white below, rather light hair brown above, every feather conspicuously, though narrowly, tipped white, or brownish, or fawny white.

(2.) Change anterior to first moult; similar, but a creamy tinge often pervading the white of the lower surface, the brown of the upper surface darker,* and the whitish tippings wanting, or obsolete, or nearly so.

(3.) First moult; upper surface intense blackish brown or almost black, but the bases of the feathers of the crown, occiput and nape, and the entire lower surface rich creamy yellow, and a few of the feathers of the breast and sides of the abdomen with black linear lanceolate shaft spots.

(4.) Change interior to second moult; upper surface similar, but a good deal withered in places; the rich yellow tinge everywhere disappearing or having entirely disappeared; the linear lanceolate shaft spots having increased in number and size, and a chestnut similar to that of the adult plumage, but duller (beginning on the lower tail-coverts, tibial plumes and axillaries,) creeping over the lower surface.

A. O. H.

Birds Nesting on the Eastern Narra.

ADDITIONS AND ALTERATIONS.

By S. B. DOIG.

SINCE my paper on the above subject appeared in your journal, I have had a letter from my friend Captain E. A. Butler, in which he makes certain remarks on my Tentative List therein given. Among others he says: "Surely most, if not all, of the following birds breed on the Narra, viz., *Bubo bengalensis*, *Scops bakkamæna*, *Taccocua sirkee*, &c., &c." I have specimens of

* This change also appears to occur in the feather itself. First the webs grow a little darker on either side of the shaft near the point; then the feather becomes distinctly sub-terminally darker centred; at the same time, in some birds at any rate, a creamy tinge creeps over the white everywhere; then the dark centres spread and grow darker still. But it is not until the first moult that they put on the intense black brown above or the full yellow below, and both these fade before the second moult, when the complete adult plumage is assumed. Whether the loss of white on throat and breast, in apparent adults, referred to at the commencement of the above article, indicates a third moult, or is an individual difference, I do not know.

all these birds in my collection which I have shot in other parts of Sind, and I have no doubt they are all permanent residents in the province; but many of them I have never met with on the Narra; and, as my paper only professes to give a list either of the birds whose eggs I have actually collected in this district, or of those of which I have every reason to believe do breed here, I regret I cannot add all he has pointed out. Some however I can. These I now proceed to give a list of, as well as some other species which I have discovered during the last twelve months.

First of all, as pointed out by Captain Butler—

761.—*C. brachydactyla*, should be expunged from my list, and the following birds added:—

265.—*Tephrodornis pondicerianus*, *Gm.* Nest and young, 25th June.

292.—*Lencocerca aureola*, *Vieill.* Three fresh eggs, 4th July.

530.—*Orthotomus sutorius*, *Forst.* Eggs not collected.

762 *ter.*—*Alaudula adamsi*, *Hume.* Not properly identified.

830.—*Coturnix coromandelica*, *Gm.* Eggs not collected.

Thirty species were entered in my former list in italics, as being birds, which I believed to breed on the Narra, but of which I had not obtained eggs. I have, during the last twelve months, obtained eggs of eleven out of these thirty species. They are as follows:—

16.—*Falco chiquera*, *Daud.*, 16th April.

55.—*Haliastur indus*, *Bodd.*, 4th April.

100.—*Cypsellus affinis*, *J. E. Gr.*, 22nd June.

118.—*Merops philippinus*, *Lin.*, 15th July.

158.—*Picus sindianus*, *Gould.*, 2nd April.

385.—*Pycoris sinensis*, *Gm.*, 10th July.

760.—*Pyrrhulanda grisea*, *Scop.*, 28th August.

760 *bis.*—*Pyrrhulanda melanauchen*, *Cab.*, 10th September.

933.—*Ardetta cinnamomea*, *Gm.*, 3rd August.

975.—*Podiceps minor*, *Gm.*, 8th July.

985.—*Sterna seena*, *Sykes*, 10th August.

In addition to the above, I have, of the following birds, not included in my original list, either taken the eggs, or acquired reasonable grounds for believing that they breed on the Narra. Those entered in italics represent the latter:—

120.—*Merops persicus*, *Pall.*, July, August.

515.—*Acrocephalus stentorius*, *Hemp.* and *Ehr.*, August.

553.—*Hypolais rama*, *Sykes*, March, June.

583 *bis.*—*Sylvia nana*, *Hemp.* and *Ehr.*, September.

709.—*Passer pyrrhonotus*, *Bly.*, August.

770.—*Certhilauda desertorum*, *Stanl.*, June.

837.—*Houbara macqueeni*, *J. E. Gr.* and *Hardw.*, May, June.

893.—*Tringoides hypoleucus*, *Lin.*, June, July.

As little or nothing is known of the nidification of some of these birds I will proceed to give the result of my observations.

158.—*Picus sindianus*, Gould.

Found a nest with two fresh eggs on the 2nd April; the eggs were laid in a hole in a tamarisk tree, situated about four feet from the ground; the tree was close on the bank of the Narra, the hole facing the north; there was no lining to the nest, the depth of the hole being about 10 inches.

515.—*Acrocephalus stentorius*, Hemp. and Ehr.

On the 4th August, while my man was poling along in a canoe in a large swamp on the look-out for eggs, he passed a small bunch of reeds, and in them spotted a nest with a bird on it. The nest contained three beautiful fresh eggs. A few days later I joined him, and on asking about these eggs, he described the bird, and said he had found several other nests of the same species, but all of them contained young ones, nearly fledged. I made him shew me some of these nests, all of which were situated in clumps of reed, in the middle of the swamp, and, in these same reeds I found and shot the young one, which though fledged, were not able to fly. These I sent with one of the eggs to Mr. Hume, who has identified them as belonging to this species. The nests were composed of frayed pieces of reed grass and fine sedge, the latter being principally towards the inside, thus forming a kind of lining. The nests were loosely put together, were about 3 inches inner diameter, $1\frac{1}{4}$ inch deep, the outer diameter being 6 inches. They were situated about a foot over water line, in the tops of reeds growing in the water.

553.—*Hypolais rama*, Sykes.

I first obtained eggs of this bird in March 1879. The first nest was found by one of my men, who afterwards shewed me a bird close to the place he got the eggs, which he said was either the bird to which the nest and eggs belonged, or one of the same kind. This I shot and sent to Mr. Hume with one of the eggs to identify. Some time after I again came across a lot of these birds breeding, and this time lay in wait myself for the bird to come to the nest and eggs, and when it did, shot it. This I also sent to Mr. Hume to identify. Some time after I heard from Mr. Hume, who said that there must be some mistake as the birds sent belonged to two different species, viz., *Sylvia affinis* and *Hypolais rama*, and were both, he believed, only cold weather visitants. This year I again

seen "Tilloor" there in the months of May and June. This year in September a man voluntarily informed me one day that he had seen the eggs of the "Tilloor" in the desert, at a place near where my man had seen the birds, and, strange to say, he described the eggs as being of an uniform buff or deep cream colour without any markings.*

893.—*Tringoides hypoleucus*, Lin.

On the 3rd July my man found a nest of this species containing two eggs; he shot the parent bird, which he saw sitting on the eggs, as it left the nest. This he carbolized and sent to me; the eggs being hard set he was unable to preserve. I sent fragments of the carbolized bird to Mr. Hume, who identified them as belonging to this species. The nest was a few shells and sand scraped together near the waters' edge of a salt deposit, and on these the eggs were laid. The eggs, my man described, as being similar to those of *Ægialitis minuta*, but larger and more strongly marked.

933.—*Ardetta cinnamomea*, Gm.

Found a nest on the 3rd August of this species in a thick clump of reeds in the middle of a swamp; it contained four fresh eggs. The nest was a platform of coarse grass and reed, the eggs were nearly perfect ovals, of a chalky white colour.

ADDITIONS TO THE SIND AVIFAUNA.

13.—*Falco subbuteo*, Lin.—On the 9th June at Hyderabad, my man brought me a nearly adult female of this species which he had shot in the babool grove below the camp. Being busy at the time, I was unable to look it up in Jerdon, but I sent it to Mr. Hume, saying I thought it was a strange-looking falcon, and he identified it as belonging to this species.

709.—*Passer pyrrhonotus*, Bly.—Found, as already mentioned above.

* Natives can rarely describe eggs correctly. The eggs of the Houbara, according to good figures, are of precisely the same type as those of *Otis tarda* and *tetrax*, *Eupodotis edwardsi*, *Sypheotis bengalensis*, and *Sypheotides auritus*.—A. O. H.

Notes.

THE NOMENCLATURE of some of the Asiatic Snipes is in a sorely confused state, and it is to be hoped that some competent authority at home will look into the question.

First, we have our Eastern Solitary Snipe, *G. solitaria*, and coupled with this a *G. hyemalis* of Eversmann (*Bul. de la Soc. Imp. de Natural, de Moscou*, 1845, I, 257), which Middendorf and others formerly held to be identical with it, but which Bogandoff, Severtzoff, &c., assert to be, and Taczanowski and others now-a-days accept as, distinct.

As stated in my article on *solitaria*, in Vol. III of the GAME BIRDS, I do not myself at all believe in the distinctness of *hyemalis*, and I doubt whether any Continental ornithologist has access to a sufficient number of Himalayan specimens of *solitaria* (which is a very variable species, both in size, colour, markings and number of tail feathers) to be able to decide the question. I have not myself unfortunately access to Eversmann's original description, or I might perhaps be able to settle the matter; but in England, where so many specimens of *solitaria* exist, there ought to be no difficulty in solving the problem.

Then, again, we have *G. sthenura* (Kuhl in Bp.), and *G. megala*, Swinhoe, and we have moreover *G. heterocerca*, Cabanis (J. F. O., 1870, 235) and *G. heteroeaca*, Cabanis (J. F. O., 1872, 317).

As far as I can make out, it is now usually, though not universally, admitted that the bird we call *megala* is the bird that Cabanis now calls his *heterocerca*.

Cabanis (J. F. O., 1873, 104 n.) appears to believe that Swinhoe really applied the name *megala* to *solitaria*, and that subsequently the name was wrongly transferred to his, Cabanis', *heterocerca*, and he refers to passages written by Swinhoe, before the latter had ever seen *solitaria*, in which (judging merely from the plate and description in the F. Japonica,) Swinhoe expressed the opinion that his *megala* and *solitaria* might be identical; but Cabanis ignores the fact that later Swinhoe, when he saw *solitaria*, at once recognized its distinctness, that Swinhoe's name was applied to the Common Great Snipe of China; and that though Swinhoe obtained *solitaria* from Père David from Peking, he himself never got this species in China, unless, indeed, possibly one specimen, which he sent to Blyth and which was lost, whereas of his *megala* he had many specimens, and continually met with it everywhere. It is quite impossible, therefore, that Swinhoe's name *megala* should have been originally applied to *solitaria*, or to any bird except

"went for" these birds, and again sent specimens of birds and eggs to Mr. Hume, who informed me that the birds now sent were *H. rama*, and that the eggs must belong to this species. Soon after this Mr. Brooks saw the eggs with Mr. Hume, and identified them as being *H. rama's* eggs, and identical to eggs he saw at home collected by, I think, Mr. Seeböhm, of this species, in Siberia. Only fancy, a bird breeding on the Narra, of all places, especially in May, June, and July, in preference to Siberia! Locally they are very numerous, as I collected upwards of 90 to 100 eggs in one field, about eight acres in size. They build in stunted tamarisk bushes, or rather in bushes of this kind which originally were cut down to admit of cultivation being carried on, and which afterwards had again sprouted. These bushes are very dense, and in their centre is situated the nest composed of sedge, with a lining of fine grass, mixed sometimes with a little soft grass reeds. The eggs are, as a rule, four in number, are of a dull white ground colour, with brown spots, the large end having, as a rule, a ring round it of most delicate, fine, hair-like brown lines, something similar to the tracing to be seen on the eggs of "*Dryocæca inornata*." The egg in size is also similar to this species.*

583 bis.—*Sylvia nana*, Hemp. and Ehr.

On the 13th November, while visiting the "Allah" Bund in the Runn of Kutch, I found the young of this species just able to fly. They, with *C. desertorum* and a few *Saxicola deserti*, were the only birds to be seen in this desolate region.

709.—*Passer pyrrhonotus*, Bly.

Forty years is a long period for one and the same bird not to have been met with in India. However, at the time I met with it, viz. in August, Sind, as a rule, is not visited by ornithologists for pleasure, and not many Europeans, official or otherwise, are travelling about in the districts. My duties fortunately (?) took me into my districts at this time, and one day, while trying to shoot some *A. stentorius*, I shot a bird which I did not know, and eventually some days after, on joining my kit, and looking it up in my books, I discovered I had got a prize. I was then a long way off from the place I obtained the above specimen; and, though I sent a man to shoot and carbolize as many specimens as he could get, he could find none. The following are my notes on this bird:—

"25th August.—While beating some tamarisk bushes in the middle of a swamp for *A. stentorius* I shot a bird I did not

* They are really a good deal broader eggs. Fifty eggs of *D. inornata* average 0.61 by 0.45, while fifty of *H. rama* average 0.615 by 0.495.—A. O. H.

recognize, and which I had noticed fly past me two or three times towards some small acacia trees growing in the water. On going to these trees, I found three nests exactly similar to nests of *P. domesticus*, only rather smaller, placed in the topmost branches, and about 12 feet over water line. All the nests had young ones more or less fully fledged; in order to have a pair of the birds, I shot a female."

Had I only known at the time of the importance of my prize I could have got all the birds—nest, young and all. The pair I shot, along with another male obtained some days after in another part of the Narra, I sent to Mr. Hume, who corroborated my identification. The second male, I shot out of a flock, which were migrating south, flying from tree to tree along the bank of the Narra:

760 bis.—*Pyrrhulauda melanauchen*, Cab.

This bird, wherever there are sand drifts, is very common, and is never, as far as my experience goes, found in company with *P. grisea*. They breed at the end of February and beginning of March, at the end of May and commencement of June, and again in the end of August and beginning of September. One breeding place I found in this latter month was situated away from the Narra, some 10 miles out in the desert near some salt deposits, and where evidently rain had fallen, as there was a considerable growth of grass. The nests were very similar to those of *P. grisea* both in size and description, and were invariably placed at the root of some tuft of grass, on the north side, evidently to be sheltered from the hot wind. In this place I collected over 40 eggs. They are very similar to those of *P. grisea*, perhaps as a rule more boldly marked, and some of them had well defined rings of colour round the larger end. The normal number of eggs is two.

770.—*Certhilauda desertorum*, Stanl.

On the 3rd June I found a nest and young of this species on a large, open plain on the borders between the Narra and Hyderabad districts. Since then I have to thank my friend, Mr. Ffinch, for an egg of this bird taken at Jask. The nest I found was similar to those of *P. grisea*, but larger. The egg in my collection is in markings very similar to eggs of *P. melanauchen*, the markings being bolder and the egg about twice the size.

837.—*Houbara macqueeni*, J. F. Gr. and Hardw.

My egg collector told me in July last that one year, while travelling through the desert from Gudra to Renahoo, he had

seen "Tilloor" there in the months of May and June. This year in September a man voluntarily informed me one day that he had seen the eggs of the "Tilloor" in the desert, at a place near where my man had seen the birds, and, strange to say, he described the eggs as being of an uniform buff or deep cream colour without any markings.*

893.—*Tringoides hypoleucus*, Lin.

On the 3rd July my man found a nest of this species containing two eggs; he shot the parent bird, which he saw sitting on the eggs, as it left the nest. This he carbolized and sent to me; the eggs being hard set he was unable to preserve. I sent fragments of the carbolized bird to Mr. Hume, who identified them as belonging to this species. The nest was a few shells and sand scraped together near the waters' edge of a salt deposit, and on these the eggs were laid. The eggs, my man described, as being similar to those of *Ægialitis minuta*, but larger and more strongly marked.

933.—*Ardetta cinnamomea*, Gm.

Found a nest on the 3rd August of this species in a thick clump of reeds in the middle of a swamp; it contained four fresh eggs. The nest was a platform of coarse grass and reed, the eggs were nearly perfect ovals, of a chalky white colour.

ADDITIONS TO THE SIND AVIFAUNA.

13.—*Falco subbuteo*, Lin.—On the 9th June at Hydrabad, my man brought me a nearly adult female of this species which he had shot in the babool grove below the camp. Being busy at the time, I was unable to look it up in Jerdon, but I sent it to Mr. Hume, saying I thought it was a strange-looking falcon, and he identified it as belonging to this species.

709.—*Passer pyrrhonotus*, Bly.—Found, as already mentioned above.

* Natives can rarely describe eggs correctly. The eggs of the Houbara, according to good figures, are of precisely the same type as those of *Otis tarda* and *tetrax*, *Eupodotis edwardsi*, *Sypheotis bengalensis*, and *Sypheotides auritus*.—A. O. H.

Notes.

THE NOMENCLATURE of some of the Asiatic Snipes is in a sorely confused state, and it is to be hoped that some competent authority at home will look into the question.

First, we have our Eastern Solitary Snipe, *G. solitaria*, and coupled with this a *G. hyemalis* of Eversmann (*Bul. de la Soc. Imp. de Natural, de Moscou*, 1845, I, 257), which Middendorf and others formerly held to be identical with it, but which Bogandoff, Severtzoff, &c., assert to *be*, and Taczanowski and others now-a-days accept *as*, distinct.

As stated in my article on *solitaria*, in Vol. III of the GAME BIRDS, I do not myself at all believe in the distinctness of *hyemalis*, and I doubt whether any Continental ornithologist has access to a sufficient number of Himalayan specimens of *solitaria* (which is a very variable species, both in size, colour, markings and number of tail feathers) to be able to decide the question. I have not myself unfortunately access to Eversmann's original description, or I might perhaps be able to settle the matter; but in England, where so many specimens of *solitaria* exist, there ought to be no difficulty in solving the problem.

Then, again, we have *G. sthenura* (Kuhl in Bp.), and *G. megala*, Swinhoe, and we have moreover *G. heterocerca*, Cabanis (J. F. O., 1870, 235) and *G. heteroeaca*, Cabanis (J. F. O., 1872, 317).

As far as I can make out, it is now usually, though not universally, admitted that the bird we call *megala* is the bird that Cabanis now calls his *heterocerca*.

Cabanis (J. F. O., 1873, 104 n.) appears to believe that Swinhoe really applied the name *megala* to *solitaria*, and that subsequently the name was wrongly transferred to his, Cabanis', *heterocerca*, and he refers to passages written by Swinhoe, before the latter had ever seen *solitaria*, in which (judging merely from the plate and description in the F. Japonica,) Swinhoe expressed the opinion that his *megala* and *solitaria* might be identical; but Cabanis ignores the fact that later Swinhoe, when he saw *solitaria*, at once recognized its distinctness, that Swinhoe's name was applied to the Common Great Snipe of China; and that though Swinhoe obtained *solitaria* from Père David from Peking, he himself never got this species in China, unless, indeed, possibly one specimen, which he sent to Blyth and which was lost, whereas of his *megala* he had many specimens, and continually met with it everywhere. It is quite impossible, therefore, that Swinhoe's name *megala* should have been originally applied to *solitaria*, or to any bird except

that to which all English authors attach it, viz., the Common Great Snipe of China.

But Przevalski, I see, keeps *megala* of Swinhoe and *heterocerca* distinct, and I think rightly so; and I have to suggest for Dr. Cabanis' consideration whether possibly his original *heterocerca* was not a *sthenura*, and whether, instead of Swinhoe's name *megala* having been transferred to his species *heterocerca*, the fact may not be that he has now transferred his name *heterocerca* to Swinhoe's species *megala*.

I do not for a moment suppose that this has been knowingly done. I only wish him to verify by reference to the original specimen whether it is or is not a *sthenura*. So far as his description goes (and I must in all humility protest against such imperfect and meagre descriptions) there is nothing to render this improbable. His only specific characters are larger size (size very variable in *sthenura*), difference in the number of tail feathers (which number in *sthenura* varies from 20 to 28 in specimens now before me, and the narrow feathers on each side from 5 to 9), and the greater length of the lateral ones (the length of these being most variable in *sthenura*, so that the spread tail is sometimes round and sometimes wedge-shaped).

Of course Dr. Cabanis remarked later, when describing his *G. heteroeaca*, "und hat im Schwanze jederseits eine verengte steuerfeder mehr, ein Umstand, auf welchen Gewicht zu legen ist, da die Zahl der Steuerfedern in der Gruppe keineswegs als zufällig, sondern mit als das sicherste Criterium für Unterscheidung der Arten zu betrachten ist." But this, as he has probably since observed, is wholly a mistake; indeed it would be more correct to say that, in the sub-group of the Pintail Snipes, the number of lateral tail feathers was totally valueless as a specific characteristic.

Not only does the number vary in *sthenura* as above, but in *solitaria* again it varies from 16 to 24, and the number of stiff laterals from 4 to 8 on each side. Nay, in *sthenura* it is extremely common to get a greater number of these peculiar feathers on one side than the other, 6 on one side, 7 on the other, and so on, and that too in fresh birds, with absolutely uninjured tails. Indeed it is by no means rare to get *sthenura* with none of these stiff lateral feathers. They appear in fact to be excessively variable in number, very easily shed, and about the last portions of the bird's plumage on which to base specific distinctions.

But to return. If *heterocerca* is not *sthenura*, what I would ask is *heteroeaca*? This latter is said to be extremely like *heterocerca*, but to be "somewhat larger in all its dimensions," yet it has a wing of only 14 cm = 5.54 inches English! Why

the wing in *sthenura* runs to 5.4? Clearly, therefore, if *heteroeaca*, with a wing of only 5.54, is larger than *heterocerca*, *heterocerca* cannot be larger than *sthenura*, and as the other diagnoses, number of lateral tail feathers and shape of tail, are, so far as stated, invalid, one has a right to presume, until we are favoured with a proper description, that *heterocerca* equals *sthenura*. If this were so, then *heteroeaca* (from Luzon, where, so far as we know, only *caelestis* and *megala* occur) might be *megala*.

I have now contributed my mite towards the elucidation of this troublesome question, and I must leave it to Dr. Cabanis and other European writers to clear the matter up thoroughly. At present "*heteroeaca*" is a myth to most of us, while *heterocerca*, treated by some as identical with *megala*, by others (like Prjevalski) as distinct, and applied to what I think must be *sthenura*, is a perfect *bête noir*, Anathema maranatha!

WHEN TREATING of *Acridotheres siamensis*, S. F., VI., 388, I was unable to give a proper description of the bird not having then seen a specimen. From Mr. Swinhoe's description (I should say remarks, for he never gave any description) I had gathered that the bird was very close to *fuscus*; but it is really totally distinct, as the following particulars taken from a bird, said to have been shot on the Tenasserim river, will sufficiently show:—

Length, about 9.5; wing, 5.3; tail from insertion of feathers, 3.3; tarsus, 1.6; bill from frontal bone, 1.15.

The bill, legs and feet appear to have been orange yellow.

The whole bird may be said to be entirely black, except, (1) the lower tail-coverts which, save at their bases, are pure white; (2) the tail feathers which are tipped with pure white, the central ones narrowly, and each succeeding feather more and more broadly till, on the exterior pair of all, the white tippings are nearly an inch in length; and (3) the wings, of which the primary greater coverts are pure white, and the primaries white at their bases. The first primary on the inner web only, the rest of the primaries on both webs.

The feathers of the forehead are linear and (all but the front row or so which are shorter,) an inch or more in length, and form a conspicuous crest continued by a band of similar feathers along the centre of the crown.

When I say that the bird is black, it must not be understood that it is jet black; it is black, everywhere, except on the secondaries, tertiaries and their greater coverts, and the central portions of the scapulars (all of which have a bronzy brownish lustre) overspread with a slightly greenish hoary

or greyish metallic lustre. In some lights the tail also has a slightly bronzy lustre. The primaries have no metallic lustre and are almost jet black.

IN MY NOTE on the Chinese Crimson Tragopan (S. F., VIII., 201) I said in a footnote, on the authority of Major Cock's letter, that the wattles of the Mishmi specimen were said to be yellow. Captain H. Stevens, of the 42nd N. I., who was the original discoverer of the species, now writes: "I notice that the wattles are said to have been yellow. This is a mistake. I kept the bird for over a year in a cage in my verandah. It had light blue horns and dark blue wattles, with crimson bars. The Mishmis brought two to Sudiya that year; this one was brought for me in lieu of a Crestless Moonal, a live specimen of which I wanted. I wrote to Colonel Godwin-Austen about it some two years ago; he replied that from my description it must be the Chinese bird. Major Cock, who saw it alive in my verandah, would have it, even after this letter, that it was only the Naga bird in another stage of plumage; he and I had a bet about it, and this is how the skin came to be sent to Major Marshall whom I have never seen."

SINCE MY NOTE on the distinctness of the Himalayan *Chætura nudipes* was published (*ante*, p. 230), I have received five more Sikhim specimens, which also entirely want the white frontal band. I have also looked up Hodgson's original plate which contains highly finished paintings of two birds of the species. In neither of them is there the slightest trace of any frontal band.

IN THE P. Z. S. for 1878, page 370, the late Mr. A. Anderson figured and described what he considered a new *Prinia* under the name of *poliocephala*. I reproduced his description, S. F., VII., 319, and entered it as a doubtfully distinct species, (535 *bis*) in my "Tentative List of the Birds of India."

This species was supposed to differ from *P. cinereocapilla* of Hodgson, first described by Moore, P. Z. S., 1854, p. 77), in having the entire forehead grey like the crown, whereas *cinereocapilla* had been described as having the nareal and frontal plumes and a streak over and behind the eye of the same rufous as the back, and only the crown grey.

Mr. Anderson fortified his own opinion by that of Mr. Brooks, who, he said, had informed him that his specimen was not *cinereocapilla*.

There may have been some mistake about this, but anyhow, after seeing the specimens in our Museum, Mr. Brooks entirely agrees with me that the two birds are *not* distinct.

It must be understood that this is apparently a very rare bird. So far as I know I have never myself seen a specimen alive, nor have I known of any other specimens, but the following, having been procured:—

(1). A specimen obtained by Mr. Brooks in May 1874, high up in the valley of the Baghirathi. This is the most westerly point where the species has been known to occur. This specimen, now in our museum, corresponds exactly with Moore's description.

(2). The specimen procured by Mr. Anderson in the Alpine District of North-Western Kumaon, the type of the supposed new species *poliocephala*.

(3). The specimen obtained by Mr. Hodgson in 1846 (but whether in the valley of Nepal or the Terai is uncertain) and which is the type of *cinereocapilla*.

(4.) Two specimens obtained by Mr. Mandelli in January 1876 and January 1877 in the Bhutan Doars, both of which are intermediate between Mr. Brooks' and Mr. Anderson's birds. The one being nearer the former, the other nearer, in fact almost identical, with the latter.

Independently of the specimens showing a distinct gradation, it is manifest that no two species could be thus intercalated.

First, on the west in Garhwal, typical *cinereocapilla*; next a little to the east, typical *poliocephala*; next a little further east again, typical *cinereocapilla*; and next further east again, birds, one of which is nearly *cinereocapilla*, and the other very nearly typical *poliocephala*.

Unquestionably in my opinion *poliocephala* is merely a stage of plumage of *cinereocapilla*, and should be expunged from our list of species.

There is one curious point about this bird. Mr. Moore's description is clear enough, "back, rump and wings bright rufous brown," and he described Hodgson's specimen No. 890, but Hodgson's original drawing 890 shows a bird with the nape and back unicolorous with the crown, in fact represents *Prinia socialis*, of which *stewarti* is a small dry plains-country race. It seems clear, therefore, that Hodgson did not distinguish the two forms, and that, while figuring *socialis*, he preserved and sent home a specimen of *cinereocapilla*. Again the extreme apparent rarity of *cinereocapilla* suggests the idea that *cinereocapilla* may be only an abnormal variety (and not a species or even race at all) of *socialis*. Where Mr. Mandelli procured his two specimens of *cinereocapilla* he procured large numbers also of *socialis*, and the two birds absolutely only differ in

cinereocapilla wanting the grey on the back. None of these *Prinias* migrate across the Himalayas, and if *cinereocapilla* were a *bonâ fide* resident species, it seems incredible that amongst the tens of thousands of specimens that have passed through the hands of, or been examined by, Mandelli, Brooks and myself, we should only have come across four specimens, including the single specimen procured by Anderson. Of course, it may be a good species, but at present the probabilities are against this, and I think we may certainly conclude that, whatever conclusion may ultimately be arrived at in regard to *cinereocapilla*, *poliocephala* at any rate is *not* a good species.

AMONGST MR. MANDELLI'S specimens, I find numerous examples of *GRACUPICA NIGRICOLLIS*, *Payk*, some of which are said to have been collected on the Tenasserim River, close to the Siamese Frontier. The locality whence these specimens are said to have come was never reached by Davison or any of my parties, and it may be that this bird really does occur there. It is very common just across the frontier in Siam, and may, as stated, occur just inside our boundary near the low pass or gap in the main range, through which the road from Tavoy *viâ* Mitamyo runs to Bangkok.

It seems desirable, therefore, to give a description of the species.

This bird (which will stand as, ? 683 *ter*, in our list) is very much of the *Sturnopastor* type, but is considerably larger. The following are measurements taken from skins, one from Amoy, three from Bangkok, and four from the Tenasserim frontier. The females are rather smaller than the males.

Length, 10.5 to 11.5; wing, 5.9 to 6.4; * tail from insertion of feathers, 3.5 to 4.0; tarsus, 1.3 to 1.6; bill from frontal bone, straight to point, 1.25 to 1.4.

The bill appears to have been horny blackish brown, with, perhaps, a slight reddish tinge; the extreme tips yellowish horny; the legs and feet are said to be greyish yellow, and the large bare space under and behind the eye bright yellow, (?) becoming orange posteriorly.

The entire head above and below (except the bare facial space) pure white, more or less sullied in many specimens. The feathers of the crown and occiput somewhat elongated, so as to form a short full crest. The neck all round, and the extreme upper portion of the breast, a more or less dull black. Below this, the breast, abdomen, vent, lower tail-coverts, sides and flanks white, the flanks with a few brown feathers intermingled.

* Pere David gives the wing at 6.8, but in none of our specimens does it exceed 6.38.

From the sides of the breast a narrow white band runs round the base of the hind neck, dividing the black collar from the back, which, with the scapulars and longer upper tail-coverts, are brown, more or less faintly margined paler. The rump and shorter upper tail-coverts are white, as are the edge of the wing and primary greater, upper and under coverts. The rest of the wing and the tail a darker brown than the back, every feather tipped with white, of a breadth and purity varying in different specimens; in the case of the wings often obsolete or nearly so on the primaries, and everywhere less conspicuous in younger birds; in the case of the tail the tippings comparatively narrow (say $\frac{1}{4}$ of an inch) on the central pair, and growing wider and wider on each succeeding pair, until, on the exterior ones, they are fully an inch in width, and moreover run upwards beyond this, occupying the outer half or more of the outer web.

In quite young birds (we are told, *non vidi*), the head, throat and upper breast are brownish, the feathers margined paler, the lower parts are sullied white, and there are no traces of the black collar.

We know that this species extends from Bankok, where it is very common, right through Siam, the Shan States, Yunan and Southern China, as far north as the province of Fokien. *Probably* it extends to Tonquin, Cambodia, &c., but of this I have no certain information.

RECENTLY, WHEN looking through Hodgson's original drawings, I came upon a picture of two Swallows which had puzzled me before. They were exactly like the hill *Collocalia*, which I have hitherto called *unicolor*, of Jerdon, but they were depicted with the tarsi feathered, whereas the tarsi in *unicolor*, as also in *spodiopygia*, are perfectly bare. It occurred to me to examine my Himalayan specimens, and lo and behold! they had the tarsi feathered, and corresponded exactly with Hodgson's drawing No. 962.

I have, on several occasions, hesitated to unite the Himalayan and Southern Indian forms, owing to a certain difference in shade of colour, which is difficult to express in words, but which one feels when a series of both is before one; but this present difference, now discovered by the help of Mr. Hodgson's drawings, of the tarsi being bare in the Southern Indian bird *unicolor*, Jerdon, and feathered in the Himalayan bird, settles the question.

And here I may say one word about this feathering for fear of mistakes arising. It is not only rather sparse, but extremely delicate, and easily rubbed off, and where the legs have had strings

tied round them for tickets it is mostly worn away. You only see it well in the case of the leg which has had no string tied round it, and has not been meddled with.

This Himalayan species is of course *Collocalia brevirostris* of McClelland's Catalogue, P. Z. S., 1839, 155, and Mr. Gray, in his Second Edition of the Catalogue of Hodgson's specimens and drawings, page 23, correctly identifies Hodgson's drawing 962 with this species. Who the authority for this name *brevirostris* really is, I feel uncertain. Mr. Gray (*loc. cit.*) attributes the name to Strickland, but there is nothing in the P. Z. S. to lead to the inference that Strickland was concerned in naming any of these species, and Horsfield, in his Catalogue of the E. I. C. Museum, page 100 (and it was he who read McClelland's paper at the Zoo) distinctly attributes the name to McClelland himself, and we must, therefore, I think, accept this latter as the author.

McClelland's original description will be found S. F., Vol. I., p. 295, where, not being then aware of the occurrence of this present species in Assam, I wrongly suggested that *brevirostris* might be intended for *infumatus* of Selater—a species we knew to be very common in Assam.

We now know that this present species, which will stand as

103 A.—*Collocalia brevirostris*, McClelland,

extends pretty well throughout the Himalayas, at any rate from as far west as Dalhousie, about 76° E. Long. to the further extremity of Assam, say about 95° E. Long.

I do not think I can improve on the original description, brief as this is, but I may say that the wing is about 4.9 in length, and that, though the tail may, when closed, be looked on as "*subfurcate*," when fully opened it is perfectly square or very nearly so. The tarsi, thinly feathered to the toes, will always distinguish this species from the closely-allied southern one, which has the tarsi perfectly bare.

IN A RECENT letter to me Mr. Brooks remarks: "I don't at all agree with your identification of the little White-tailed Mooleyit bird as *viridipennis*, of Blyth. I examined Blyth's *viridipennis* in the museum, and I am very sure indeed that they are *flavo-olivaceus*. The wing of one is nearly $2\frac{1}{4}$. Blyth makes no mention of the white tail, and it was hardly likely that when first obtained all eight feathers were knocked out. I found no difference whatever between these two types labelled by himself and our *flavo-olivaceus*. They were in much better condition when I first examined them than they are now. I examined them again. I see no reason at all for connecting Blyth's species

with your Mooleyit bird, since the other bird is the commoner of the two in Burmah, and Blyth's description fails to indicate it, and as Müller (*apud* Seeböhm) has not described his species, you should describe the Mooleyit bird, or rename it rather. *If you don't, I will*, after this year is out; but I would much rather you would name your own bird. It is inconvenient to have a bird standing without a name. I could never refer to it as *viridipennis*, for I am quite convinced that it is not Blyth's species, and no one can prove the contrary."

Now I also have examined Blyth's types, and I am of opinion that *no one* can say positively what species they belong to. The whole weight of the evidence, derived from the locality whence these types came—a locality where *flavo-olivaceus* has not been observed, and where the bird we have called *viridipennis* is the only one of the kind obtained—is in favour of Blyth's *viridipennis* being the Mooleyit bird, to which, with the sole exception of the omission to notice the white tail feathers, his description applies perfectly.

Mr. Brooks says that it is not likely that, when Blyth first obtained his specimens, all the eight white feathers had been knocked out. I can only say that all are now wanting.

But even if Mr. Brooks were right (and I think that he is quite wrong) it would be preposterous, in my opinion, to give a new name to this species, which, if *not viridipennis*, Blyth (as I feel certain that it is), is beyond question *presbytis* of Müller. If it be said that Müller did not describe his species, then I declare that my full description, S. F., V., 332, applies to *presbytis* of Müller, and so failing *viridipennis* of Blyth (the name I intend to adhere to) the species must stand as *presbytis*, Müller, and no other new name applied now by any one else can, according to rule, have any validity.

I may here notice that we have two *Reguloides*—the one that I have hitherto identified with *trochiloides* of Sundevall, a very rare bird, that I have only (as yet) obtained in Burmah, with very white under parts. The other, the species that Mr. Brooks persuaded me into naming *flavo-olivaceus*, a bird common in India, and Mr. Brooks informs me in Burmah also, but by this he must mean Pegu, as no specimen of it has ever been procured in Tenasserim Proper.

Now it seems to me an open question whether *flavo-olivaceus* may not after all prove to be the true *trochiloides* of Sundevall, and whether it may not be the white-bellied bird that requires a new name. This latter is so rare that it seems unlikely that Sundevall should have got hold of it, and so far as I know it does not occur in Bengal. The only way this can be determined is by a careful comparison with Sundevall's type if extant, or with his original description, to which I have

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not here access, and this comparison Mr. Brooks, who will take home one of my white-bellied Burmese birds, promises to make.

AMONGST THE specimens in Mr. Mandelli's collection I find three Laughing Thrushes collected for him by some gentleman in Captain Hill's survey party, according to the tickets, in Tenasserim, and apparently on the frontier hills between Tavoy and Siam.

These specimens were labelled *G. belangeri* by Mr. Mandelli, and no doubt they belong to the same little group as *G. leucolophus* of the Himalayas and Aracan, *G. belangeri* of Burmah, and *G. bicolor*, Müll., of Sumatra; but it is clearly the *Garrulax leucogaster* of Walden, described by him, P. Z. S., 1866, p. 548, from a specimen received by him from some part of Siam.

As this species must probably now be included in our list (it would stand as 407^{ter}) a brief description of it is necessary.

Dimensions (taken from the skin):—Length, from 11·5 to 12·5; wing, 5·0 to 5·75; tail from insertion of feathers, 5·0 to 5·5; tarsus, 1·6 to 1·8; bill straight from frontal bone to tip, 1·1 to 1·2.

Bill black; legs and feet apparently have been dark plumbeous. The lores, cheeks and ear-coverts velvet black, as in *leucolophus* and *belangeri*; entire cap white, and head fully crested, but the crest not quite so large or conspicuous as in these two species; the tips of the longest crest feathers slightly shaded with grey; a broad grey half collar on the back of the neck; the feathers along the middle of the back of the neck, with rufous olive shafts, and a little shaded on the webs on either side with this same colour; mantle bright ferruginous, brighter, *i.e.*, not so deep, as in *belangeri*, becoming rusty olive on the rump and upper tail-coverts; wings precisely as in *belangeri*; the inner webs dark hair brown; the outer webs olivaceous, with a yellowish ferruginous tinge; tail deep hair brown, obsoletely barred, and the central feathers and the outer webs of the laterals faintly shaded, except just at the tips with a duller shade of the colour which suffuses the outer webs of the quills; chin, throat, breast, abdomen pure white; sides, flanks, lower tail-coverts, and outer tibial plumes rusty olivaceous brown, much the same colour as the wings; the basal portions of the lower tail-coverts are greyish white, and the interior tibial plumes are white, faintly tinged with the colour of the outer tibial plumes. The grey half collar just runs up to and meets the tips of the black ear-coverts.

It will be seen that this species is distinguished at once by its white belly and broad grey nuchal collar from both *leucophaea* and *belangeri*.

This, I believe, is the first time that this species has been properly described. Lord Walden merely indicated it.

But while this species is certainly *leucogaster* of Walden, it seems also possible that, as subsequently pointed out by him, *Ibis*, 1867, 381, this is also *Turdus diardi* of Lesson—Tr. d'Orn., 408. It is true that the brief description there given—"cheeks black, head and neck white, mantle ashy, wings bright rufous"—does not by any means suit our bird well, but Lord Walden himself considered, after reading M. Pucheran's detailed description (*Arch. du Mus.* VII., p. 376, No. 37) of the type of *Turdus diardi*, that the two might be the same. He pointed out, however that neither Pucheran nor Lesson refer to any crest in *diardi*, which could scarcely have escaped their notice.

But he seems to have overlooked a most important point in Lesson's diagnosis, "mantle ashy." I have not access to Pucheran's detailed description, and therefore I do not know whether "mantle ashy" was a mistake of Lesson's or not. If not, then *leucogaster* of Walden is clearly distinct. It is to be hoped that some ornithologists at home, who have access either to the type in the Paris museum, or to the *Archives du Museum* (I have only the *Nouvelles Archives*) will set us right on this point, and let us know whether *diardi* really has an ashy mantle.

In the meantime we had better retain Lord Walden's name of *leucogaster*, which certainly applies to our bird. If *diardi* has an ashy mantle, it is clearly distinct, as indeed we might expect the Cochin-Chinese form to be; if it has not, then it is very doubtful whether the name founded on such a gross misdescription ought to be allowed to stand.

MR. SHARPE, Mr. Dresser and other European writers all unite *Pica bottanensis*, Deles. with *Pica rustica*, in which latter I include, not only the European bird, but *media*, *sericea*, *bactriana*, *leucoptera*, &c.

In my humble opinion these excellent authorities can only thus have united this well-characterized, though variable, species with the very distinct Bhutanese and Tibetan form (and by Tibetan I do not refer to Ladakh which people commonly call Tibet, but to Chinese Tibet lying north of Sikkim and Bhutan) because they do not really know what *bottanensis* is.

In the first place, *P. bottanensis* is to *P. rustica* what the raven is to the carrion crow. It probably weighs half as much again, and is very much larger than any specimen of *rustica* that I

have ever seen or heard of. I have a very perfect specimen now before me, but the tail not quite fully developed, which measures as follows:—Length, 21·5; wing, 10·5; tail from insertion of feathers, 11·75; tarsus, 2·3. Bill straight from frontal bone to point (measured with compass) 2·0. Has any one ever seen a *Pica rustica* anything approaching these dimensions?

Mr. Sharpe gives the following dimensions of an adult male from Sweden:—Length, 16·0; wing, 7·9; tail, 9·8; tarsus, 1·95; culmen, 1·5. Amongst the vast series of this species examined by Mr. Sharpe only one single specimen, and that from Central Asia, had a wing exceeding 8·7. That one specimen had a wing of 9·3. Again from the forehead to the tips of the longest tail-coverts the entire bird is velvet black, with over the whole back rather faint metallic green reflections. We know that in *Pica rustica* the rump varies from pure white to dark grey, but has any one ever seen *rustica* with the whole upper surface uniform black? Again like *mauritanica*, *bottanensis* has a distinct bare spot behind the eye, larger in some, smaller and partially overhung by feathers growing above it in others, but always distinct and entirely wanting in all the *rustica*, European and Asiatic, that I have examined.

If after this explanation European writers still persist in ignoring *Pica bottanensis* it will, at any rate, be no fault of mine. It may indeed prove that Delessert's *bottanensis* (I have not access to his original description) is not the bird we call *bottanensis* and not a good species, but the bird that inhabits the northern portion of Bhutan and Native Sikhim and Chinese Tibet immediately north of these, the bird that I have above characterized, is as good and distinct a species as *mauritanica*.

I may add, for some confusion seems to exist on this point, that this species does not get as far west as Ladakh, which people commonly talk of as Tibet. In Afghanistan, Cashmere, Ladakh, and Yarkand, and the countries lying between these, we have races of *rustica* which have been separated as *bactriana*, *leucoptera*, &c., but all with more or less white or grey upon the rump, all wanting the bare spot behind the eye, and none with wings exceeding, or in fact quite extending to, 9 inches. So far as we know, no form of this Magpie occurs either in Nepal or Kumaon, but Hodgson obtained one specimen, apparently a young and imperfect bird, which he figured half size in his plate No. 960, and of which he gives the length as only 20 inches and the wing 9·75; but the figure shows clearly the unbroken black back, rump and upper tail-coverts. To this Hodgson gave the name of *Pica tibetana*, (a name I here repeat in case Delessert's should prove inadmissible) and he has written across the drawing "India House, June 1848, No. 12," so I suppose there must be a copy of this drawing at home. It is not in-

cluded in Mr. Gray's Catalogue of the drawings and specimens presented to the British Museum, nor is it included in Mr. Hodgson's own Catalogue of Nepalese birds collected between 1824 and 1844, printed by himself, in the journal of the Asiatic Society, and a Hindee note on the back of the plate shows that this specimen came into Mr. Hodgson's hand after he had left Nepal, when he was living at Darjeeling on the 16th of January 1848, that he only got a skin bought from a Bhootea, and that his measurements were taken from the skin, sex being unknown.

I DO NOT think I have yet mentioned, that amongst the specimens in Mr. Mandelli's collection I find a huge number of specimens of my *Sturnia incognita* (S. F., VIII., 396), which, according to the tickets, were collected inside our frontier on the hills that divide Tavoy from Siam. This species will, therefore, have to be included in our list, in which it will stand as No. 689 *bis* A.

AT PAGE 72, Vol. VIII., I reproduced Captain Legge's account of his supposed species *Acridotheres melanosternus* from Ceylon. I confess that I do not see my way to supporting this supposed species. I have now before me specimens from Ceylon and Anjango in Travancore, which are absolutely inseparable, although the flanks of the Ceylonese birds are a trifle deeper chocolate than those of the Anjango ones; and again from the very pale birds, such as one obtains at elevations of five and six thousand feet in the Himalayas, to the very dark ones that we get in Southern Travancore, an unbroken series of forms exist. All we can say is that, as a body, the Ceylonese birds run much darker than the birds of the dry plains portions of India, which indeed is no more than might have been anticipated from the difference in the rainfall, but they are inseparable from some Travancore examples, and these Travancore examples are themselves linked by an unbroken chain of forms with the very palest examples from the driest regions, and under these circumstances I confess that I think it would have been better to refrain from bestowing a new name on the Ceylonese forms.

WITH REFERENCE to my remarks, *ante* p. 96, on *Cyornis poliogenys*, I have to note that I have altogether now ten* specimens of this species—one from Commilla, Tipperah, and six from the Bhootan Duars. None of these, except the Commilla bird, reliably sexed, and three just sent me from Joonktollee, Dibrugar, Assam, by Mr. J. R. Cripps, a male and two females sexed

* Since this was in type I have received a specimen from N. E. Cachar from Mr. Inglis.

by dissection. The sexes scarcely differ in plumage, but the male is just a shade darker everywhere on the upper surface, and the buff of the breast is a trifle brighter and more ochraceous orange.

THE OCCASIONAL range of *Pterocles coronatus* within our limits is considerably more extensive than I suspected. Lieutenant W. W. Lean writes to me under date the 7th of October :—

"Two males of the Coronetted Sand-Grouse were shot within three miles of this post, (Fort Jumrood, near the mouth of the Khyber Pass) this morning by Dr. Julian Smith. The flock (some 20 in number) was first seen flying from the direction of the Khyber uttering their peculiar cry. Suddenly they separated preparatory to alighting along a nullah, which crosses a very stony plain, to drink.

"The largest of the birds measures 12 inches in length and 23.25 in expanse, and weighs 23 rupees, say $8\frac{1}{4}$ ozs.

"The colouring of the plate in "THE GAME BIRDS" is, as you say, defective. The occiput is really cinnamon and not burnt sienna; the blue grey superciliary stripe forms a complete ring, a little white intervening between it and the eye. The orange of the plate should be more of a yellow ochre, which goes rather lower down than it is shown in the plate, and is continued on across the back of the neck, thus forming a ring. The yellow tinge of the plate is replaced by stone grey or rather a mixture of cinnamon and grey stone, and the burnt sienna and sepia shades are replaced by stone and brown.

"The neck is not thick, but Dove-like—in fact in shape exactly like that of the male Spotted Sand-Grouse as depicted in the plate.

"I can only find small seeds and gravel in their crops."

WHEN FIRST noticing the occurrence of *Erismatura leucocephala* near Khelat-i-Gilzai in South Afghanistan, and describing the species, I predicted that it would before long be found to straggle to the Punjab and Sindh.

This prediction has been already fulfilled, and Mr. F. Field, U.C.S., Punjab, has just kindly sent me a specimen of a duck that he was unable to identify, which proves to be a young bird of this present species. He says: "I shot this bird on the 28th of October at the "old nullah," about a mile from the Civil Station of Loodhiana, Punjab. It was sitting alone in a pool. I stalked up close behind some reeds, and then showed myself, expecting to see it fly. All it did was to cock its little stiff, thin pointed tail, and swim off in a quiet way for some ten yards. Its appearance, while swimming with its tail turned upwards, was most peculiar. I tried to frighten it into flying, but it would

not rise, so I shot it while swimming. Unfortunately I did not sex it. It measured in the flesh :—Length, 18·0 ; wing, 6·1 ; tail from vent, 3·5 ; tarsus, 1·3 ; bill at front, straight from margin of feathers to point, 1·7 ; from gape, 2·0 ; mid-toe and claw, 2·8.

“The irides were brown ; the bill very dark grey, almost black ; the legs and feet grey, with blackish webs and joints.”

This species may be recognized at any age by the *tail*, composed of 18 narrow spine-like feathers, with scanty, stiff, disunited, narrow webs, quite worn off towards the tips, which exhibit only the bare shafts ; the lateral feathers are successively shorter and shorter, so that the whole tail is sharply wedge-shaped, and owing to the nature of the feathers, which are only covered for about half an inch at their bases by the upper and under tail-coverts, looks poor and scraggy, much of the Cormorant type, but much feebler, thinner, barer, and poorer in appearance.

Still, though the tail will suffice for identification, it may be well to add to Mr. Field's remarks a detailed description of his bird, as young birds like this are the most likely to occur in India. The lores, forehead, crown, and upper part of the occiput are a dark brown, the feathers barely perceptibly margined at the tips with yellowish brown ; the rest of the occiput and nape are nearly similar, but the pale margins of the feathers are broader and more conspicuous ; a broad dull, white stripe, (a little speckled with brown) from the base of the upper mandible on either side to near the base of the occiput, but not quite meeting behind ; below this, from the gape, a broad dark brown stripe, also feebly freckled with pale buffy ; below this again, the rest of the cheeks, the chin and throat dull white ; the neck all round grey brown, freckled with yellowish white.

The interscapular region, scapulars, tertiaries, upper tail-coverts, back and rump, except the central portions of the two latter, a dull, pale brownish yellow or dull buff, freckled and obsoletely vermicellated with darkish brown ; the central portions of back and rump dark brown, narrowly and imperfectly barred with dull buff ; the tail, a dull rather pale brown, earthy in places, and in places with a rusty tinge ; the wings, a grey brown ; primaries and their greater coverts plain ; the rest more or less freckled towards the tips of the feathers with dull buff.

The breast and the rest of the lower parts, with the basal portions of the feathers brown, and the tips dull brownish yellow on the breast, passing to buffy white lower down, and a little nearly pure white about the vent. The brown bases show through, more or less, every where, least on the upper breast, most on the lower abdomen. The wing-lining is mingled French grey and white ; the axillaries are pure white.

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Captain Elwes informed me that he once received a skin, which he had good grounds for believing came from the Malay Peninsula, and which he had come to the conclusion belonged to this present species. This *quantum valeat*, possibly his skin may have first come from elsewhere to Singapore, or may belong to some other species of the genus of which there are several. Amongst these are *E. moccoa*, Smith, of Southern Africa, (the female of which much resembles that of our bird,) *E. australis* of Western Australia, and *E. rubida, ferruginea* and *dominica* from America.

Letters to the Editor.

SIR,

It may perhaps interest some of your readers to hear that a young female *Calornis*, probably of the same species as occurs in the Andamans and Nicobars, *C. tytləri* was captured at Poonawallee, about twelve miles to the west of Madras, on the 9th October last. It was feeding on a Banyan (*Ficus bengalensis*) tree among a lot of Mynas, (*Sturnia pagodorum*), Barbets (*Xantholema hæmacephala*), and other birds that usually infest these trees when in fruit.

I may also record the following interesting captures:—

1. On the 6th March 1878 a lovely male *Chrysococcyx maculatus* was caught with bird-lime in a garden at the Adyar, a few miles to the south of Madras. This specimen has the "entire breast uniform emerald green." The hen bird was never found, though search was made for it.

2. A fine adult *Surniculus lugubris* was caught on the 14th October 1879 in the museum compound. It was at first taken for a Drongo (*Buchanga atra*); but was found on examination to be the present species. Length of wing, 5.2 inches.

W. F. DIQUE.

SIR,

Referring to Major Swinhoe's letter, p. 237, in which he says, "Captain Butler may be in error in stating that Mr. Murray expressed any doubts on the subject, &c.," I beg to inform him that I am not in error, neither has my memory failed me in this instance as suggested by him. The Wood-Pigeon, I referred to in the Kurrachee Museum, was *certainly* labelled *Columba livia* when I saw it, otherwise I should not have stated so, and how Major Swinhoe can state positively in the face of my assertion "that it never could have been thus labelled," is more than I can comprehend. That it may be a Sind specimen is not improbable, and if it is *casiotis*, as Major

Swinhoe asserts, it probably is. I merely expressed my doubts upon this point from the manner in which the specimen was set up, but as regards the label being marked *Columba livia* when I examined the specimen, I am prepared to swear to the fact, whatever Major Swinhoe may say to the contrary, otherwise I should never have got hold of the idea.

In the latter part of his letter he mentions having taken a nest of *Asacus recurvirostris* at the Hubb river. I may add that whilst in Sind I also saw one or two pairs of these birds in the hot weather on an island in the Kurrachee harbour that were evidently breeding, though I failed to discover their eggs.

Yours faithfully,
E. A. BUTLER,
Captain, H. M.'s 83rd Regt.

BELGAUM,
20th October 1880.

SIR,

I SEND a few notes in regard to nests that I have recently met with:—

22.—*Lophospiza trivirgatus*.

A nest with two nearly-fledged birds, taken 14th April. The nest was placed in a tree at a distance of 30 to 40 feet from the ground. It was loosely constructed, and lined with leaves which must have been fresh when the eggs were laid. The young birds flourished for two or three weeks, when I gave them to the Trevandrum gardens. When young the iris is quite dusky, but becomes lighter as the young birds grow up. Five years ago I took an exactly similar nest containing two eggs, which I could not identify, but I have very little doubt that they were those of this bird. They were like large specimens of *Poliornis teesa*; eggs not so rounded and with a slightly bluer tinge. I have not the measurements with me, but will send them to you.

300.—*Ochromela nigrorufa*.

Two nests, each containing two fresh eggs, and a new nest, all found in dense jungle at an elevation of 3,700 to 4,000 feet. The bird is not uncommon here. The nests were composed of the leaves of the "eerul" (a reed peculiar to the Western Ghâts, which has been called *Beesha travancorica*), and domed. From 3 to 8 feet from the ground. Size .65 x .50.—29th March 1880.

390 bis.—Alcippe bourdilloni?

I took a third nest of this bird on 24th March. It was a domed structure, very similar to the nest of *Ochromela nigrorufa*, but slightly larger, and, though composed externally of "cerul" leaves, was lined with fine hair-like roots. It was found at an elevation of 4,300 feet above the sea, and was placed in a low bush within eighteen inches of the ground. The eggs are white, very sparingly spotted with purple, except towards the larger end, where the spots coalesce and form an imperfect zone. The size of the eggs is $.75 \times .52$. In 1876, my coolies brought me the nest, egg, and bird (which latter they had caught on the nest) of this species, and which I set down at once as *A. atriceps*; but as it does not seem likely that both varieties, *atriceps* and *bourdilloni*, occur together, I fancy it must have been the latter. This is my doubt. I took my second nest in 1877, on the road-side, two feet from the ground, at an elevation of about 2,400 above sea level. I was unable to get the parent bird of my last-taken nest, as, though I waited 20 minutes' gun in hand, the bird did not return, and it was getting dark, and I was some miles from home.

692.—Eulabes religiosa.

This bird lays from one to two eggs in holes of large trees. I never heard of more than two in a clutch. It breeds most abundantly on our coffee estates from April to June; but as the trees selected are usually very large, they are inaccessible to all but the hill men. Description exactly as in "Nests and Eggs." Size of this year's eggs average $1.35 \times .95$.

781 bis.—Carpophaga cuprea.

One nest of this bird taken at an elevation of 4,000 feet in tangled cerul jungle. Only one egg in the nest and that hard set. Size, 1.37×1.06 ; colour pure white. Bird observed flying off the nest, and again when it returned. My brother and I were tracing a road, and had not brought a gun with us.

T. FULTON BOURDILLON.

MYNALL ESTATE, S. TRAVANCORE.

SIR,

At page 168, S. F., Vol. V., I recorded the finding of a nest of a Black Ibis, but was not sure of the species. I have got the bird in this neighbourhood recently, and it is your *Graptocephalus davisoni*. There is no doubt the egg and nest belonged to this species.

EUGENE W. OATES.

STRAY FEATHERS.

Vol. IX.]

SEPTEMBER 1881.

[Nos. 5 & 6.

(Reprint from the "*Ibis*."*)

The Birds of Gilgit.

By MAJOR JOHN BIDDULPH.†

THE birds enumerated in the following list were collected during a residence of two years in Gilgit, a tract of country, the ornithology of which has not yet been studied. As Gilgit is known but to few, a brief sketch of the locality will be useful.

In the north-west corner of the Cashmere dominions, where the Indus, after a north-north-west course of nearly five hundred miles, makes a sudden turn to the south, the Gilgit river joins the great stream on the right bank, after draining a very large extent of country north and west of the Indus. Its most western source is in the mountains at the head of the Swat valley. Further east a large affluent joins it in Yassin, which takes its rise in the Hindoo Koosh. Along this stream migrants from the Oxus valley find their way to the Indus. Further east still is its third and largest affluent, the Hunza river, of which one of the branches rises on the southern slope of the mountains that enclosed the Taghdooouhash Pamir, and the other on the western slope of the mountains that form the watershed between it and the valley of the Yarkand river. All around rise snow-clad mountains of great height, the ridges being from 13,000 feet to 17,000 feet above sea level, while the number of lofty peaks and glaciers is not equalled by any tract of similar extent in the Himalayas.

Twenty-four miles from the Indus, at an elevation of little less than 5,000 feet, is the fort of Gilgit. The valley, which is here about two miles broad, is barren and rocky, save in

* I reprint from the *Ibis* this very important and valuable paper, the more so that it is most especially interesting to local ornithologists, and that out of between 80 and 90 gentlemen and ladies whom I know to be actually working at ornithology here, only three, besides myself, see the *Ibis*.

I have added descriptions of species not heretofore described in STRAY FEATHERS, and a few notes in brackets, and under my own initials.—ED., S.F.

† Dr. J. Scully, who is so often referred to by Major Biddulph, has kindly added some footnotes to this paper, which are distinguished by his initials.—ED., *Ibis*.

the spots of cultivation, which are few and far between. The cultivated spots themselves are thickly wooded. Higher up the valley contracts, and the cultivated spots are nearer together. The base of the mountains consists of precipitous bare rock ; but above 7,000 feet deep glens, pine forests, and grassy slopes meet the eye everywhere up to the snow-line. The climate is dry, and subject to great extremes ; the rain and snow, which fall abundantly at the higher elevations, seldom reach the main valley in any quantity. The rainfall of the year is only about five inches. The winter lasts about four months, during which there are six weeks of intense dry cold, when the thermometer in the open air goes down to zero.

Owing to the great radiation from the rocks, the heat in summer for about two months is very great ; but the nights are cool, and the heat is never trying as in India.

It will be observed that the greater proportion of birds in the list are migratory, the constant residents being very few. It is probable that many migrants still remain to be added to the list ; for it is curious of how many species only single specimens were secured. Abnormal weather is also likely to bring in birds not seen at other times, and to detain birds on passage that would not otherwise be noticed. The winter of 1877-78 was remarkably severe ; snow began to fall heavily in October, and continued without intermission till the middle of January, forming the heaviest snow-fall known for fifty years. This brought in a number of species that remained the whole winter, many of which were never seen in the succeeding winter, and others only rarely.

There can be little doubt that in such a mountainous country the lines of migration are along the valleys ; and so many northern species use this road on their way to and from India, that further observations at this point might furnish useful information on the migration of different birds. Some, like the Bluethroat, stay for more than a month on their way through in spring, before going on to their breeding-grounds. Others "come like shadows, so depart," like hasty travellers hurrying on to their journey's end. Of the *Saxicola* the males of *S. picata* appear in great numbers for over a fortnight before the females, after which the greater number vanish, and only a few remain to breed. Notwithstanding these eccentricities, the few dates of arrival and departure, which I was enabled to note, seem very regular. *Passer indicus* appeared each year on the same day ; so did *Pringilla montifringilla*. Others were first noted within two or three days of the same date in each year ; and the irregularity was possibly as much due to the observer as to the birds.

In my list will be noticed a few species, the right of which to be classed among our Indian avifauna has been questioned, such as *Fringilla montifringilla* and *Emberiza hortulana*; but the seasons at which they were observed make it evident that their migration was from the south.* Others such as *Lep-topæile sophiæ* and *Leucosticte brandti*, are, altogether new to our lists of birds found south of the great watershed that divides us from Central Asia.

The neighbouring valley of Darel, which has not yet been visited by any European, appears to possess a different vegetation and soil from all the surrounding valleys. It is doubtless owing to this that the occurrence of stragglers of the stamp of *Coccyzus jacobinus*, *Oreæetes cinclorhynchus* and *Buchanga longicaudata* is due.

The autumn migration begins, apparently, as nearly as possible on 15th August, the first birds to appear being the Snippets and Sandpipers. In the last three days of August 1879 a heavy fall of snow took place in the mountains above 11,000 feet, and drove down a great number of Cuckoos, Kites, Swifts, Crows, and Harriers of three kinds.

In both years I was unavoidably absent during the latter part of the autumn migration, and am indebted to Dr. Scully for a notice of species procured by him after my departure, which had not previously been recorded by me. I have also to acknowledge my thanks to Dr. Scully for many interesting remarks regarding other species, of some of which I had failed to procure specimens, but which he had succeeded in obtaining before my departure. It was only by the assistance of a large series of *S. picata*, collected by him in addition to my own, that the curious facts regarding the change of colour of this bird were determined beyond doubt.

Specimens of every bird on the list have been obtained, except in a few instances, which have been duly noted. The list is confined to birds obtained in the Gilgit district itself, that is to say, in the main valley for forty-three miles from the Indus, and in the side valleys within that rise up to their crests, except the great Hunza valley, of which only the lower twenty miles belong to Gilgit. By going higher up the main valley, and taking in a larger area, more species might be recorded; but the list would lose in completeness without gaining in interest.

The large number of specimens brought away by me has been carefully gone through by my friend Captain G. F. L. Marshall, who has taken a large share in the preparation of this

* [I believe this to be erroneous. Both these birds have occurred in Afghanistan, and I believe that the Gilgit birds came thence and not from India.—A. O. H.]

paper. In some cases he has added notes of his own, as designated by his initials; and I am indebted to him for the identification of many species.

1.—*Vultur monachus*, *Lin.* (1).*

Not common. I saw a pair soaring over a dead ibex on the 5th May, at about 12,000 feet elevation, among more than a hundred *Gyps himalayensis*. The black colour and square appearance made them very conspicuous.

2.—*Gyps fulvescens*, *Hume.*† (3 bis).

A summer visitor only. One, a female, shot in July, and many others seen. On 5th May, out of over a hundred Vultures observed closely over a dead ibex, not a single one of this species was noticed.

3.—*Gyps himalayensis*, *Hume.* (3 ter).

Very common in summer at over 10,000 feet, in winter at 6,000 feet. On one occasion I had a snap-shot at a markhor going up the hill-side, and thought I had missed. Immediately two of these birds came and perched close by. This caused me to send a man up to look; and he found the wounded beast walking slowly along, shot through the brisket which had not been enough to disable it. The big birds had spotted it at once.

4.—*Neophron percnopterus*, *Lin.* (6 bis).

I saw a single *Neophron* on the 21st April 1879, which I believe to have been *N. percnopterus*, from its appearing larger than *N. ginginianus*, and having darker bill and wings. I had a good view of it at about twenty-five yards for some minutes. Severtzoff mentions it in Central Asia, whence this was, no doubt, a straggler, like *Lanius homeyeri* and others. I never saw another.‡

5.—*Gypaetus barbatus*, *Lin.* (7).

The Bearded Vulture is very common at all times of the year. In summer it is generally seen at a mean elevation of about 8,000 feet; in winter it comes low down, and may often be seen seeking its food close to habitations.

* [I have added in brackets the Indian Catalogue number of each species.—A. O. H.]

† This species is, I believe, entered here through an error, for which I am responsible. Major Biddulph's specimen seems to be an immature brown-coloured example of *G. himalayensis*, *Hume.*—J. S.

‡ [All the *Neophrons* received by me from Cabul, Kandahar, Quetta, &c., are *percnopterus*.—A. O. H.]

6.—*Falco peregrinus*, Tunst. (8).

Always about on the faces of rocky precipices. A number are caught always in October, which is the great season for catching them. I procured one specimen, a male, just commencing to get the grey feathers on the back, shot on the 14th April, at an elevation of 5,000 feet. Dimensions as follows:—Length, 16·5 inches; expanse, 38·2; wing, 12·4; tail, 6·7; tarsus, 1·85; middle toe, 2; culmen, 0·8; bill from gape, 1·25. Cere and legs, greenish yellow; irides, dark brown. Weight, 1 lb. 4 oz.

The Peregrines breed in the neighbourhood of Gilgit at about 6,000 feet, on the face of precipices. A few remain throughout the winter; but the greater number leave in the autumn.

7.—*Falco subbuteo*, Lin. (13).

A summer visitor. It arrives about the end of April, and is very common throughout the summer; it appears to breed at about 9,000 feet elevation.

8.—*Falco æsalon*, Tunst. (15).

Tolerably common, but not venturing, as a rule, far from the mouths of the ravines leading up to the high mountains, except in the depth of winter. The dimensions of a male are:—Length, 11 inches; wing, 7·7; tail, 5·2; tarsus, 1·4; and of a female the wing measures 8·85. The latter is much paler than the male specimen, and appears more fully adult; the blackish tinge on the grey of the head and shoulders has almost entirely disappeared.

9.—*Cerchneis tinnunculus*, Lin. (17).

A few seen all through the winter. In summer it appears in great numbers, especially about harvest-time, when I have counted upwards of twenty together hovering over a newly reaped corn field, hunting for mice.

10.—*Astur palumbarius*, Lin. (21).

A number are caught yearly in all the neighbouring valleys and higher up in the Gilgit valley; but I never shot one, and only once saw a pair, in Gilgit itself.

White ones are occasionally caught, and considered a great prize. I saw one that had been caught in Wakhan and was being conveyed to Aga Khan, in Bombay. Birds in this phase of plumage are called "Taighoon," a name given to all albinos.

11.—*Micronisus badius*, *Gm.* (23).

One adult specimen, shot 25th April, which apparently belongs to the pale race to which Severtzoff gave the name of *Astur cenchroides*.

[The plumage of this specimen is in a very remarkable stage: it is of a pale tone throughout; and the ferruginous bands on the upper breast are continued into a broad conspicuous collar of ferruginous buff completely encircling the neck, and contrasting with the brownish grey of the head and upper back, into which it shades above and below. The outer tail-feathers are banded as in the specimen described by Blanford in his "Zoology of Eastern Persia," No. 18, p. 108, as *Astur cenchroides* (?); and the present specimen agrees well with the description throughout, except that the barring of the lower surface is narrower and closer—in this respect agreeing with Indian examples of *M. badius*, to which species it is doubtless referable. Sex, male. *Dimensions*—Length, 13·6 inches; expanse, 32·65; wing, 7·8; tail, 6·5; tarsus, 1·63; culmen, 0·5; middle toe, 1·15. Weight, 5·25 oz. Irides, bright orange; cere, yellowish green; legs, horny green; feet, dull yellow. A young male of this species, shot on 1st September, is identical with other Indian examples.—G.F.L.M.]

12.—*Accipiter nisus*, *Lin.* (24).

Very common, except in the depth of winter. I took a nest and four hard-set eggs on the 23rd June. The nest was in a fir tree, about thirty feet from the ground, and an elevation of about 10,000 feet. The collection contains a very fine series of these birds, eleven females and eight males.

13.—*Accipiter melaschistus*, *Hume.* (24 bis).

The collection contains one specimen which, if the sex is rightly ascertained, is clearly referable to this species. Unfortunately the determination of sex was made by one of the native collectors; but as the man had had many years' experience, and the bird was killed in July, it seems hardly credible that a mistake should have been made.

Sex, male. Wing just short of 10 inches; tail, 8·5. The claws are decidedly larger and more powerful than in female specimens of *A. nisus* of similar general dimensions; and the plumage agrees closely with Hume's original description.

14.—*Aquila chrysaetus*, *Lin.* (26).

To be seen at all times of the year, generally in pairs. I have constantly seen them stoop at Partridges (*Caccabis chukor.*)

Many young ones, conspicuous by the white tail, noticed in winter time, hunting these Partridges.

15.—*Nisaetus pennatus*, Gm. (33).

In March and April a number are seen for a short time. Not noticed at any other time. A few specimens were secured in these months. One, a male, is in the plumage figured by Dresser in the "Birds of Europe," except that the whole of the sides of the neck and the throat are brown, each feather centred darker, but palest in the middle of the throat. Length, 20.25 inches; wing, 14.5; tail, 9; tarsus, 2.5. Weight, 1 lb. 8 oz. Cere, pale yellow; irides, pale red.

16.—*Pandion haliaetus*, Lin. (40).

An Osprey was observed by me, at intervals of about three weeks, in the vicinity of a small marsh; but it was so wary that for a long time I failed to get a shot at it. It proved to be a male in almost adult plumage. Its stomach was full of a watery fluid, and contained a number of small wireworms about two inches long; and the bird was extremely fat. This was in March. I have once or twice fancied that I have identified the bird at other times in winter; but it is certainly not common.

17.—*Buteo ferox*, Gm. (45).

Extremely common in the main valley in winter. In the summer it ascends to the higher valleys, and breeds apparently at about 10,000 feet. All specimens, both of this Buzzard and *B. plumipes*, shot during the winter, had large balls of a hard gummy substance firmly attached to their claws, which must considerably interfere with their grasping their prey.

18.—*Buteo plumipes*, Hodgs. (47).

A winter visitant, not very common; three specimens were shot about January.

A male, in early adult plumage, corresponds fairly with the description in Sharpe's Catalogue (I., p. 181); but on the breast the feathers entirely lack the black shaft-stripe, the shaft only being black; each feather on the chest is dark rufous with a bluish tinge, and with a paler and brighter margin. On the upper surface the dark purplish gloss is confined to the mantle. Expanse, 49.5 inches; length, 20.3; wing, 15.7; tail, 9.4; tarsus, 2.6; bill at gape, 1.55. Weight, 1 lb. 10 oz.

None of the specimens observed or obtained were in the dark ferruginous plumage figured in Sharpe's Catalogue (Vol. I.); all were of the "*B. japonicus*" type.

19.—*Circus cyaneus*, *Lin.* (50).

Single birds seen at intervals during the winter. In March it becomes more common, and disappears in the beginning of May. One adult female, killed while carrying off a chicken, measured :—Length, 21·5 inches ; wing, 15·5 ; tail, 10·75 ; tarsus, 3. Cere, yellow ; legs, bright yellow. One male in immature plumage, shot in December, and two adult females, shot in March and April, had the irides light yellow.

20.—*Circus macrurus*, *Gm.* (51).

Appears at the beginning of April, during which month it is very common, disappearing about the middle of May. It appears again for a short time at the end of September, on its way south. I shot a female (while devouring a half-grown chicken it had carried off) which measured :—Length, 19 inches ; wing, 13·85 ; tail, 9·5 ; tarsus, 2·65. Irides, light brown. In this specimen Mr. Hume's diagnosis (see *Stray Feathers*, Vol. I., p. 160) does not hold good, the third and fourth quill being equal, while in the other specimens it does hold good.

Two males, shot in April and October, in immature plumage ; both had the irides gamboge yellow.

21.—*Circus cineraceus*, *Mont.* (52).

Not common, and only appearing in spring and autumn. An adult female shot 19th March measures :—Length, 18·5 inches ; wing, 15·15 ; tail, 10·4 ; tarsus, 2·36. Iris, orange yellow ; bill, black ; legs, yellow.

A male in not quite adult plumage was also shot by Dr. Scully.

22.—*Circus æruginosus*, *Lin.* (54).

The collection contains twelve specimens, of which four are females and eight males.

One of the former, shot in April, is in the uniform chocolate stage of plumage, with the throat and top of the head and nape buff, sharply defined ; the feathers on the head dark-centred, while those of the throat are merely inconspicuously dark-shafted, the lower ones being nearly white. The other three specimens, shot on the 13th and 29th March and 23rd April respectively, show, in addition to the buff patches described above, a more or less complete broad luteous band across the lower breast, while on the mantle, back, and wing-coverts many of the feathers are broadly margined with this colour, some being entirely luteous white, with dark centres. The irides were dark brown, and the cere pale

greenish yellow. Length, 22.5 to 23 inches; wing, 16.75; tail, 10.5; tarsus, 3.25 to 3.75. appears

The eight males all have the grey tails, and the wings, and were all shot between the 9th and the latter end of April. The under surface varies from chocolate brown, nearly uniform on the abdomen, and edged with rufescent on the throat and breast, to rufescent white with narrow dark centres. The irides light yellow. Length, 20.5 to 21.5 inches; wing, 15.75 to 16; tail, 10; tarsus, 3.25 to 3.5.

This Harrier appears to soar and hover often at a considerable height as a Kite does. It was not noticed in the depth of winter. At the beginning of March a number appear, all of which are in adult plumage; these disappear in April, and are succeeded by birds in immature plumage, which arrive in great numbers throughout April, getting scarcer in May. A few remain throughout the summer; and in the middle of August adult birds begin to reappear, having apparently bred higher up, but not far off; by the middle of November all have left the valley. In one instance a female was brought to Dr. Scully, alive, which had struck a Coot (*Fulica atra*) in the water; during the struggle a native waded in and secured both birds.

23.—*Milvus govinda*, Sykes. (56 bis).

None are visible during December and January; but on the 8th February I shot one specimen, after which it becomes common.

This Kite agrees, as regards habits, with the description of *M. melanotis* as given in STRAY FEATHERS by Brooks, but does not quite come up to Hume's measurements. It is much shyer than the Indian Kite, and avoids habitations, hunting about the fields, often in large flocks of fifty or sixty. On the 22nd February I saw a large flock of over 300 that appeared to be just arriving; and for many days afterwards they were seen in flocks of twenty or thirty, the flocks gradually getting small till about the end of April, when they disappeared. A single one was seen 29th August, in heavy weather.

[This Kite is the species named *M. major* by Mr. Hume, which now, as conclusively shown by Mr. Brooks,* should stand as *M. govinda*, Sykes.—G. F. L. M.]

* [This is a matter of opinion. Sykes says his *govinda* is the common Kite of the Deccan. Now the large Kite *M. melanotis* (= *M. major*) is almost, if not quite, unknown in the Deccan. I procured one specimen at Bombay, but Butler says (*vide* his Catalogue) that there is no other record of the bird anywhere in the southern half of the Bombay Presidency. On the other hand, of the medium-sized Kite, he says: "Permanent resident. Very common in most localities throughout the region." This shows clearly that Sykes' *govinda* cannot have been the large, and must have

2.—*Circernium*—— ?* (66).

Single bill left Gilgit Dr. Scully writes that he has secured a *Syrnias*, more, he believes to be new. As soon as he is able to describe it he will do so.

25.—*Asio^{Le}otus*, *Lin.* (67).

A summer visitor. Appears a little after the middle of March, and is tolerably common.

Dimensions of a Female.—Length, 14.5 inches; wing, 12; tail, 6.3; tarsus, 1.8. Irides, orange. Weight, 8.75 oz.

26.—*Asio accipitrinus*, *Pall.* (68).

A summer visitor; appears in the middle of April. These have more and purer white on the outer margins of the wing-coverts, and the general tone of the plumage is paler than is usual in specimens obtained further to the east. A male shot on the 5th May had the testes slightly developed. Length, 14.5 inches; expanse, 41; wing, 12.5; tail, 6; tarsus, 1.7. Weight, 5.25 oz.

27.—*Bubo turcomanus*, *Eversm.* (68 *quat.*).

The only specimen observed, a fine female, was brought in on the 4th January by a native, who had knocked it over with a pellet-bow.

It corresponds exactly with the original description, except in two points: there is no trace of white in the centre of the feathers of the back; and the primaries, instead of having the yellow interspaces marked with nothing more than a few minute dots of brown, have dense mottlings on the outer web, which are almost entirely wanting on the inner. The distinctive points separating this species from *B. ignavus* given by Sharpe in his Catalogue hold good, and are well exhibited in this specimen.

been the medium-sized bird. Against this it is contended that one of Sykes' two types is the large Kite, and one the medium-sized one. Some of Sykes' birds were, it is known, collected about Bombay, where the large Kite does occur, and that is doubtless where the one so-called type was procured; but this does not alter the fact that Sykes explicitly states that his name *govinda* was applied to the common Kite of the Deccan, and that the medium-sized Kite is the only Kite *at all* common there.

See also note, pp. 229, 230, S.F., Vol. III. Sykes never set forth any of his specimens as types. It is only by constructive evidence that the specimens presented by him to the H. E. I. C.'s Museum can be taken as types, and certainly no evidence drawn from these can overthrow clear and explicit declarations of his accompanying his original description. It may be contended that the three races so run into one another that they are not specifically separable. This is a perfectly tenable view, though one from which I personally dissent. But if the three species be accepted, then the name *govinda* must be applied to the medium-sized Kite, the common Kite of the Deccan.—A. O. H.]

* Allied to *S. aluco*, and quite distinct from *S. nivicolum*, Hodgs. I hope to finish some notes about this interesting Owl shortly.—J. S.

As compared with European and Chinese specimens of *B. ignavus* in the Indian Museum, the present species appears so well marked as to be worthy of more than the sub-specific distinction assigned to it by Sharpe.

[It may be noted that Mr. Hume possesses a "pale" Eagle-Owl (which has been suspected to be a specimen of *B. turcomanus*) from Kulu, for which he some time ago proposed a provisional name, but added that "it is of precisely the same type of coloration as *B. maximus* (= *B. ignavus* of Europe)." Now *B. turcomanus* is not precisely of the same type of coloration as *B. ignavus*; it differs in style as well as in tone of markings. I have seen Mr. Hume's specimen; and, speaking from memory and after seeing the Gilgit specimen, I am inclined to believe that the Kulu bird is merely a male of *B. ignavus*.*

Again Mr. Blanford, in his "Zoology of Persia," notices a female Eagle-Owl which he identifies as *B. sibiricus* (= *B. turcomanus*), obtained near Shiraz, and adds that it is possibly the species referred to by Mr. Hume as above. The wing of the Shiraz bird is 17 inches, and the tail 9.5. These dimensions appear to be too small for any bird of either of these two types, and rather to correspond with those of a specimen of *B. ascalaphus*, also from Shiraz, which is now in the Indian Museum.

It does not seem probable that either of these birds could be rightly identified with *B. turcomanus*, to which species the Gilgit bird belongs. The dimensions of the latter (also a female) are—Wing, 19.1 inches; tail, 12.3; expanse, 70; length, 27; bill from gape, 2.1. Weight, 4 lb. 9.25 oz.—G. F. L. M.]

Since my leaving Gilgit Dr. Scully has written to tell me that he has secured a specimen of a large Owl which appears to be too dark for *B. turcomanus*.

28.—*Scops pennatus*, Hodgs. (74).

One specimen was procured in Ponyal by Dr. Scully on the 21st May. Length, 7.6 inches; expanse, 19; wing, 6.1; tail, 2.8; tarsus, .85; middle toe, .7; bill from gape, .76; bill from cere, .45; cere, .34; wings beyond tail, .35. Irides, pale

* [I agree here. What I doubt is, whether the different shade of colouring, observable in the Siberian birds, one of which I have now examined, warrants specific separation. Certainly the differences between *Bubo ignavus* and *Bubo turcomanus* are less than those between *Syrnium nivicolus*, from say Peshawar and the same bird from Sikhim, or again *Glaucidium brodiei* of Simla and Sikhim. I see that Scully has got hold of one of the larger pale *nivicolus*, which I also have from Peshawar and Murree and Simla (though they run smaller there), and proposes to separate it, but it grades into the smaller richly coloured Nepal and Sikhim form. I have often drawn attention to this very great difference in colour, but I continue to think this insufficient in such cases to warrant specific separation. There are scores of similar cases, e.g., *Pericrocotus roseus* from Murree and Tenasserim, &c.—A. O. H.]

bright greenish yellow; bill, dingy plumbeous; toes, dull plumbeous; cere, dull plumbeous.

Believed to be common, but, though very often heard in Gilgit, most difficult to see.

29.—*Scops brucii*, Hume (74 sept).

A single specimen shot; many others heard, but most difficult to find in the daytime. The specimen obtained corresponds exactly, to the minutest detail, with the description given by Mr. Hume (STRAY FEATHERS, I., p. 9).

Another specimen, a male, shot just across the Indus at Boonji, opposite the mouth of the Gilgit river, also corresponds in all points with the description, except that the pure buff feathers forming the ruff are more broadly tipped with dark brown.

The fact of the specimens from this north-westerly locality* corresponding exactly with those originally described from Ahmednuggur, places beyond a doubt the right of this species to specific separation from *S. giu*. (See observations in Sharpe's "Catalogue of Birds in the British Museum," Vol. II., pp. 62, 63.)

30.—*Hirundo rustica*, Lin. (82).

Seen at intervals all through the summer. The earliest date at which any Swallow was remarked was 4th March. Specimens obtained in March, May, and June belong to typical *H. rustica*. Length, 7.75 inches; wing, 5; tail, 4.

31.—*Hirundo nipalensis*, Hodgs.† (85 bis.)

A few seen and two specimens shot on 16th May, among a large number of *Chelidon cashmeriensis*.

32.—*Cotile rupestris*, Scop. (91).

[Two specimens brought; these are the true *C. rupestris*, larger and darker than the southern *C. obsoleta*. Length, 5.85 to 6.25 inches; wing, 5.3 to 5; tail, 2.25; tarsus, .45. Irides, brown.—G. F. L. M.]

* [Many specimens have also been sent from Sindh and Quettah, and one from Dehra Ismael Khan.—A. O. H.]

† The species here referred to is *H. erythropygia*, Sykes.—J. S.

[This is an unsatisfactory sort of note. Captain G. F. L. Marshall certainly knows *H. nipalensis*. He may have made a mistake, but it is not likely, and as *prima facie* the birds in Gilgit are more likely to be *nipalensis* than *erythropygia*, something more than Dr. Scully's *ipse dictum* was necessary. Dimensions should have been given, and a description of rump band and other diagnostical points (*vide* S. F., V., 265) so as to prove if such be the fact, that Dr. S. was right and Captain Marshall wrong.—A. O. H.]

33.—*Chelidon cashmeriensis*, Gould. (93).

Appears about middle of April, and becomes very common in May.

[Only one specimen brought; differs from *C. urbica* in having the axillaries and wing-lining brown instead of greyish white. Length, 5 inches; wing, 4; tail, 2; tarsus, 5. Irides, brown.—G. F. L. M.]

34.—*Cypselus apus*, Lin. (99).

First seen on 6th May. Very common during May in large flocks.

35.—*Caprimulgus unwini*, Hume. (111 bis).

First observed in 1879, on the 13th of May, but was common in the summer. This is the pale form of *C. europæus*, now retained by Mr. Hume as distinct.

The Gilgit specimens appear to be identical with one from Shiraz, and to be barely, if at all, separable from other specimens from Persia in the Indian Museum.

36.—*Merops persicus*, Pall. (120).

Since my leaving Gilgit Dr. Scully writes that he secured specimens of this Bee-eater passing through late in the autumn.

37.—*Merops apiaster*, Lin. (121).

One specimen was shot, on 16th May, out of a flock of about a dozen which came over but did not stay—the only occasion of any being seen.

38.—*Coracias garrula*, Lin. (125).

A summer visitor.

Appeared both years on 28th and 29th April. Breeds at 5,000 feet.

39.—*Picus himalayensis*, Jard. & Selb. (154).

Tolerably common at 9,000 to 10,000 feet elevation, where it breeds.

[Of the specimens brought down, four correspond with the Kashmir form of this species, having the under-surface very pale, almost white. In these, also, the lower tail-coverts are deeply rufous, the outer tail-feathers are barred throughout,

the primaries have no white tips, and usually five white spots on the outer web, and the bill is large.

Seven other specimens have the underparts strongly sullied, as much so as in the darkest Sikhim* specimens; the lower tail-coverts are usually barely rufescent; the outer tail-feather is barred on the outer web only at the tip; the primaries are usually black, tipped with six white spots on the outer web; and the bill is smaller.

This is a very remarkable race; but as in the small series obtained the dark tone of the underparts appears to be the only distinctive feature that is constant, sufficient ground is not afforded for specific separation.—G. F. L. M.]

40.—*Gecinus squamatus*, Vig. (170).

In the winter and spring is common in the main valley, but appears to ascend in the summer to higher elevations.

[Three specimens shot in December and January are identical with the Indian type; but three others obtained in March, at an elevation of 5,000 feet, near Gilgit itself, are remarkable for having the neck, back, and outer margins of secondaries grey instead of green, while the wing-coverts are mixed grey and green. All three are females; and in two out of the three some traces of green are visible among the grey on the lower back; so that it may be only a phase of plumage of *G. squamatus*. In his "Zoology of Persia," Mr. Blanford notices an analogous grey form of the *Gecinus viridis* type.—G. F. L. M.]

41.—*Iynx torquilla*, Lin. (188).

A summer visitant.

Specimens shot in May have the abdomen pure white, while the rufous tone of the throat is more pronounced and strongly contrasted than in the autumn specimens; the flanks and under tail-coverts are also more or less strongly tinged with rufous.

42.—*Cuculus canorus*, Lin. (199).

Appears about 7th May. Common everywhere, up to 12,000 feet, in July.

* The Sikhim specimens referred to are perhaps referable to *P. majoroides*, Hodgson, as *P. himalayensis* does not occur in Sikhim.—J. S.

[Sikhim here was of course a *lapsus calami* for Simla, where the specimens exhibit the dark tone referred to.—A. O. H.]

43.—*Cuculus himalayanus*,* *Blyth*. (200).

Not very common. Appears at the same time as *C. canorus*.

44.—*Coccytes jacobinus*, *Bodd*. (212).

One specimen, a straggler, a female, apparently breeding, brought in by a native who had killed it with a stone, 15th June. None others seen.

45.—*Certhia himalayana*, *Vig*. (243).

Very common below 6,000 feet in winter, disappearing at end of March, when it goes up to the forests above. In winter plumage the whole of the underparts are dark sooty, gradually changing to white as spring comes on, not, apparently, by a moult, but by change of colour. The size of bill varies greatly according to age: a young bird four months old has the bill at gape 0.62 inch; one of eight months, 0.8; full-grown, 1.

One specimen has the tail very closely barred, as also has one shot in Chitral.

46.—*Certhia hodgsoni*, *Brooks*. (243 *bis*).

A single specimen, a male breeding, obtained at 9,000 feet, by Dr. Scully, on the 11th June. Tail unbarred; throat and abdomen silky white; lower mandible white; first four primaries unspotted.

Length, 5.2 inches; wing, 2.7; tail, 2.1 (damaged); tarsus, 0.6; bill from front, 0.46; bill at gape, 0.8.

47.—*Tichodroma muraria*, *Lin*. (247).

Very common indeed in November and December, but began to disappear in January. Two specimens were shot after the middle of March with the black throat fully developed. During the summer not one was seen even up to 16,000 feet elevation.

48.—*Sitta leucopsis*, *Gould*. (249).

A permanent resident; breeds at 10,000 feet.

[I do not know how Blyth's name can be retained. I have compared specimens from the Himalayas, the Assam and Manipur Hills, Burmah, the Malay Peninsula, China, Siam and Sumatra, and can discover no difference, and Blyth himself finally adopted Schlegel's view that *striatus*, *Drapiez* (*vide* B. of B., p. 79) was the correct name for this species. Possibly some further evidence which has escaped me has transpired, but for the present Indian ornithologists had better adhere to the name *striatus*.—A. O. H.]

49.—*Upupa epops*, *Lin.* (254).

A summer visitant; first seen on 6th March.

50.—*Lanius homeyeri*, *Cab.* (256 *bis*).

A single specimen, the only one seen, was shot on the 4th March, close to Gilgit. This specimen approaches *L. excubitor* in the rump being greyish instead of pure white, the latter being given by Severtzoff as one of the distinguishing features of *L. homeyeri* (STRAY FEATHERS, III., p. 430); but it has the inner web of the secondaries broadly margined with white, while the lores are white with black shafts instead of white.

[From *L. lahtora* it differs in the entire absence of the black frontal band, not only the forehead but also the lores, as mentioned above, being pure white.—G. F. L. M.]

51.—*Lanius erythronotus*, *Vig.* (257).

A summer visitor; appears about 19th April.

Jerdon's description of the colouring of the wing is incomplete: the secondaries are narrowly edged with buff on the outer web, the tertiaries broadly edged with buff and rufous on outer web and tip; upper wing-coverts black, narrowly tipped rufous, with a rufous patch and creamy white edging at the shoulder.

52.—*Lanius cristatus*, *Lin.** (262).

A number of immature specimens appeared at the end of August and beginning of September for a few days; they were not observed at any other time.

53.—*Pericrocotus brevirostris*, *Vig.* (273).

Since my leaving Gilgit Dr. Scully writes that he saw several flocks of this Minivet in Gilgit about the beginning of winter, but all the specimens secured by him were in yellow plumage.

54.—*Buchanga longicaudata*, *Hay.* (280).

A single specimen was procured by Dr. Scully in August. Probably a straggler from Darel.

55.—*Muscipeta paradisi*, *Lin.* (288).

A single specimen, a young female, was brought in by a native, who had killed it with a pellet-bow. None were seen at any other time.

* The Shrike here referred to is *L. isabellinus*, Hempr. & Ehr.—J. S.

[This is probably correct, as *cristatus* has not yet been observed in the far North-West. Even *isabellinus* has not, so far as I am aware, been previously recorded from any portion of the hill region of Kashmir.—A. O. H.]

56.—*Hemichelidon sibiricus*, Gm. (296).

Appears about 16th May, and is very common all through the summer.

57.—*Butalis grisola*, Lin. (299 bis).

Common in summer.

58.—*Cyornis ruficaudus*, Sws. (307).

Common in May, June, and July, at 9,000 and 10,000 feet.

59.—*Troglodytes neglectus*, Brooks. (333 bis).

Very common in winter, keeping generally to the sides of water-courses. In summer it goes up to the higher elevations where I have seen it at about 10,000 feet.

60.—*Myiophoneus temmincki*, Vig. (343).

Common all the year round. Breeds in the end of May, at about 8,000 feet; in winter comes down to 5,000 feet.

61.—*Hydrobata *asiatica*, Sws. (347).**

Very common. Appears to breed early in March, as full fledged young were about in the middle of April.

All the specimens show a narrow circle of white feathers round the eye; and many of them have pale greyish white margins to the secondaries and wing-coverts, and the under tail-coverts tipped with white. The pale margins are probably remains of the immature plumage (which is blackish grey, each feather more or less margined with white); but the white circle round the eye appears to be a permanent feature.†

62.—*Hydrobata cashmiriensis*, Gould. (348).

Since I left Gilgit, Dr. Scully writes that he found the Cashmere Water-Ouzel in the upper part of the Kergah valley, at the head of which is a pass leading to Darel, but that it appears to be rare.

63.—*Petrocossyphus*‡ *cyanus*, Lin. (351).

Appears about 22nd April, and is common all through the summer at about 7,000 feet.

* [In several cases generic, and even specific, names are used in which I do not concur, but in most instances, as this is a matter of opinion, I have thought it unnecessary to point this out. In the present case it appears to me that the use of *Hydrobata* is distinctly wrong, and that it is certain (and not a mere matter of opinion) that *Cinclus* should be used.—A. O. H.]

† This has also been noted in birds obtained as far east as Shillong. Cf. Godwin-Austen, J. A. S. B., 1876, Part II., p. 203.—J. S.

[I am not sure that Godwin-Austen may not have incorrectly identified his Shillong birds. Mine from that locality are, I consider, *O. pallasi*, and his description points to the same species.—A. O. H.]

‡ [This generic name cannot possibly stand. Either Boie's name, *Monticola*, must be adopted, or my name *Cyanocinclus*.—A. O. H.]

64.—*Oreocetes* cinclorhynchus*, Vig. (353).

Since my leaving Gilgit, Dr. Scully writes that he procured a single immature specimen in Gilgit late in the autumn; probably a straggler from Darel.

65.—*Monticola saxatilis*, Lin. (351 *ter*).

A number in immature plumage appeared each year in autumn.

Two young males, in plumage corresponding to that described by Dresser in the "Birds of Europe," were obtained on the 21st August and 6th September.

Length, 7.6 inches and 7.75; wing, 4.45 and 4.65; tail, 2.5 and 2.3; tarsus, 1.1 and 1.12. Irides, red-brown. No adult birds of this species were observed.

66.—*Turdus ruficollis*, Pall. (364).

One specimen secured in January, the only one seen.

[The throat and breast are a deep vandyke brown, with a ferruginous gloss and narrow ferruginous borders to the tips of the feathers.

The uniform dark throat and the pure rufous of the tail distinguish this species from *T. atrogularis*.†—G. F. L. M.]

* [This generic name is thus spelt in the *Ibis*. Gray, when constructing the name, spelt it *Orocetes*, and to me this seems the right form to adopt. But whichever way it is spelt, it cannot possibly stand. Either *Petrophila* of Swainson, or *Monticola* of Boie, must be adopted.—A. O. H.]

† [I cannot quite understand this. I have over thirty specimens of *ruficollis* from China, Assam, Manipur, Sikhim, the Bhutan Duars, &c., now before me, and in not one of these is either the breast or throat "a deep vandyke brown, with a ferruginous gloss and narrow ferruginous borders to the tips of the feathers;" not one has an "uniform dark throat."

In old adult males the chin, throat and breast are an absolutely uniform rusty rufous, brighter in some specimens and with more of a chestnut tinge in others. In somewhat younger males, there is a single narrow ill-defined mandibular stripe of small dusky spots down each side of the throat. In still younger males these dark stripes are broader and more conspicuous. Younger birds still are like the females, except that I am doubtful whether the young males ever have dusky spots on the breast. The adult females have the centre of the throat creamy or rufous white, spotted with rusty rufous, and the mandibular lines of spots well marked, almost black, in many specimens, and continued round behind the ear-coverts. The breast is a duller rusty rufous than in the males; the feathers are more or less fringed with creamy or buffy white, and the breast is more or less thickly dotted about with somewhat sagittate shaped blackish brown spots. In younger females, again, the rufous of the breast is very faint and mingled with the ashy brown of the upper surface; the rufous spottings on the throat are almost wanting, and the darker spots on the breast are more or less obsolete.

As to the tail it must not be supposed that the whole of this is pure rufous; even in the oldest adult males the terminal inch of both webs of the central feathers is ashy brown, and there is more or less of this same colour on the next three or four pairs of feathers, at least on the outer webs towards the tips. Some quite adult males have the whole of the two central feathers ashy brown. In many young birds the whole of the outer webs of all the tail feathers, except the two or three outer ones quite at their bases, are of this same brown; but at all ages the inner webs of the *outer* tail feathers are rufous, generally pure, but sometimes a little clouded with ashy brown, and when the birds get a little older, the whole of the inner webs of all the lateral tail feathers, in the *males*, become a pretty pure rusty rufous. In the *females* a certain amount of ashy brown seems always to remain upon even the inner webs of the lateral tail feathers towards their tips.—A. O. H.]

67.—*Turdus atrogularis*, Tem. (365).

Not uncommon in the winter, but not a summer resident. When the black plumage of the throat is fully assumed, the rusty tint of the axillaries and under wing-coverts disappears and is replaced by earth-brown uniform with the flanks.* Though I have not remarked it in summer, it probably does not leave the district, but keeps to the higher elevations.

68.—*Turdus viscivorus*, Lin. (368).

Tolerably common in Gilgit during the severe winter of 1877-78, but seldom comes so low down, keeping generally to the higher valleys, where I found it in July at 10,000 feet.

69.—*Trochalopteron simile*, Hume. (418 bis).

Seldom seen in Gilgit, but appears to be common higher up the main valley. A pair were shot in Gilgit in the severe winter of 1877-78.

70.—*Trochalopteron lineatum*, Vig. (425).

Common at all times. In summer goes up to about 9,000 feet.

71.—*Oriolus kundoo*, Sykes. (470).

A summer visitant, and common. Appears about 1st May. Nest with three eggs hard-set, taken 8th June; several other nests taken later on.

72.—*Pratincola indica*,† Bly. (483).

A summer visitor, but breeds higher up than Gilgit, where it is only common in spring and autumn.

[Herren Cabanis and Severtzoff pointed out (STRAY FEATHERS, III., 429) the distinction between this species and *P. rubicola*, in that "*P. rubicola* has always blackish markings along the feather-shafts of the white rump, *P. indica* never." Subsequently Mr. Hume improved on this definition by stating that "the upper tail-coverts and lower part of the rump in *indica* are never striated."

According to Mr. Hume's definition, two of the Stonechats obtained would be *P. rubicola*, but according to Herr Severtzoff only one; for one has the rump and upper tail-coverts

* [This remark is apparently based upon some misconception. I have scores of specimens with the throat and breast entirely black, in all of which the rusty tint of the axillaries, &c., is most conspicuous. Nay I have a Gilgit specimen shot in April, with both throat and breast black, in which this rusty tint is as strongly marked as in any other specimens, so that one cannot explain the text by the supposition that the Gilgit birds differ in this respect—A. O. H.]

† [Should stand as *P. maura*, Pall.—A. O. H.]

distinctly striated, the other has the upper tail-coverts striated, but no trace of dark centrings on the rump.*

The two birds belong to the same species; and Mr. Hume's diagnosis appears to be the more strictly accurate of the two; but as both the specimens are females, and as no male approaching the *P. rubicola* type was found among the numerous specimens preserved, I hesitate, on the strength of these two, to include *P. rubicola* among the birds of Gilgit.

All the males show a small amount of white at the base of the tail, about a quarter of an inch in some; but none have white on the outer tail-feathers as in *P. hemprichi*.

They are distinguished from *P. macrorhyncha* by having the white patch formed by the upper tertials and tertiary coverts next the body, and from *P. rubetroides*† by having the axillaries black and not white.—G. F. L. M.]

73.—*Pratincola robusta*, Tristram. (483).

[Out of twenty specimens brought down, five apparently belong to the type separated as *P. robusta* by Canon Tristram. Mr. Hume points out (S.F., V., 243) that no constant specific difference has as yet been shown between this form and the smaller *P. indica*, and retains them both under one name.

After looking into this question with Mr. Brooks, and comparing a number of specimens, we concluded that *P. robusta* is a good species. It is not only a larger but a slenderer bird, with a tail much longer in proportion to its length of wing than *P. indica*. In specimens of *P. indica* and *P. robusta*, each with the wing three inches in length, the tail of the latter exceeds the tail of the former by a full quarter of an inch. The females also are more rufous altogether; and the males, in breeding-plumage, are less black above on the back.‡—G. F. L. M.]

74.—*Saxicola opistholeuca*, Strickl. (488).

Never very common; appears about 1st May. I shot one in December; but this was in immature plumage, and its appear-

* A similar colouration has been noticed in some Chats procured in Nepal (S. F., 1879, p. 301).—J. S.

† [Captain Marshall had perhaps overlooked my remarks, S. F., VII., 55, in which I pointed out that *P. macrorhyncha* and *P. rubetraoides* were one and the same species. Of this there is no doubt; the only doubt is whether *macrorhyncha* is, as my numerous specimens showed, the young of *rubetraoides*, or, as Blanford suspected, the females.—A. O. H.]

‡ [These remarks were probably penned before Captain Marshall had seen my remarks, S. F., IX., 133. In these I pointed out that the true *robusta* of Tristram was a magnificent bird of the *torquata* type, totally distinct from the large Eastern race of *indica*. Whether this Eastern race deserves or requires specific separation is a matter of opinion which I have discussed *loc. cit. sup.* According to my views it does not, but even if this be dissented from, it will require a new name and cannot stand under that of *robusta*, Tristram, which was applied to a wholly distinct species.—A. O. H.]

ance was quite accidental, I fancy. I never saw another in winter. Two of the specimens have a greyish tinge on the head and nape, forming a distinct cap, which appears to be a mark of nonage, as a young bird has the whole upper plumage suffused with this colour; in a still younger bird, the back and breast are rufescent buff, edged with brown; the wings brown, each feather edged with fulvous, and the tail as in the adult.

The young appear to differ widely from those of *S. leucura* as figured by Dresser in the "Birds of Europe."

The adult female is similar to the male, except that the whole of the upper plumage is less black and presents a rusty appearance. The head also has a faint cap of dark brown extending to the neck, as in the young males; and the chin is light brown instead of black.

75.—*Saxicola picata*, Bly. (489).

This was the commonest Stonechat in Gilgit, where it breeds. A very large series was collected in every month from March to September.

Mr. Hume has for some years past asserted that *S. capistrata* of Gould is merely the young male of *S. picata*: the question is one extremely difficult to decide finally; but the series now got together for examination bears out, to a very great extent, Mr. Hume's conclusion. The only point suggestive of a doubt of the identity of the two supposed species is, that throughout the summer numerous specimens were obtained in every month with pure black heads, showing no trace whatever of white.

Of eleven specimens collected in March, eight have pure black heads, one has a trace of a pale supercilium, one has the same more pronounced, and also a whitish forehead, and one has the sides of the occiput and nape almost pure white, while the whole of the top of the head is more or less streaked with dingy white.

Of seven obtained in April, three have pure black heads, the wings being quite brown in one specimen and nearly black in the other two; two have a faint trace of white behind the eye; and two have the forehead paler, with a well-marked whitish supercilium and frontal band.

Of five specimens obtained in May two have pure black heads, the wings in one being quite brown; two have the sides of the occiput and the head streaked, as in the March specimens; and the fifth has the top of the head slaty white, pure white at the sides of the occiput, and is similar to *S. capistrata*, Gould, except that the white does not extend on to the mantle.

Of three specimens obtained in June, each has the head pure black.

Of ten birds obtained in July, five are young birds of the year; the five old birds are moulting and in bad plumage: four of the latter appear to have the head pure black; and one shows a greyish tinge on the cap.

Of three birds obtained in August, two have the heads black, and one has a greyish tinge on the cap.

Of seven obtained in September, one has only the faintest trace of white behind the eyes, one has the pale supercilium and frontal band, five have an indistinct greyish tone over the whole cap; but none show the white head, and one, showing no trace of white on the head, has the wings broadly margined with rufous.

Again, the adult specimens above referred to show many shades of brown on the wings, from light hair-brown to black; but this feature does not appear to be distinctive of either age or season.

In the young bird of the year the tertiaries and scapularies are narrowly margined with rufous brown. In a September bird, apparently of the earliest brood, which has assumed the black on the upper parts, the tertiaries and scapularies are even more broadly edged with rufous than in the younger birds. The uniform brown wing, after losing the rufous margins, appears in birds of every season, and is not in any way connected with the assumption of the white on the head; it is seen equally in the most white-headed birds and in those with pure black heads. The rufous tone of the under tail-coverts appears most pronounced in spring and autumn; but even this does not hold good throughout the series.

Dr. Scully and I have closely examined a very large number of specimens; and the only way in which we can account for the occasional appearance of the white on the head is, that it is assumed in the spring of the first year only. The young bird has the head uniform dull brown, rather darker than in the adult female, with narrowish rufous edgings to the tertiaries and scapularies; and towards the next spring a white cap is gradually assumed, which is perfected in the beginning of May. Directly after breeding, the white of the head appears to give place to dark grey, hardly distinguishable from the black of the back; and in the succeeding autumn-moult the bird assumes the fully adult plumage with the glossy black head, which is not afterwards lost.

It may be that the species with the pure black head is distinct from that which assumes the grey cap; but we are unable to separate them into two on this or any other hypothesis.*

* [I still believe that there is only one species. Blanford, after examining a selection of my huge series, still thought there were two, but that in certain stages of their plumage they were indistinguishable. This may be so, but I cannot see my way to it.—A. O. H.]

The sixty-odd specimens, now examined, show at least twenty phases or gradations of plumage; and though we cannot separate them into two distinct species, neither can we show conclusively that the gradations, according to age or season, are applicable on the assumption that there is only one species.

In no case does the white in these birds extend on to the mantle, as it does in *S. morio* at all ages.

S. picata also has the bill stronger and deeper, and the tarsus and toes stronger and coarser than in *S. morio*. Some specimens measure as much as 6·8 inches in length, while only a single specimen of *S. morio* measures 6·4 inches, the next longest being 6·25 inches. No other measurements show permanent distinctions; but, on the whole, *S. morio* has somewhat the shorter tarsus.

Two dissected females, shot March 31st and April 5th, have black throats and breasts, albescent chins, and dark brown backs; two males, shot March 25th and April 1st, seem to belong to the same type, having brown on the back.

In the middle of June a nest was found deep in the crevice of a stone wall in a ruined fort. After two eggs had been laid the bird was apparently killed by some animal. One egg was found broken, and the ground strewn with feathers of the hen bird. The egg is pale blue, thinly spotted all over with rusty red, more thickly (but not very thickly) at the larger end.

76.—*Saxicola albonigra*, Hume. (489 bis).

This species is never very common, but is the only *Saxicola* which remains in winter. I have procured specimens both in January and June. It may always be distinguished from *S. picata* by the size of its bill, which is always over half an inch in length.

77.—*Saxicola morio*, Hemp. & Ehr. (490).

This species is apparently only to be distinguished from *S. leucomela* (under which name it is described by Jerdon) by the inner web of the quills being black instead of white. (See Blanford and Dresser's Monograph, P. Z. S., 1874, p. 225.)

From *S. picata* it may be distinguished by its more delicate legs, feet, and bill: it shows white on the head at all seasons; and the white extends on to the mantle. In no specimen of *S. morio* obtained is there any trace of rufous on the under tail-coverts. One specimen differs in this point only from Gould's plate of *S. capistrata*; and the specimen mentioned in the monograph as from Lahore, with rufous on the under tail-coverts, would appear to be a stage of the form described as *S. capistrata* (see *S. picata*): the white is very silky, and

the black more intense and shining than in *S. picata*, especially on the throat. On the whole it is a shorter and more slender bird than *S. picata*, but has an equally long wing. Messrs. Dresser and Blanford are wrong in supposing that the female is like the male: it closely resembles the female of *S. picata* as figured in Gould's "Birds of Asia" in the plate of *Dromolaea picata*; but the bill and feet are similarly weaker as in the males, the upper parts are more rufous-isabelline instead of hair-brown, and there is a well marked, though narrow, pale supercilium and frontal band; the whole head is paler and more rufous than the back, whereas in *S. picata* the head and back are alike.

The younger male closely resembles the female, except in having the fore neck and upper part of the breast black mottled with rufous.

S. morio was first seen on April 22nd; in May and June it was tolerably common, but never seen in great numbers.

78.—*Saxicola vittata*,* *Hempr. & Ehr.* (491b).

Two specimens referred to this species were procured by Dr. Scully. The first, a male, shot on June 11th, agrees well with Mr. Blanford's description of the type, but differs slightly in size. Length, 6.1 inches; expanse, 10.5; wing, 3.6; tail, 2.4; tarsus, 0.9; bill from gape, 0.8; bill from front, 0.5. The crown and nape are slightly sullied with brown, as in some specimens of *S. morio*; chin, throat, and breast pure white.

The female is much paler than the female of *S. morio*, but has the chin and throat dirty white, and has no supercilium. Length, 5.8 inches; expanse, 10.6; wing, 3.45; tail, 2.6; tarsus, 0.9; bill from gape, 0.8; bill from front, 0.47.

* [This species is new to our Indian list, and must therefore be described. I have seen no Gilgit specimen. A great number of Gilgit birds were in Mr. Mandelli's collection, but this was not amongst the number, and we had no specimen in our Museum. I must, therefore, avail myself of Mr. Seebohm's description. His diagnosis is—*SAXICOLA VITTATUS*—

"Throat white or nearly so.

"Base of tail feathers white.

"Back and scapulars black.

"DESCRIPTION—

"*Adult male in breeding plumage.*—Head and nape, extending on to the upper back, greyish white; lores and ear-coverts black; the rest of the back and scapulars black; wings and wing-coverts nearly black; rump and upper tail-coverts white; tail white, except the terminal two-thirds of the two centre feathers, and the terminal fourth of the remainder, which are black; the black tip on the outside feathers extended to half the length of the feather on the outside webs; under parts white; axillaries and under wing-coverts black; inner margin of quills dark-brown; bill, legs, feet, and claws black; wing, with the third and fourth primaries, nearly equal and longest; second primary intermediate in length between the fifth and sixth; bastard primary 0.6 inch. Length of wing, 3.9 inches; tail, 2.55; culmen, 0.7; tarsus, 0.7.

"The *female* differs from the male in having the black parts replaced by brown, and in having the head and nape suffused by brown."—A. O. II.]

79.—*Saxicola isabellina*, Rüpp. (491).

None were observed in the first year. In the second year several specimens were procured. They appeared about March 6th, and were tolerably common till the end of the month. One specimen was secured on April 21st.

This is *not* *Saxicola œnanthe* (No. 491 of Jerdon) as identified by Messrs. Hume, Dresser, and Blanford. Jerdon's description is correctly applicable to the true *S. œnanthe*.*

The female has the plumage of a paler tone throughout than the male.

80.—*Saxicola œnanthe*,† *Lin.* (491a).

Two specimens were obtained, and about half a dozen others observed, during some heavy weather in March, but never seen at any other time. Both are males, and are assuming the summer plumage, as shown in the plate in Dresser's "Birds of Europe."

Mr. Hume has identified *Saxicola œnanthe*, as described by Jerdon, with *S. isabellina*; and in this he has been followed by Messrs. Blanford and Dresser in their exhaustive monograph of the genus. But Jerdon's description and the detailed description given in that monograph of *S. œnanthe* correspond exactly both with each other and with the specimens now brought from Gilgit. (In the fifth line of the description "outer" is probably a misprint for "other.") And as Jerdon, who very accurately describes the species, states that he got a specimen near Mhow, there is no ground for excluding *S. œnanthe* from the list of Indian birds.*

* [I think that the correctness of these remarks is doubtful.

Jerdon's description is clearly a compiled one—"male above ashy with a brown tinge," applies neither to the summer nor winter plumage of *œnanthe*. In the summer this latter is pale slate grey; in the winter a dull brown, with more or less of a light reddish buff tinge towards the tips of the feathers. On the other hand the whole description applies fairly well to *isabellinus* in winter, except "under wing-coverts blackish, with white edgings," which properly could only apply to *œnanthe* in summer plumage. In the second place plenty of other specimens of *isabellinus* have been obtained in the tract of country in which Mhow is situated, namely, the Indore Agency, but never one of *œnanthe*. In the third place Jerdon identified all our Etawah, Agra, Cawnpore, &c., *isabellinus* as his *œnanthe*.

Under these circumstances I have not the least doubt that, be the sources what they may from which he compiled his curt and by-no-means satisfactory description, the bird he intended to represent under his 491 was really *isabellinus*.—A. O. H.]

† [*Saxicola œnanthe* has never been fully described in STRAY FEATHERS, and in my opinion Jerdon's description under 491, however unsatisfactory, applies better to *isabellinus* than to *œnanthe*, and I therefore extract a description from Mr. Seeborn's Catalogue:—

"Adult male in breeding plumage.—General colour of the upper parts pale slaty grey; forehead and eye-stripe, which extends to the nape, white; lores and upper part of the ear-coverts black; wings and wing-coverts nearly black, a few traces of the autumnal buff margins to the feathers generally left; rump and upper tail-coverts white; tail white, except the terminal three-fifths of the two centre feathers, and the terminal fourths of the others, which are nearly black; under parts very pale buff, slightly darker on the throat and breast; axillaries and under wing-coverts white, with dark centres; inner margin of quills brown; bill, legs, feet and claws black;

It may be distinguished from *S. isabellina* by the wings and tip of tail being black, not brown, the dark tippings of the side-feathers of the tail being much narrower, and by the conspicuous broad black stripe on the side of the head from the lores through the eye to the ear-coverts, and in summer by the blue grey tone of the back.

81.—*Saxicola hendersoni*, Hume* (492 bis).

This species was not noticed the first year; but in the second year a number appeared in September, chiefly young birds, and a few adults among them. Messrs. Blanford and Dresser, in their Monograph of the Saxicolinæ, and the latter also in the "Birds of Europe," suppress this species, and place the name as a synonym of *S. melanoleuca*. The reasons for this are not given; and the colouration of the base of the feathers on the back seems to be utterly incompatible with the assumption of a white back in summer; so that this decision could not be accepted, even in the absence of specimens in full breeding plumage. But Mr. Hume has recently pointed out that three

wing, with the third and fourth primaries, nearly equal and longest; second primary sometimes as long as the fourth; bastard primary 0.75 to 0.55 inch. Length of wing, 4.2 to 3.5 inches (females, 3.7 to 3.45); tail, 2.45 to 2.0; culmen, 0.7 to 0.62; tarsus, 1.2 to 1.05.

"*Adult female in breeding plumage.*—General colour of the upper parts dull brown; forehead and eye-stripe buffish white, much narrower than in the male; lores and upper parts of ear-coverts brown; wings and wing-coverts not so dark as in the male; rump and upper tail-coverts white; tail as in the male, but the dark parts not quite so dark; under parts as in the male. *After the autumn moult* both sexes have a buffish brown margin to every feather, so that they are scarcely distinguishable, and resemble the adult female in breeding plumage, except that the quills and tail feathers are margined with buffish brown at the tip, and the innermost secondaries and wing-coverts are similarly margined, not only at the tip but along the outside webs. The under parts are also darker in colour. It is not known that birds of the year differ from adult."

There is no reason really to believe that either Jerdon or any one else has ever as yet procured this species anywhere in the plains of India; but having been obtained in Gilgit, it is highly probable that sooner or later stragglers will occur there.—A. O. H.]

* This is the same as *S. morio*, No. 77 of this list. Mr. Hume's original description and figure of *S. hendersoni* admirably represent the winter plumage of *S. morio*, Hempr. & Ehr.—J. S.

[This, i.e. my *S. hendersoni*, is certainly NOT the same as No. 77 of this list. It may be the same as the true *morio* of H. and E., but it is not the same as the *morio* of this list, which has the inner webs of the quills black (*vide sup.*) while in *hendersoni* they are a pale grey brown. Dr. Scully overlooked the fact that No. 77 of this list is apparently *morio* *apud* Blanford and Dresser; and this, according to Seebohm, is *capistrata* of Gould, and not the true *morio* of Hempr. and Ehr.]

What Dr. Scully should have said is, that *S. hendersoni*, Hume, is, according to Seebohm, identical with *morio*, H. & E. *apud* Seebohm. But the whole thing is doubtful, because Seebohm claims to have the types of *S. hendersoni* in the British museum whereas they are in my museum. Dr. Henderson had a great number of *Stonechats*, and I have no certainty that the birds he gave the B. Museum were really identical with the types.

In winter plumage a good many of the species are difficult to separate, and Mr. Seebohm has never seen *hendersoni* in full breeding plumage; but I have, and I can only say that if as I gather the true *morio* is the same as the bird we have hitherto called *leuconcla*, Pall., then in my judgment *S. hendersoni* is not identical with *morio*. The points of difference are clearly pointed out, S. F., II., bottom of p. 626.—A. O. H.]

males obtained by Dr. Stoliczka, in the Second Yarkand Expedition, are in full breeding plumage, and have the back, as might have been anticipated, black.

It is worthy of note that the nearly allied *S. deserti*, which is common in the Indus valley above 7,000 feet, is not found in Gilgit.

There is nothing to add to Mr. Hume's careful and detailed description of his species *S. hendersoni*.

82.—*Ruticilla rufiventris*, Vieill (497).

With reference to the distinctive difference pointed out by Mr. Blanford in "Eastern Persia," Vol. II., p. 165, all specimens procured in Gilgit have rufous under wing-coverts, thereby distinguishing them from the *R. erythroprocta* type, which has the under wing-coverts black.

Eleven males agree fairly with stage IV. in STRAY FEATHERS, Vol. V., p. 36, except that the back is only partially black, and the greyish white band on the forehead is only visible in the May specimens.

The fact of males breeding in female plumage has been before remarked; but it seems far commoner than has been supposed. Like many other birds, this species probably does not get its fully adult plumage till after the first breeding season.

In males of the first year in autumn the black of the back is concealed by ashy brown, instead of grey as in more mature birds.

These birds go beyond Gilgit to breed as a rule; one female was shot off the nest with young at 10,000 feet elevation in the Gilgit district.

83.—*Ruticilla hodgsoni*, Moore.* (? 497 ter).

A single specimen of a female procured in February. Its measurements correspond best with the measurements given by Jerdon for *R. hodgsoni*. In other respects the plumage is most like the description of *R. cæruleocephala* given by Hume in "Lahore to Yarkand;" but the whole tail, except the two outer feathers, is rufous, and there are faint rufous tints on the breast.

84.—*Ruticilla erythronota*, Eversm. (498 bis).

Two male specimens of this handsome Redstart were procured in December and January. It appeared to be common

* This is hardly likely to be *R. hodgsoni*, as that species has not, I believe, been obtained west of Nepal, and the large tract of country between Nepal and Kashmir has been well explored. It might possibly be *R. mesoleuca*.—J. S.

[I agree that this can hardly be *hodgsoni*, and that it is not impossible the female of *mesoleuca*.—A. O. H.]

in the upper part of the Chitral valley in November, when I procured several specimens of both sexes.* As noted by Mr. Blanford, the amount of rufous on the back and breast differs in different specimens; but a specimen shot in December is almost entirely rufous on the back, showing very little grey. The feathers of the back and breast have margins of grey above and isabelline below, which are decomposed; and the breadths of these margins seem to differ in different specimens, causing a greater or less amount of rufous to be visible; the December bird is also small in all its measurements, with a bill of only 0.32 inch in front.

The white speculum on the primary coverts is very prominent in the December and in one November specimen; in the other November and in the January specimen it is inconspicuous, almost wanting in the latter.

The speculum, where prominent, agrees with Eversmann's description. Mr. Blanford's description omits all notice of it (probably accidentally) in the Shiraz specimens; while in Mr. Moore's description of *R. rufogularis* the speculum is described as formed by the basal portion of the primaries being white. In other respects the three descriptions coincide well with each other and with the Gilgit and Chitral specimens.

85.—*Ruticilla erythrogastra*, *Guld.* (499).

Was extremely common during the severe winter of 1877-78 down to an elevation of 5,000 feet, but in ordinary years does not come much below 6,000 feet. The white of the head and back of neck in the male appears to be a sign of maturity. One specimen, of which the sex is doubtful, has the dull plumage of the female, but has more rufous on the underparts, and is probably a young male of the year. Of the males in adult plumage some specimens have the white of the head and back of the neck thickly dashed with dark slaty grey, being, perhaps, males of the second year. Those in the most perfect plumage have the head and back of neck dull white, extending rather further down the back.

The female is slightly smaller than the male, the wing measuring from $3\frac{1}{4}$ to 4 inches. With the exception of the wing-feathers being margined with silvery grey instead of rufous, there seems to be no difference except that of size between the females of *R. erythrogastra* and *R. rufiventris*.†

* [This species is very common throughout the winter months about Attock, in the Khyber, and generally about the bases of the hills N. W., W. and S. W. of the Peshawar Valley.—A. O. H.]

† [In *rufiventris* the abdomen, vent and flanks are light rusty chestnut; in *erythrogastra* they are pale fawn colour. Again the grey brown of the upper surface is much paler in *erythrogastra*.—A. O. H.]

This Redstart is said to breed higher up the valley, in Yassin, at an elevation of 8,000 feet.

86.—*Ruticilla frontalis*, Vig. (503).

A summer visitor, appears in April and remains up in high ground about 9,000 to 10,000 feet, being only once seen in Gilgit during some heavy weather in April.

The male in breeding plumage loses the terminal brown edgings to the feathers of the head, back, throat, and breast, these parts becoming uniform dusky cyaneous, while on the feathers of the throat and breast a lazuline sheen appears.

In a young bird of the year the entire head, back, and breast are deep brown, each feather centred with rufous fawn colour, more largely on the breast than on the back; the wings are nearly black, the secondaries narrowly, and the tertiaries and greater coverts broadly, edged with bright rufous; abdomen, rufescent fawn colour; upper and lower tail-coverts and tail as in the female.

87.—*Adelura* cæruleocephala*, Vig. (504).

A summer visitor. It appears in April, and breeds at about 10,000 feet.

88.—*Chimarrhornis leucocephala*, Vig. (506).

A resident, but never very common. A few pairs to be seen generally at about 10,000 and 11,000 feet in summer; it comes down to 5,000 feet in winter.

89.—*Nemura cyanura*, Pall.† (508)

Obtained in Gilgit in May, and in the Nulter valley in August, at 11,000 feet. In August the young were fully fledged. The plumage before the first moult is bright rufous brown above, paler below, each feather margined with dark brown; wings and tail hair brown; middle of abdomen pure white.

90.—*Calliope pectoralis*, Gould. (513).

First seen on May 1st, by which time it was in full breeding plumage; birds shot in the beginning of June being not nearly so brilliant. It breeds at 10,000 feet.

The measurements and description given by Jerdon do not entirely correspond with the specimens secured; the wing in

* [I can discover no valid grounds now for separating this species generically from the other *Ruticillas*. Its habits are precisely those of the rest of the group. In November and December this and *frontalis* are our two commonest Simla birds.—A. O. H.]

† [This is the Himalayan *N. rufilata*, distinct from *N. cyanura*, Pall.—J. S. [Correct, and our catalogue should be altered accordingly.—A. O. H.]

some is as much as 3.25 inches in length. In the breeding male the top of the head and nape are brown, forming a defined cap in contrast with the ashy grey of the back and sides of the neck, and there is no trace of the white moustachial spot; the female has no white on the tail at all.

The young males in July, in immature plumage, show no throat spot, but can be distinguished by the white at the base of the tail.

Young birds and nestlings are spotted, and approximate to those of *Adelura caerulescapula*. Evidently two broods are produced in the year.

91.—*Cyanecula suecica*, Lin. (514).

The earliest migrant. It appears from the south about February 7th, is very common all March, and disappears in April. It breeds somewhere higher up, but not far off, and reappears on its way south on August 21st.

In all the March specimens the blue throat and rufous patch are fully developed. One of these is remarkable for having the lower rufous band below the black and white gorget an inch deep; in all the others, obtained earlier and later, this band is about a quarter of an inch deep.

All the September specimens are in the "young" stage, as described by Jerdon, having white throats with blue moustachial streaks.

92.—*Cyanecula leucocyanea*,* Brehm. (514 bis).

A single specimen was procured by Dr. Scully on April 15th with the white throat spot. A faint rufous tinge appears at the bases of the satin-white feathers, looking very much as if there were a change of colour in the feather. Length, 5.7 inches; expanse, 8.75; wing, 2.75; tail, 2.15; tarsus, 1.1; bill from gape, 0.8; from front, 0.45.

93.—*Acrocephalus dumetorum*, Blyth. (516).

Common in the summer.

94.—*Dumeticola major*, Brooks. (519 quat).

Common in the Nulter valley in June, July and August, where it breeds at an elevation of from 8,000 to 10,000 feet.

Young birds shot in August are much the same in plumage as the old birds; but they have a strong tinge of green on

* [Vide S. F., VII., 391. It is still uncertain whether the plain blue-throated species (*C. wolfsi*) and the white-spotted one are distinct. Unless they are so the name *wolfsi* has precedence.—A. O. H.]

the under surface; the breast spots are indistinct and cloudy, lower mandible pale yellowish, upper brown; feet pale.

95.—*Hypolais caligata*, Licht. (553 bis).

A few specimens procured in August and September at 5,000 to 7,500 feet.

96.—*Phylloscopus tristis*, Blyth. (554).

A summer visitor. Breeds at about 8,000 feet. Very common.

97.—*Phylloscopus lugubris*, Blyth. (558).

A single specimen shot at 10,000 feet at beginning of June.

98.—*Phylloscopus viridanus*, Blyth. (560).

Common from the beginning of June till the middle of September.

99.—*Phylloscopus tytleri*, Brooks. (560 bis).

One specimen (♀) shot on August 9th, in the Nulter valley at 10,000 feet. Length, 4.4 inches; wing, 2.36; tail, 1.55; tarsus, 0.75. Legs, greenish horny; soles of feet, yellow.

100.—*Phylloscopus affinis*, Tick. (561).

Three specimens obtained at 5,000 feet in May and June, and several others at 10,000 to 10,500 feet in July and August.

101.—*Phylloscopus indicus*, Jerd. (562).

Very common in summer.

102.—*Reguloides occipitalis*, Jerd. (563).

A summer visitor. Common in June, July, and August at 9,000 feet.

According to Jerdon this species is distinguishable from *R. trochiloides* by its size; but according to Seebohm the measurements of both are alike, and the only difference is that *R. occipitalis* has one bar, and *R. trochiloides* two, on the wings; but a specimen sent me by Mr. Brooks as *R. occipitalis* has two bars. If Seebohm is right, then two of my specimens would appear to be *R. flavo-olivaceus*, Hume (STRAY FEATHERS, Vol. V., p. 504); but the barring of the wing appears to depend on age and season, and I believe them all to be *R. occipitalis*.

103.—*Reguloides humii*, Brooks. (565 bis).

A summer visitor. The young of this and *R. subviridis* are most difficult to distinguish. Both breed in the Nulter valley at about 9,000 feet.

104.—*Reguloides subviridis*, Brooks. (566 bis).

Common at 5,000 feet in March, April, May, and beginning of June; breeds in the Nulter valley in July at 10,000 feet. Young birds shot in August fully fledged.

105.—*Regulus cristatus*, Koch. (580).

One specimen shot at 11,000 feet in July.

106.—*Sylvia affinis*, Blyth. (582).

A summer visitant. Arrives about May 1st, and leaves in October.

107.—*Sylvia althæa*, Hume. (582 ter).

The specimen which I have referred to this species was procured in May.

108.—*Sylvia cinerea*, Lath. (582 quat).

A few specimens were secured each year, in August and September.

109.—*Henicurus scouleri*, Vig. (587).

Tolerably common in all the small streams. In addition to Jerdon's description may be noted that the primaries, except the first and second, and all the secondaries, have part of the outer edge white. There is also a conspicuous dark band across the rump between the white of the lower part of the back and the upper tail-coverts. The flanks are smeared with sooty.

110.—*Motacilla hodgsoni*, Gray. (589 bis).

Extremely rare; only a single specimen obtained, in full breeding plumage, in June, at an elevation of 8,000 feet; two specimens, obtained in April, were assuming the breeding plumage. In September it was tolerably common higher up the Indus towards Iskardo, and was then rapidly assuming the winter plumage.

Dr. Scully's diagnosis of the grey Wagtails in STRAY FEATHERS, Vol. VIII., p. 312, is extremely clear and accurate, so far as these specimens show, though there is some variation in the size of the bill.

M. hodgsoni may be best described as the black-backed representative of *M. personata*; while *M. leucopsis* (= *M. luzoniensis*) is the black-backed representative of *M. alba*. The distinction between *M. hodgsoni* and *M. leucopsis* is now probably questioned by no one, though it was formerly discussed in the earlier numbers of STRAY FEATHERS.

111.—*Motacilla personata*, Gould. (591).

Common all the year round. In summer it goes up to about 9,000 feet or more.

Severe weather in winter, spring, and autumn always drives a number down to the low ground. They are as good as a barometer, always appearing a day before the bad weather, and disappearing again before it entirely clears. The specimens preserved were obtained in February, March, August, September and October; and all show the grey back, while during the summer months, though unfortunately no grey-backed specimens were shot, they were constantly observed and were extremely common. This point establishes the specific distinctness of *M. personata* from *M. hodysoni*.

112.—*Motacilla alba*, Lin. (591 *ter*).

Not a constant resident.

In spring it was first observed on 24th April, when a large number in full breeding plumage suddenly appeared during heavy weather. In the summer none were seen; but in September it was again extremely common for a short time in Gilgit, and also up the Indus towards Iskardo. Young birds secured at this time show the yellow tinge over the white on the face and neck.

113.—*Calobates melanope*, Pall. (592).

Common in summer, but rarely seen in winter. The female in breeding plumage has, instead of the black throat, which is assumed by the male at that season, an interrupted streak of dusky spots at each side from the base of the lower mandible.

The young bird is similar to the female in winter plumage, but duller in tone throughout.

114.—*Budytes cinereicapillus*, Savi. (593).

A single specimen obtained on the 10th May. Field Wag-tails, except of the yellow-headed type, were only common for a few days in spring and autumn; a few were occasionally seen during winter.

[Mr. Brooks has given an excellent diagnosis of the characters by which the males of several of the species can be distinguished in adult summer plumage; the following key extends the diagnosis to include all those recorded from India or neighbouring countries:—

A. With the entire head yellow.

1. Entire back black

2. Back grey

..

...

... *B. calcaratus*.

... *B. citreolus*.

- B. With the top of the head pure black ; supercilium very narrow or wanting.
 3. *B. melanocephalus*.
 C. With the crown yellowish green ; supercilium yellow, broad.
 4. *B. rayi*.
 D. With the crown grey.
 5. Crown pure light grey ; supercilium white, broad ; cheeks pale grey and pure white ... *B. dubius*.
 6. Crown deeper grey ; supercilium white, broad ; cheeks dark grey, with a few white streaks ... *B. flavus*.
 7. Crown dark grey ; supercilium white, narrow or wanting ; cheeks dark slate, almost black ... *B. cinereicapillus*.
 —G. F. L. M.]

115.—*Budytes melanocephalus*, *Licht.* (593 *bis*).

A single female shot on the 10th April in immature plumage.

116.—*Budytes calcaratus*, *Hodgs.* (594).

Out of ten specimens obtained in May and June, nine are males ; and the only female has the back strongly tinged with green, and a good deal of dusky green is mixed with the yellow on the nape. The young of this species appear to be undistinguishable from those of *B. citreolus*, except perhaps by a generally rather darker hue. A single specimen was secured in March ; but no others were noticed till May, after which it was common till October.

117.—*Budytes citreolus*, *Pall.* (594 *bis*).

Of this species males and females were obtained in about equal proportions. A female shot early in March has the black cowl well developed, and the back from the shoulders to the middle of the tail-coverts pure grey with a very slight wash of green.

Another, shot at the end of April, is similar, but the black cowl is much less prominent, though the whole head and nape are pure unmixed yellow.

In a third, shot at the end of May, the back is pure grey, the black cowl entirely absent, and the yellow on the nape is suffused with dusky ; this is apparently a breeding but not fully adult bird. The bird figured by Gould (*B. Asia*, Pt. XVII.)

[This is Hodgson's name. I think the form with the pale pure blue grey head and much pure white on the cheeks fairly distinguishable, and would adopt the name *beema* of Sykes which = *dubius* of Hodgson, and has priority for it ; but I believe that in Europe the distinctness of this form from *flavus* is not generally admitted. Note that in my catalogue I took *Budytes* as feminine, but I believe that my derivation was wrong, and that (awkward and barely intelligible as it is) we must derive the word from *βου-δυνης*, and *δυνης*, a diver is masculine. So in the Tentative List, "*flava*," &c., must be altered to "*flavus*."—A. O. H.]

as female *B. citreoloides* in full plumage is *B. citreolus* in winter or immature plumage.

In Gilgit *B. citreolus* appears in March, and is common till May and again in October; it ascends to higher elevations to breed. The breeding plumage is identical in the two sexes.

118.—*Anthus trivialis*, Lin. (597).

Was very common throughout the summer, and breeds in July at the higher elevations.

[The series brought down contains many examples of the European type as described by Dresser in the "Birds of Europe," and also many of the Indian type, "purer and greener in colour, with the spots on the breast boldly defined;" but Mr. Dresser's conclusion that they are all referable to one and the same species appears to be quite correct.

During the summer months, while breeding, the plumage loses much of its brilliancy, the general tone becomes very brown, and the striations on the back are ill-defined; the brighter plumage is re-assumed in September.—G. F. L. M.]

119.—*Anthus campestris*, Lin. (602).

A single specimen shot on 8th March; no others seen. Evidently a straggler.

120.—*Anthus rosaceus*, Hodgs. (605).

A number were observed and ten obtained at the end of April and throughout May; but after the end of May none were seen.

121.—*Anthus cervinus*, Pall. (605 bis).

Two specimens shot in May and December.

122.—*Anthus blakistoni*, Swinh. (605 quat).

Very common all through the winter. About the 20th February the males begin to assume the rufous tinge of under plumage and the grey on head and neck. The females do not commence to assume their breeding plumage till the middle of March. By the end of March the breeding plumage is fully assumed.

I had entered this bird as *A. spinoletta*; but Mr. Brooks, on seeing some specimens, pronounced them to belong to this species, and distinct from true European specimens of *A. spinoletta*, which has a richer brown on the back, and is less striated, with the breast spots large and cloudy.

123.—*Cephalopyrus flammiceps*, Burt. (633).

Three shot on 1st September at 9,000 feet.

124.—*Leptopœcile sophiæ*,* *Sev.* (633 *bis*).

A winter visitant, but seldom comes below 6,000 feet except in very severe weather.

In 1874, after returning from Yarkand with some specimens of this bird, I found a young one labelled as having been shot at Leh, but not identified at the time. On showing my collection to Mr. Hume, he suggested that the label must have been attached by mistake, and that the specimen must have been procured with the others north of the Karakorum. After procuring the bird at Gilgit, I doubt not that my label was correct, and that specimens are to be procured at Leh; but the bird is at all times so difficult to see and to shoot, that it is not surprising that it has hitherto escaped notice. Dr. Scully also informed me that he found it in the Nobra valley in Ladak.

The plumage is very thick and soft, and the basal part of the feathers and down on the lower surface is deep black, concealed by the colour of the tips.

The male only has been figured by Gould; but the letter-press contains an accurate description of the female by Severtzoff.

125.—*Ægithaliscus leucogenys*, *Moore.* (634 *bis*).

This species was described by Moore in the P. Z. S. as long ago as 1854, from specimens in the Indian Museum, labelled from Afghanistan; the description is accompanied by a short extract from Griffith's MS. notes; but subsequently to this the bird does not appear to have been obtained, nor is its correct habitat defined.

A number of specimens were obtained in the main valley about fifteen miles above Gilgit, among thick bush and tree-jungle, about the middle of May. In these the chin and throat are of a deep blackish maroon, rather than jet black (as described by Moore); and towards the breast the lower margin of the dark patch is narrowly, but distinctly, fringed with chestnut. In other respects they agree exactly with the original description.

The dimensions, taken in the flesh, are as follows:—

Adults:—Length, 4·75 to 4·8 inches; wing, 2·2 to 2·23; tail, 2·2 to 2·25; tarsus, 0·63; bill at front, 0·25.

Young:—Length, 4·3 inches; wing, 1·95; tail, 1·8; tarsus, 0·55.

* [Both sexes of this species, which must be included in our List as 633 *bis*, will be found very fully described S. F., II., 513, *et seq.*, under the name of *Stoliczka stoliczkae*. When I described it, it was unknown to 99 out of every 100 ornithologists, though as a fact it had just previously been described in a Russian work by my distinguished friend Severtzoff, whose name of course must stand.—A. O. H.]

In the young birds the dark throat patch is only partially developed, and is blackish mixed with white.

126.—*Parus melanolophus*, Vig. (638).

A constant resident, but seldom comes below 7,000 feet even in winter.

A number of specimens were obtained—all males, strange to say; the buff tint of the spots on the wing-coverts appears to be a mark of nonage, the pure white being obtained when the birds are fully adult.

In many specimens the white tips to the secondaries are absent, and in others only faintly marked; their full development appears to take place in the adult bird.

The axillaries and under wing-coverts are rufous, as well as the flanks. The plate in Gould's handsome work, "The Birds of Asia," represents this species very accurately.

127.—*Parus rufonuchalis*, Bly. (640).

This species is distinguishable from *P. beavani* by its larger bill and by the black extending further down the breast; the bill in *P. beavani* is similar to that of *P. melanolophus*.

It is a permanent resident at about 9,000 feet, but seldom descends even in the depth of winter to the main valley. It is very common where found.

Compared with Blyth's type (which comes from Simla), the nuchal spot is less rufous, in some specimens being almost entirely white.

128.—*Parus nipalensis*, Hodgs. (645).

All the specimens procured are paler on the nape; in some the edging to the black is albescent, but not anything like a semicollar. Specimens from Murree cannot be separated from Gilgit birds.

Many show a vinaceous tinge on the white of the abdomen. Nestlings and young birds are strongly tinged with yellowish green.

The birds from Gilgit are similar to the type found in the Himalayas as far east as Nepal at all events; but they are considerably larger than the type found in the plains,* and lack the distinct white marking on the nape, whether spot or semicollar.

Measurements given in STRAY FEATHERS, Vol. II., p. 417, by Ball, from Chota Nagpore, are :—Wing, 2.4 inches in one, 2.5 in another. Sex not mentioned.

* Mr. Blanford has also pointed out that the birds of this species found on the Nilgiris are larger than specimens obtained in the plains (J. A. S. B., 1869, Part II., p. 181).—J. S.

Also STRAY FEATHERS, Vol. I., p. 384, by Adam, from Sambur lake—Wing, 2·6 inches. Sex not mentioned.

Jerdon gives measurements as 2·8 inches. A male from Murree measures (by my measuring) 2·9; and those procured at Gilgit measure 2·97 in the males, and 2·7 in the females.

The young birds are green on the back, the under surface pale yellow; the black markings are dull, with a brownish tinge and no gloss whatever, similar in extent to those of the adults on the upper surface, but beneath confined to a stripe from the chin towards the abdomen, not coalescing with the black on the upper surface, the sides of the face and neck being also pale yellow. In the nestling just fledged (killed in June) there is a well-defined pale yellow demicollar on the nape, beneath the black. In a rather older bird (killed in August) the back is still green, the black without gloss, and the pale demicollar less marked, and the black of nape and throat show no signs of coalescing; but the yellow tint of the under surface is disappearing, and the wings and tail (which are fully developed) are coloured as in the adult. There is no intermediate stage represented in the collection, but as the green-backed bird is never found in winter, there can be no doubt that it is the immature phase of *P. nipalensis*, which is the commonest bird in Gilgit.

This is the only bird that does not appear to make any seasonal change in its habits (? habitat) in this locality.

129.—*Accentor nipalensis*, *Hodgs.* (652).

This *Accentor* was extremely common during the winter of 1877-78. It was generally met with in scattered flocks of fifteen or twenty, and seemed to prefer keeping to the vicinity of water. It was very bold, allowing one to come quite close, while it hopped unconcernedly about searching for worms, &c. Occasional specimens seemed much lighter-coloured than the generality. All the specimens obtained were shot in December, January, and February.

The sexes are coloured alike.

130.—*Accentor altaicus*, *Brandt.* (653).

During the severe winter of 1877-78 several flocks of this *Accentor* appeared; but it was never very common. It was generally in compact flocks of twenty or thirty, keeping to the hill sides, and not very easy to approach. The flight is very rapid; and, like most of the *Accentors*, it appears very Finch-like in its habits, approaching in this respect especially to the genus *Montifringilla*. The measurements given by Jerdon are apparently those of a female. In the adult male the wing measures $3\frac{1}{4}$ inches, and the tail $2\frac{1}{2}$. Irides, cherry-

red; the ear-coverts are fulvous; the interscapular region and tertiaries black, with broad rufous margins; lower back, dingy grey; the wing-coverts are more or less tipped with white, as in *A. nipalensis*, forming two conspicuous but irregular wing bars; the under tail-coverts are brown, broadly margined with white; chin, white; the feathers of the throat and fore neck white, with black tips.

The grey of the shoulders and lower back contrasts strongly with the ferruginous tint on the upper back; and the crown of the head is in some specimens very distinctly streaked with brown.

131.—*Accentor jerdoni*, Brooks. (654 bis).

Common in the summer at elevations of 10,000 feet and upwards, where it breeds. It was not observed in winter. This is the species figured by Gould (B. Asia, Pt. VII.) as *A. strophiatatus*. A young bird just able to fly, shot towards the end of July, has the upper plumage dark brown, broadly margined with ferruginous, a party-coloured wing bar, formed by buff tips to the secondary coverts and dark brown tips to the primary coverts; the whole supercilium is buffy white; the lower parts are fawn colour, almost white on the throat, and strongly tinged with ferruginous on the breast; most of the feathers dark centred. This is a much younger stage than that described by Mr. Hume in "Lahore to Yarkand."

132.—*Accentor atrogularis*, Brandt. (655).

Tolerably common during the winter; leaves about the 23rd March.

Agrees well with Jerdon's description of *A. huttoni*, and also with Gould's plate of *A. atrogularis*, which latter name has precedence if the two names refer, as they apparently do, to one and the same species.

133.—*Accentor fulvescens*, Severtzoff? (655 bis).

A species of *Accentor* was common in Gilgit during the winter, which, in the absence of the type to compare with, must stand under this name, though it neither agrees with the plate nor the description given in Gould's "Birds of Asia," Part XXIII. (*vide* STRAY FEATHERS, Vol. III., p. 428), which Dr. Severtzoff says is his *A. fulvescens*.

Description.—Sexes alike. Top of the head almost uniform dull brown; the rest of the upper plumage grey brown; the feathers of the back indistinctly centred dull brown; wings and tail dull brown, with pale edgings; two white wing bars, formed by tippings to the coverts; no pale tips to the inner webs of the tail-feathers, except a faint trace on the outermost

pair; superciliary streak, extending over the ear-coverts, pure white; sides of the face and ear-coverts deep brown, a few of the latter tipped whitish; under surface pale fulvous, deepest on the breast, albescent on the chin, throat, and lower centre of abdomen. Length, 6.25 to 6.4 inches; wing, 3 to 3.15; tail, 2.5 to 2.65; tarsus, .75, dull red.

This bird is retained as *A. fulvescens* solely because it appears to be identical (speaking from memory) with the specimens obtained in Yarkand, which were identified by Dr. Severtzoff himself as belonging to this species; but it certainly differs, as stated above, from both the figure and the description.

It is not the *A. montanellus* figured in Gould's "Birds of Europe;" for that has the back reddish ash, the supercilium buff, and the flanks striped.

It is not the *A. montanellus* in Gould's "Birds of Asia" for the same reasons, and, further, because it wants the grey patch on the side of the neck, and the white tippings to the secondaries.

It is not the *A. montanellus* figured in David and Oustalet's "Oiseaux de la Chine;" for that is a much darker bird, and has the buff supercilium and reddish brown back.

It is not the *A. temminckii* of Brandt; for that is identical with the *A. montanellus* figured in Gould's "Birds of Europe."

It is not the *A. montanellus* described by Dresser in the "Birds of Europe;" for that also has the supercilium buff and the back chestnut red.

And if not *A. fulvescens*, Severtzoff, it is a species hitherto undescribed.*

It is somewhat similar to *A. atrogularis*, which was almost equally common; but, besides wanting the black throat, its pale and almost uniform tone of colouration, and the absence of all tinge of red on the back, markedly distinguished it from that species.

134.—*Corvus corone*, Lin. (659).

Since my leaving Gilgit Dr. Scully writes that he has secured two undoubted specimens of this species.

135.—*Corvus cornix*, Lin. (659 bis).

A few specimens always to be observed in December, January and February, mixed up with other Crows.

* [It must not be forgotten that *fulvescens* of Severtzoff may be only one stage of the plumage of *montanellus*. We are still quite ignorant of the changes of plumage undergone by this species.—A. O. II]

136.—*Corvus levaillanti*, Less. (660).

There are evidently two species of Crows of this type; but the only good distinction in the dried skin seems to be the length of the tail. The short-tailed ones (*C. culminatus*) go about in flocks; the long-tailed ones (*C. levaillanti*) only in pairs and keep to the higher elevations, only coming down in winter to the main valley.* These Crows are apparently what Sharpe identifies as *Corvus culminatus* and *Corone levaillanti*, except that the dimensions of his *C. culminatus* are too small for the Gilgit bird. The distinction in comparative length of first primary holds fairly good, except in one specimen; the distinction in the lie of the rectal bristles is somewhat better, but is less decidedly marked in some specimens of *C. culminatus* than in others; but the differences in habit leave no doubt that, however difficult of definition, the species are distinct.

Out of nine specimens of *C. levaillanti* the wing ranges from 13 to 13·8 inches, except in a single specimen, unsexed, which measures 12·6. The tails measure 9 to 9·5, except in the specimen referred to above, in which it is only 8·8. In *C. culminatus* the wing ranges from 11·4 to 12·6; the tail from 7·85 to 8·75.

137.—*Corvus culminatus*, Sykes. (660).

See preceding remarks.

138.—*Corvus umbrinus*, Hedenb. (660 bis).

On one occasion, among several hundred Crows collected over a dead animal, at 12,000 feet elevation, I distinguished a pair which differed from all the others in size, colour, and voice and which I refer to this species.

139.—*Corvus frugilegus*, Lin. (664).

Very common in winter; appears in large flocks.

[I regard all these distinctions as fallacious. It is not true that *all* the short-tailed birds live lower down and keep in flocks, or that *all* the long-tailed ones live higher up and keep in pairs. It may have happened to be so in the few specimens here referred to, but I have conclusively shown that neither those nor any of the other supposed differences between our Black Crows are constant.

Of course some birds affect higher, some lower ranges; of course those bred and dwelling at higher elevations will average larger—of course, too, where the birds are very sparsely distributed they will generally only be seen in pairs, while where there are many they will often congregate in flocks.

There are many parts of the plains of Upper India (the Etawah District for instance, where almost every bird is small sized and short-tailed) where they are scarce and keep invariably in pairs. Others (as in the immediate neighbourhood of Allahabad) where they are common, and may be seen in parties of 20 to 40.

Both supposed species should undoubtedly stand under the one name, *macrorhynchus*.—A. O. H.]

140.—*Corvus monedula*, *Lin.* (665).

A few always about during the time of extreme cold, generally mixed up with other Crows, but disappear in April. The specimens procured and observed show no approach to the *C. collaris* type with the white half collar, which is recorded from Kashmir and Afghanistan.

Since leaving Gilgit Dr. Scully writes that he has procured specimens of the *C. collaris* type, which appear distinguishable from *C. monedula*.

141.—*Nucifraga multipunctata*, *Gould.* (667).

Common at all times in the forests above 8,000 feet.

Of six specimens the length of wing varied from 7.75 to 8.25 inches (the smallest being a female and the largest a male), total length, 14 to 15.15; tail from 5.8 to 6.5. Irides, brown; legs, black.

142.—*Pica rustica*, *Scop.* (668 *bis*).

The form separated as *P. bactriana* by some authors.

Very common at all times. In winter it comes down to 5,000 feet; but in April it ascends to about 8,000 feet in the side valleys. The natives train the Sparrow-Hawk (*Accipiter nisus*) to take the Magpie with.

A nest with five eggs, hard set, taken in a mulberry tree at Nonval (5,600 feet) 9th May.

A nest with three eggs, (quite fresh) taken at Dayoor (5,200 feet) 25th May. The bird had evidently not done laying.

143.—*Pyrrhocorax graculus*, *Lin.* (679).

Common at the lower elevation in December, January, February and March, when they commit great havoc on the newly sown corn. In summer they keep entirely to the mountains.

144.—*Pyrrhocorax alpinus*, *Koch.* (680).

Seems to care less for cold than the Red-billed Chough, only appearing in the main valley during the time of extremest cold, and then only in small numbers.

145.—*Sturnus vulgaris*, *Lin.* (681).

Occasional specimens secured during the winter, but not common.

146.—*Sturnus purpurascens*, Gould. (681 *ter*).

A winter visitant. The specimens obtained are precisely similar to those got in Yarkand.

147.—*Temenuchus pagodarum*, Gm. (687).

One or two procurable each summer, at all elevations up to 8,000 feet, where cattle are herded.

148.—*Pastor roseus*, Lin. (690).

Two young birds of the year shot on the 19th and 28th August; a few others in immature plumage were also seen at the same time, but no adults.

149.—*Passer indicus*, Jard. & Selb. (706).

Begin to disappear in November, and leave Gilgit altogether during the time of extreme cold. In both years they reappeared in small numbers on 22nd February, but did not become common till the end of March. Dr. Scully writes that he has procured specimens all through the last winter; they were certainly not there in the two preceding winters.

150.—*Passer hispaniolensis*, Tem. (707).

Two specimens only procured in the winter. The female differs from that of *P. indicus* in having a stronger bill, and having a very faint supercilium; otherwise the markings are so similar that it is not distinguishable.

151.—*Petronia stulta*,* Gm. (711 *bis*).

This Sparrow was tolerably common in December, January, and February. It was generally in flocks of fifteen or sixteen, and prefers open stony places. I never saw it near trees.

* [This species has not been described in STRAY FEATHERS, and I may therefore describe it from a number of Gilgit and other specimens in our Museum. The sexes hardly differ; but as a rule the yellow throat spot is comparatively inconspicuous in the female, and in most specimens of this sex the colouration generally is a trifle duller. In the young of both sexes the throat spot is always obsolete or nearly so, and the colouration everywhere markedly paler, especially on the abdomen.

The bill is a moderately dark brown; a dull yellowish fleshy towards the gape and on the basal half or nearly so of the lower mandible; the legs and feet light brown; the irides hazel (♀)

The forehead, crown and occiput are brown, darker in some, lighter in some specimens; the feathers usually more or less paling towards the margins. A broad white brown band commencing just above the forehead runs down the centre of the crown and occiput, and widens out somewhat on the nape. From the nostrils, a pale fawny stripe runs backwards over the eyes and far behind these over the ear-coverts joining, or nearly joining, the expanded tips of the crown stripe at the sides of the nape. This supercilium is very dull and ill-defined where it commences, and nearly obsolete above the middle of the lores. The lores are mostly a darker brown, and a corresponding dark brown stripe runs from the posterior angle of the eye along the top of the ear-coverts (immediately under the fawny white stripe already referred to), and partially curves round their tips behind. The cheeks, throat, ear-coverts and sides of the neck are pale fawny or earthy brown, but there is a more or less well marked

♂. Length, $6\frac{5}{8}$ inches; wing, $4\frac{1}{2}$; tail, $2\frac{3}{8}$; tarsus, $\frac{3}{4}$; bill in front, $\frac{1}{2}$.

♀. Length, $6\frac{1}{4}$ inches; wing, 4; tail, $2\frac{5}{16}$; tarsus, $\frac{5}{8}$; bill in front, $\frac{1}{2}$.

152.—*Emberiza leucocephala*, Gm. (712).

Occasional specimens secured in December, January, February, and March. The specimens obtained in the latter month are assuming the breeding plumage.

153.—*Emberiza stracheyi*, Moore. (714).

Extremely common all the winter, but goes higher about the beginning of April, and breeds at about 8,000 feet. I took two nests (second brood, no doubt) in the first week of August. Both were on the ground under a stone. One had only one egg in it; the other three.

I also took a nest with three fresh eggs in it on 1st June at 9,000 feet, and took two nests, each with three eggs quite fresh, on 23rd and 24th June.

The colouring of all Gilgit specimens is paler than that of Kashmir or Simla individuals.

dark spot near the base of the lower mandible and a short paler mandibular stripe on either side of the upper throat. At the very base of the throat is a gamboge yellow band or blotch, of varying degrees of intensity and size, according to sex, age and season, almost entirely wanting in quite young birds, and apparently attaining its fullest development in old males only. The breast and the lower parts generally are similarly colored to the throat, but somewhat paler, becoming almost albescent on the centre of the abdomen, vent and lower tail-coverts, and these latter and the feathers of the sides and flanks are darker centred, as indeed, though to a less degree, are often those of the upper abdomen. The axillaries and lower wing-coverts are yellowish white, mingled along the edge of the wing with light grey brown. The back, scapulars, rump, and upper tail-coverts are dull brown, more earthy in some, more of a wood brown in others, and varying a good deal in shade. The feathers of the interscapular region have a dark brown stripe on the inner webs, and a fawny or creamy patch on the outer near the tips, producing the usual sparrow-like markings. The scapulars are similar, but have the pale patches less marked. The feathers of the upper tail-coverts are margined towards the tips with pale fawny or creamy white. The tail is deep brown, margined with creamy (which occupies nearly the whole of the outer web of the outermost feathers) and paling just at the tips, each feather with a nearly pure white spot on the inner web near the tip, almost obsolete on the central feathers, and growing successively larger and larger on each succeeding pair. The quills, winglet and greater coverts are dark brown towards the tips, light hair brown elsewhere, everywhere more or less narrowly or broadly margined and tipped with pale fawn or fawny white, which colour occupies nearly the entire outer web of the first primary.

The lesser coverts are plain brown, like the rump, or nearly so, while the median coverts are marked much like the interscapular region and scapulars.

Some birds are altogether darker and browner, some greyer and more ashy, while in some a warm fawny almost rufous tinge prevails.

The males seem to average a little larger than the females. Gilgit birds are larger than any others I have seen. Wings in males from various localities before me vary from 3.7 to 4.1, and in females from 3.6 to 4.0.

The range of this species is Central and Southern Europe, North Africa, Asia Minor, Persia, Turkestan, Siberia and Northern China. Gilgit, the extreme north-western corner of the British Asian Empire, and Northern Afghanistan are the only places where, so far, it is known to have occurred within our limits.—A. O. H.]

[The collection contains a large series of specimens of this bird, which I have compared and found identical with the plate of *E. stracheyi* by Wolff in the "Proceedings of the Zoological Society for 1855." The difference pointed out by Dresser in the "Birds of Europe," the absence of the *white* spots on the wing-coverts, holds good; but in some winter specimens the pale fulvous spots approach very closely to the white spots of *E. cia*. There is, however, a further and well-marked difference in the pure white of the nuchal end of the supercilium in *E. stracheyi* as compared with the grey of that part in *E. cia*, giving in the former bird three pure white marks on the side of the head, instead of two. In *E. stracheyi* the entire supercilium throughout its length is pure white.—G. F. L. M.]

154.—*Emberiza hortulana*,* *Lin.* (715).

A single specimen, a female or young male, shot at Chimmoghur, in the main valley, ten miles from the Indus, on 26th May. Evidently migrating at the time. Length, 6.4 inches; wing, 3.2; tail, 2.6; tarsus, .75. Irides, dark brown.

The head is considerably battered; but the yellow tone of the markings on the throat, the greenish tone of the head, as far as traceable, and the strongly defined striations of the upper plumage, serve sufficiently to distinguish it from *E. buchanani*.

The tints agree well with those of the figure of the young bird given by Dresser in the "Birds of Europe," pl. 99.

155.—*Emberiza buchanani*, *Bly.* (716).

Not observed in the first year; but a number appeared in the beginning of September in the second year.

156.—*Emberiza stewarti*, *Bly.* (718).

A summer visitant. Appears in April, and is ^{circu} ^{specie} ^{q.c., in f} ^{VZA MONG} common in May and June, when it replaces *E. stracheyi*, ^{lower} ^{from E. gi} ^{to quot} elevations. Breeds below 6,000 feet.

157.—*Emberiza schoeniclus*, *Lin.* (720 te

Scarce; and never more than a single one was seen at a time. Four specimens were secured in January, February, and March. Both these and my Turkestan specimens are paler coloured birds than English specimens, the ruddy tints

* [This species, heretofore doubtful, has now to be included in our list. It is much to be regretted that our authors do not inform us whether the Gilgit bird belongs to the European form of this species or to the Persian form, *M. shah*, Bp. A description of the European bird is given by Jerdon (Vol. II., pp. 372, 373) compiled from European sources, which is sufficiently correct, and it is unnecessary therefore to describe it further here. See also S. F., VII., 150.—A. O. H.]

on the wings and back being especially lighter ; but they correspond fairly well with a specimen in the Indian Museum at Calcutta, obtained by exchange from Mr. Dresser, and labelled "*E. schœniclus*, var. B. Pallas, Lake Baikal."

158.—*Euspiza luteola*, Sparrm. (722).

A few specimens shot in the end of August and September were all in immature plumage; no adult males were either procured or observed.

159.—*Euspiza melanocephala*, Scop. (721).

A single specimen, an immature female, was procured by me on the 5th October.

160.—*Mycerobas carnipes*, Hodgs. (728).

Common at all seasons in the pine forests above 8,000 feet, seldom coming lower down even in winter. On one occasion only, in the severe winter of 1877-78, I saw and shot a pair in the main valley at 5,000 feet elevation.

These birds belong to the western form which has been separated as *M. speculigerus*, Brandt. They differ from the usual eastern type in being of larger size; the colour of the abdomen is more vivid, and of a more decided yellow; the yellowish edgings of the tertiaries and wing-coverts are more conspicuous and much broader, and the bill more full and bulged. They correspond exactly with the figures in Gould's "Birds of Asia," which were taken from specimens from the Altai. But as the late Mr. Mandelli obtained in Sikhim specimens which correspond to the western form, there do not seem to be sufficient grounds for retaining *M. speculigerus* as a distinct species.*

The ^{av.} males measure from 8·9 to 9·7 inches in length (the ^{like} average being 9·4), with the wing from 4·55 to 4·8, and the tail ^{or cream} to 4·3. In the females the wing measures from 4·35 ^{es nearly} to the tip, inches, and the tail from 3·9 to 4.

Breast ^{most ob} males shot in June and July were still in female plumage, ^{each s} which is apparently not assumed (? doffed) till after the first ^{ds the} moulting-season. Jerdon is wrong in stating that the sexes are alike. In the females the sooty black is replaced by brownish ash, and the feathers of the cheeks, throat and breast are pale centred.

* [I entirely agree that the Gilgit birds are inseparable from Sikhim ones. I have compared six or seven of the former with some forty from Sikhim and other localities in the Himalayas; and while individuals are very variable, there is no Gilgit specimen that cannot be exactly matched by others from Sikhim and elsewhere. Altai birds I have not seen, and can therefore say nothing about the true *speculigerus*, which, although this is unlikely, may prove, when closely examined, to be separable.—A. O. H.]

161.—*Pyrrhula aurantiaca*, *Gould*. (732).

This Bullfinch appears to be very local, but in certain localities is common, especially among pine forests. They are permanent residents.

The upper tail-coverts are velvet black, not white (as stated by Jerdon.)

162.—*Erythrospiza incarnata*,* *Sev.* (732 bis A).

A constant resident, but seldom comes below 6,000 feet, except in severe weather. I found it at about 10,000 feet in the Astor valley in June, when it was no doubt breeding. I have seldom seen it except in large flocks of twenty or thirty. On 29th April I shot seven out of a flock, which all turned out to be males.

The plate in Père David's "Oiseaux de la Chine" represents the bird as far darker than any of the Gilgit specimens, especially about the cheeks and nape.

163.—*Carpodacus rubicillus*, *Güld.* (737).

Very common in Gilgit, in flocks of twenty and thirty, from the middle of December to the beginning of March in 1877-78, but never seen again at any season or elevation.

* [This species is referred to by Severtzoff, S. F., III., p. 422, in which he himself says that it is identical with *Carpodacus mongolicus* of Swinhoe. He retains his own name, on the grounds that he discovered the bird in 1864, and Mr. Swinhoe in 1865, but unfortunately it is a question, not of discovery, but of publication. Now Mr. Swinhoe described his bird P. Z. S., 1870, p. 447, whereas I cannot discover that Severtzoff described his bird before it appeared at p. 117 of Tome VIII., Vapousk 2, of the "Izvestia Imperatorskavo obshchestvaliouvetelei estestvoznania, Anthropologii ethnographii, in other words Transactions of the Imperial Society of amateurs of Natural History, Anthropology, and Ethnography; in his "Verlikalnoe i horizontalnoe raspredlenie Turkestanskikh jevotnikh," or Vertical and Horizontal Distribution of the animals (?) of Turkestan, which was edited by A. P. Fedchenko and L. P. Cabanis, and published by the Society at Moscow in 1873. Under these circumstances it appears to me that we must necessarily retain Swinhoe's name, and the species which our museum contains *not only* from Gilgit *but also* from Chaman, &c., in South Afghanistan, must stand in our list as 732 bis A.—ERYTHROSPIZA MONGOLICA, Swin.

Severtzoff, *loc cit sup.*, has pointed out how this species differs from *E. githaginea*, but it may be well to refer to Swinhoe's original description, and to quote for comparison Père David's later one.

The former's description is quoted S. F., II., 327.

Père David says:—"Length, 5.52; tail, a little forked, 2.18; wing, 3.77; tarsus, 0.71; bill, short, thick and convex, 0.36; height of bill, 0.33. Upper surface of the head and neck, the back and rump of a grey brown or pale earthy grey, with the centre of the feathers of a darker tint; upper tail-coverts rose coloured; eye-brows washed with rose colour; throat, breast and sides of the abdomen of a very pale rose; middle of the abdomen and lower tail-coverts greyish white, lightly shaded with rufous in summer; sides of the neck and of the breast of a uniform earthy rufous; tail feathers brown, margined with rosy white; quills brown, narrowly margined with rose colour; the tertiaries margined and tipped with grey; two great patches, specula-like (en forme de miroirs,) one on the great coverts and the other on the middle of the secondaries.

The adult female only differs in having the rosy tints on different parts of the plumage, and especially on the upper tail-coverts less well marked.—A. O. H.]

They prefer stony places, and keep to the same place day after day. There were places where I could always depend on finding a flock.

I have now a large series of this bird from Turkestan, Ladak, the valley of the Yarkand river near its source, and the Oxus valley. The plumage varies greatly in both sexes according to age, season, and locality, so much so that I had some difficulty in believing that they are all of the same species. The specimens from Turkestan are extremely pale, and the rose-tints are very delicate; so that Severtzoff seems quite justified in distinguishing them as *C. pallidus*. The Gilgit specimens are darker; and those of Ladak and the Oxus valley are darker still. Specimens from the last two places have black instead of brown legs, and appear slightly larger than the others, but not markedly so.

The young male retains the striations on the back for some time after the rose markings on the head and breast are complete. The striations of the females, both on back and breast, vary greatly according to age.

164.—*Carpodacus erythrinus*, *Pall.* (738).

A summer visitor. Earliest appearance noted April 22nd. Breeds at 10,000 feet in July and August. The male does not get the roseate plumage till the second year, apparently. Several males with fully developed testes, shot in July, and evidently breeding, were still in female plumage. They probably get the rosy plumage just after the first breeding season, and by a change of colour, not by moult, as some shot in May show a faint rosy tinge against the light. About the beginning of September they leave the hills and come down into the valley.

The young bird has two well-defined wing bars formed by rufous edgings to the wing-coverts; and the tertiaries are broadly tipped with the same colour; the striations of the upper plumage are darker, broader, and more pronounced.

An albino (pure cream colour, with hazel brown irides) was shot on September 7th by Dr. Scully. Its plumage was much abraded. Several nests were found, all situated within a foot of the ground, either in low bushes or among the stems of coarse grass, about 2 feet high in scrub jungle. The nest is a neat cup-shaped structure of grass, lined with the finer roots and stems only, except in one instance, in which a good deal of hair is mixed with the lining; the interior is from 2 to 2½ inches wide, and 1½ deep. The eggs are blue, of a purer and slightly deeper shade than those of *Trochalopteron lineatum*, with chocolate spots sparingly scattered over them,

chiefly towards the larger end. In one out of a dozen the spots are almost entirely wanting; in some they are paler, almost of a sienna tint, in others nearly black, while on a few there are also one or two pale purplish spots and fine reddish scrawls at the larger end; and in these the spots are almost confined to the larger end in an ill-defined zone or cap.

Nests were taken at 10,000 feet elevation on July 16th, 17th, 20th, 21st, 29th, and 30th, all with eggs mostly fresh.

165.—*Propasser rhodochlamys*, Brandt. (741).

Is a permanent resident, but is very seldom seen below 6,000 feet. The measurements of the numerous specimens obtained correspond exactly with those given by Jerdon, and the bird itself with Gould's plate in the "Birds of Asia," also with the plate of *Carpodacus sophia* in Bonaparte's "Monographie des Loxiens," and with a specimen in the Museum from the hills north of Simla.

As in *C. erythrurus*, the males do not get their full plumage until after the first breeding season. Several males with fully developed testes were shot in May and June in female plumage.

166.—*Propasser frontalis*, Bly. (?).

[Mr. Hume has, I think, prematurely* expunged this species from the Indian list. A pair of Rose Finches, male and female, in full breeding plumage, shot at Gilgit in June 1878, were brought down with the collection, which, after a careful comparison with some specimens of *P. thura* from the late Mr. Mandelli's collection, I decided must stand as *P. frontalis*, Blyth. Unfortunately the notes taken of the comparison were accidentally destroyed after leaving Calcutta, and as the specimens of *P. thura* were returned, I can now only give the distinctive features with reference to Jerdon's meagre description.

The male corresponds with Blyth's description of *P. frontalis*, except that the feathers of the top of the head, instead of being plain dark brown, are paler edged, similarly to, though more narrowly than, those of the back; the feathers of the chin, throat, and neck are not silvery-white-shafted, but have a silvery streak near the tip of each feather; and this silvery streaking hardly extends on to the breast. It

* [I do not admit that I was premature. Blyth described the species, and I expunged it on his authority. He had previously written to the same effect to Jerdon, vide p. 874, Appendix to Jerdon's Birds of India. Of course Blyth may have erred in this, but I submit I had full warrant for expunging the species. It is impossible to say positively what the species is that is referred to in the text.—A. O. H.]

also shows whitish at the centre of the abdomen near the vent, and at the hinder end of the superciliary streak.

It differs from *P. thura* in having a broad frontal band rose pink, in the lores and a narrow band round the base of the bill crimson, and in the silvery streaks on the chin, throat, and breast, while on the back the general hue is much less dark.*

The female answers well to Blyth's description, and differs from that of *P. thura* chiefly in lacking the broad pale supercilium, and in the ground colour of the face, abdomen, and lower tail-coverts being white instead of light yellowish brown.—G. F. L. M.]

* [This is quite incomprehensible to me. *Thura* has a broad frontal band rose pink; it has the lores and a narrow band round the base of the bill crimson, and it has the silvery streaks on the chin, throat and the extreme upper part of the breast. Yet it is on the possession of these features that our authors base their conclusion that *frontalis* is distinct! In my humble opinion—I speak under correction—the Gilgit birds were possibly after all really "*thura*," and compared with some wrongly named specimens of Mandelli's.

Our lamented friend knew the Sikhim birds well, yet of his whole collection I found when it passed into my hands that a large proportion of the specimens had been wrongly named out of sheer inattention.

At the same time it may be noticed that *thura* is a decidedly variable species; the rose pink of the broad frontal band and superciliary stripe, cheeks, throat, breast and abdomen varies *very* much in tint, being *very* much more crimson in some and *much* paler and more silvery in others. Again, while in the majority only the lores and a narrow band over the base of the bill are crimson, this colour sometimes extends to the chin and upper throat, and in one specimen (which I was at one time disposed to consider distinct, though I now find it connected with the more common form by intermediate links), it also strongly suffuses the entire cheeks, and frontal and superciliary band. Again, the colour of the crown, occiput and back is a much deeper brown in some specimens than in others, and the blackish brown striations are much more strongly marked in some specimens than in others. Indeed, in some specimens these are almost obsolete on the crown, so that this latter, unless very carefully looked into, might be described, as Blyth described it, as plain brown. Again, in some specimens the whole of the quills, winglet and primary greater coverts are almost absolutely plain brown, while in others, not only are the tertiaries very broadly margined on the outer webs with pale brownish buffy, or creamy white (it varies in different specimens), but the rest of the quills are quite conspicuously margined on the outer webs with a pale generally somewhat reddish brown.

The females are equally variable. In one the superciliary stripe and the entire lower parts, except the centre of the lower abdomen and vent, are strongly suffused with a rich rusty rufous, while in others this tint is very much paler, and is absolutely confined to the centre of the throat and upper breast. In some females the rump and all but the longest upper tail-coverts are bright orange, each feather with a dark brown centre. In others these parts are a pale straw yellow, similarly dark centred, while again here and there specimens are found with only the barest shade of yellow on these parts.

I write this with sixty specimens before me, and I really think that I could pick out three types which, if not connected by such a series, would be pronounced distinct species.

I see that I have forgotten to note that the silvery central streaks to the feathers, especially of the chin, throat, face, and upper breast in the male, are also extraordinarily variable. In some specimens these streaks are comparatively broad, intensely silvery, and cover all these parts. In others they are at most only rosy white, narrow and traceable only in the centre of the throat and on some of the ear-coverts. The young males are like the female, but at one stage of their plumage at any rate are distinguished by a very broad unstreaked whitish superciliary stripe, exactly occupying the space which the rosy one of the adult would.—A. O. H.]

167.—Pyrrhospiza punicea, Hodgs. (747).

These birds seem loath to leave the mountains. I never saw them below 10,000 feet, except in one place (the mouth of a ravine leading into the plain), and there only in the middle of January 1878, at the time of greatest cold.

The markings of the back in winter are much more defined than in the summer plumage; and one female specimen has broad buff tips to the wing-coverts, which form a conspicuous wing bar. The outer edges of the secondaries are also broadly tipped with whitish buff.

The plate of this species in Bonaparte and Schlegel's "Monographie des Loxiens" shows the upper plumage as darker and more uniform, while the red tint of the under parts extends further down the breast, and is less scarlet in tint than in any of the specimens obtained in Gilgit.

168.—Carduelis caniceps, Vig. (749).

Small flocks appeared from time to time during the season of extreme cold, but never seemed to remain more than two or three days at a time. They breed at about 9,000 feet, and are common in Kashmir in summer as well as in winter. The lores are black, interrupting the scarlet round the bill, which latter is rather wider in the male than in the female.

169.—Metoponia pusilla, Pull. (751).

Appear at intervals during the winter, when driven down by very severe weather. I shot two out of a flock on May 21st at 5,000 feet (Gilgit), where they had been attracted by the ripe mulberries; but I have seen them high up in the snow, at over 9,000 feet, in February. They breed at about that height; and in August the young birds collect in large flocks of fifty or sixty, when not a single old bird can be seen among them. They seem to acquire the red head in the first year, as I have only procured one specimen without it (a young male shot in Astor about November 20th) later than August.

On July 28th, I had a nest brought me, which my shikari had been watching several days. He shot one of the pair of old birds about the nest, which turned out to be the male of *M. pusilla*. The nest contained three eggs perfectly fresh (and the number was apparently not complete), in colour a dull stone white, with small red brown spots dotted about the larger end. The nest was about 20 feet from the ground, in a cedar tree (*Juniperus excelsa*), neatly made of grass fibres, and lined thickly with sheep's wool, and matted on the out-

side with soft bits of decayed wood, so as to look like the bark of a tree.

170.—*Linaria brevirostris*, Gould. (751 bis).

Since I left Gilgit Dr. Scully writes :—"How on earth did you miss this bird? I have preserved over sixty specimens, and have left off shooting it. It is one of the very commonest birds about now (January)."

As this is a bird I know well, having procured many specimens further eastward, it is hardly possible that I should have missed it, had it been as common as Dr. Scully says in the two preceding winters. I should be more inclined to regard this as an instance of the changes that take place in the migrations of birds owing to increase or decrease in the severity of the winter season.

171.—*Linaria cannabina*, Lin. (751 ter).

Fifteen or sixteen specimens were procured in January and February 1878, when the winter was an exceptionally severe one; and many more were seen. They were generally in small flocks of four or five, and rather difficult to approach, keeping on open stony places. They are very restless birds, and constantly take short flights, uttering a twittering note. A specimen was apparently secured in Sind during the same winter (*vide* STRAY FEATHERS, Vol. VII., p. 122). Mr. Hume, speaking of the specimen in question, says that, as far as plumage is concerned, it is absolutely identical with European specimens. This is not the case with these, which are all markedly paler and with more white about them than three English specimens I have compared them with. In the English specimens the white edgings to the primaries, which, when the wing is closed, form a conspicuous bar less than half inch long, in these form a patch $1\frac{1}{2}$ inch in length. All the primaries are margined with white to the tip, whereas in the English specimens none are. The centre tail feathers, which in the English bird have very faint pale margins, in these have a broad margin of snowy white for half the web.

The large amount of white on the upper tail-coverts, and the broad white margins to all the tail-feathers, are very conspicuous when the bird is flying. In size, also, they differ from the English specimens, the wing of several of the males being fully $3\frac{1}{4}$ inches, and the tail $2\frac{1}{2}$ inches.

Dr. Scully writes that they have been common during the present winter, though during the winter of 1879-80 none were seen.

172.—*Fringilla montifringilla*, *Lin.* (752).

A few specimens were shot in March and April on their way northwards in both years. Mr. Hume doubts the occurrence of this Finch in Indian limits (STRAY FEATHERS, Vol. VII., p. 465). These had most undoubtedly come from the south.* A male, shot on April 15th, had the breeding plumage nearly complete.

The wing bar formed by the white spot on the outer web near the base of the quills does not extend right across the wing; it is absent from the first three primaries, commencing on the fourth. In other respects these birds correspond exactly with the description given by Dresser in the "Birds of Europe."

173.—*Leucosticte brandti*, *Sev.* (752 bis A.)

This is the bird which I procured in 1874 in the mountains west of Kashghar, and took for *M. hamatopygia*; but M. Severtzoff, on examining my collection, identified it as *Leucosticte brandti*. It first appeared about January 20th, single specimens being mixed up in flocks of *Carpodacus rubicillus*. It gradually became commoner; but I never saw more than three or four together at a time. It disappeared about March 10th.

Measurements of a male taken in the flesh:—Length, $7\frac{1}{2}$ inches; wing, $4\frac{7}{8}$; tail, $3\frac{1}{4}$; tarsus, $\frac{7}{8}$; bill at gape, nearly $\frac{1}{2}$ inch. Irides, grey brown. Out of eleven specimens secured, none had a black bill like those obtained by me in 1874 in the end of March and beginning of April. It is probably distinctive of the breeding plumage.

This species can be readily distinguished from *M. hamatopygia* by its greater size and the rose-coloured shoulder patches. The rose tints on the rump are paler and less conspicuous than in *M. hamatopygia*; and the general tone of the plumage is conspicuously paler.†

174.—*Fringilla sordida*, *Stol.* (753 bis).

A continuous resident in the district, appearing in flocks of forty or fifty at the lower elevations during the winter.

* [This is just what I doubt. I know that this species occurs in Northern Afghanistan, and I believe these birds came from the south-west from Afghanistan and not India.—A. O. H.]

† [If to these remarks I add that the bill is very much larger in *hamatopygia*, and that in this latter the primaries are not tipped noticeably with any paler colours, while in *brandti* they are conspicuously and broadly margined at the tips with white or creamy or brownish white, enough will have been said of the species to render any detailed description unnecessary; but I may notice that, though they average somewhat larger, many *brandti* are not larger than many *hamatopygia*. In these latter the wings of adult males vary from 4.5 to 4.75; in *brandti*, from 4.6 to 4.9.

I pointed out ten years ago that in *M. adamsi* and *L. hamatopygia*, the bills were black in summer and yellow in winter.—A. O. H.]

In summer it goes up to 10,000 feet and higher. The young birds apparently do not acquire the rufous brown head till the second year. I saw an immense flock of this Finch at Astor in November, and picked up twenty-six after one shot. This is probably the red-headed Sparrow said to appear in Leh in winter. The axillaries in this species are white instead of yellow, as in *F. nemoricola*.*

175.—*Calandrella brachydactyla*, Leisl. (761).

A few appeared in March, but were not seen again in Gilgit. In September and October I obtained a few higher up the Indus, towards Iskardo. The March specimens are in very faded plumage; those got in the autumn are in fresh plumage with the rufous edgings to the feathers perfect. The males are 6.5 inches long; wing, 3.75 to 4.0; tail, 2.4 to 2.5: the females, 6 to 6.25 inches long; wing, 3.3 to 3.4; tail, 2.25 to 2.45.

176.—*Melanocorypha bimaculata*, Ménetr. (761 ter).

Three specimens were secured in the months of December and March, all males. In one specimen the height of the bill at front is 0.33 inch; no others seen.

177.—*Alaudula piscoletta*,† *P. M.* (? 762 quat).

Dr. Scully writes that he has obtained a specimen since I left Gilgit, with short hind claw, spotted breast, and secondaries 0.75 inch shorter than the primaries.

178.—*Alaudula adamsi*, Hume. (762 ter).

Since I left Gilgit Dr. Scully has obtained specimens of this Lark.

179.—*Otocorys penicillata*, Gould. (763).

Extremely common from November till the end of March, when, after forming large flocks of over a hundred, it suddenly disappears. Out of many specimens shot, none appears to answer to the description of *O. longirostris*.

180.—*Alauda dulcivox*, Hodgs. (766).

This large Skylark is a winter visitant only, first appearing in November and leaving by the end of March. In March, when assuming breeding plumage, just before leaving, it gets much darker, but never apparently so dark as *A. guttata*,

* [Vide S. F., I., 43, November 1872, where this was first pointed out.—A. O. H.]

† [This is probably the form figured as *piscoletta* by Dresser, the *Calandrella heinii* of v. Hoyer. See for full particulars, S. F., VIII., 97.—A. O. H.]

from which it can readily be distinguished by its superior size. In males the wing measures from $4\frac{1}{4}$ to $4\frac{1}{8}$ inches; in females from 4 to $4\frac{1}{4}$; the tarsus measures from $\frac{3}{4}$ to $\frac{7}{8}$, being generally slightly smaller than in *A. guttata*; bill at front barely $\frac{1}{2}$, generally $\frac{7}{16}$. Of the large primaries the second is slightly the longest, and the first slightly shorter than the third; sometimes all three are equal; the fourth is fully a quarter inch shorter than the second; and there is more than half an inch between the tertiaries and primaries. The outer web of the first developed primary is white in winter, and creamy buff in summer. The distinctions pointed out by Brooks (STRAY FEATHERS, I, 484) between this species and *A. arvensis* hold good in the series of fifteen specimens of the former brought down.

181.—*Alauda guttata*,* Brooks. (? 767 bis).

This Skylark is a summer visitant only, appearing at the end of March and leaving about October. The first specimen was obtained on the 29th March, the same day as the last of *A. dulcivox*. One specimen was obtained in September, on the 27th, but none later. In males the wing measures from $3\frac{3}{4}$ to $4\frac{3}{16}$ inches. I have never procured one yet with a wing measuring fully $4\frac{1}{4}$. In females it does not exceed $3\frac{3}{4}$, tarsus $\frac{7}{8}$, bill at front from $\frac{7}{16}$ to nearly $\frac{1}{2}$ inch.

Of the developed primaries the second is slightly longest, first and third subequal; sometimes all three are subequal; the fourth is $\frac{1}{16}$ inch shorter than the second. Tertiaries reach to less than $\frac{3}{4}$ inch from the primaries. In summer the outer web of first primary is rufous; tail more furcate than in *A. dulcivox*, from which it is generally distinguished by its darker colour and smaller wing; outer tail feathers white, and not fulvescent.

In one specimen, a female, shot in September, the plumage is fresh and perfect, showing broad pale edgings on

* [This form was first described as a distinct species by my friend Mr. Brooks, J. A. S. B., XLI., 1872, p. 85. It is the race figured by me in "Labore to Yarkand" (pl. XXVIII), under Hodgson's name of *triberhyncha*, but which should rather, I think, have been figured as *leiopus*. When, in 1872, I first wrote about our Indian Skylarks (S. F., I., 38), I admitted five distinguishable races of *Alauda gulgula*. I now see that if we begin separating races, at least a dozen will have to be admitted in the British Asian Empire, all grading one into the other, and even the most typical examples of each differing in minute and doubtfully constant particulars. I therefore am averse to assigning separate specific names to these races, although, if the trinomial system was in vogue, I would gladly assign to each a secondary specific name and designate them *Alauda gulgula australis*, *Alauda gulgula guttata*, and so on. This not being admissible under the B. A. Code, I recommend Indian Ornithologists to retain all under the one name *gulgula*. At the same time out of all the various races, no two are better marked than *australis*, Brooks, and *leiopus*, Hodgson = *guttata*, Brooks.—A. O. H.]

the tertiaries, which are rounded; the edgings of the primaries are more rufous, the outer web of the first large primary being rosy; the patch behind the eye is fulvescent instead of white, and the dark markings on the breast are more shaded off and not so decided; the centre tail-feathers are black instead of dark brown, and the outer tail-feathers fulvescent white. Wing, $3\frac{1}{2}$ inches; tail, $2\frac{1}{2}$; tarsus, $\frac{3}{4}$; bill at front, $\frac{1}{2}$. Of the large primaries the second and third are equal, and first and fourth are equal, with $\frac{5}{8}$ inch between the tertiaries and primaries. The legs are much more transparent looking than in the other specimens, all of which are in worn and faded plumage, with the feathers much abraded.

The distinctions pointed out by Brooks between *A. guttata* and *A. gulgula* hold good, except that the tendency of the spots to coalesce at the sides of the breast, which the specific name has reference to, is not at all well marked. The most notable distinctive points are the albescent hue of the plumage of the underparts and the larger size.

182.—*Galerita cristata*, Lin. (769).

This is one of the very few birds that remain in Gilgit all the year round; it is very common.

183 — *Alsocomus hodgsoni*, Vig. (783).

Procured only in the forests at about 8,000 feet elevation, where it seems tolerably common. A male shot in July lacks the white spotting on the flanks described by Jerdon.

184.—*Columba casiotis*, Bp. (784).

A single specimen, a female, belonging to this species was procured in the main valley on 24th April. Jerdon's description hardly represents correctly the amount of white on the wing. The outermost secondary coverts are pure white, forming a conspicuous longitudinal patch extending for over $3\frac{1}{2}$ inches down from the carpal joint. The primaries are margined with white, each except the second less conspicuously than the one before it, gradually shading into ashy, but not sufficiently broad to form a bar (as stated by Jerdon). The neck-patch is clayey buff or ochraceous; and the green gloss prevails above the patch, and the amethystine below. This style of colouration of the neck-patch also appears in specimens from Kumaon; and the distinction referred to by Jerdon, as pointed out by Blyth, does not hold good. Weight, $11\frac{3}{4}$ ounces. Length, 16.8 inches; wing, 10.1; tail, 6.8; tarsus, 1.3; bill at gape, 1.1; bill from front 0.85. Irides, yellowish white. A few other specimens were seen at elevations of over 8,000 feet during the summer, but not one during the winter.

185.—*Columba intermedia*, *Strickl.* (788).

In November the Pigeons begin to collect in flocks, which increase in size as the winter goes on.

At first they are mostly composed of *C. intermedia*, with a single specimen of *C. rupestris* in the flock. Gradually *C. rupestris* gets commoner, and a few specimens of *C. livia* appear. When the corn is sown the Pigeons collect in great flocks of several hundreds, and settle on the newly sown fields till it seems as if not a single grain would be left.

Till the end of April they appear at intervals whenever heavy weather in the mountains drives them in. In the beginning of May they pair; and a large number of them leave the main valley in the summer for the higher elevations.

The specimens of *C. intermedia* killed in summer show the ashy grey rump, tending in some almost to white, but never so marked as in *C. livia*.

186.—*Columba livia*, *Bp.* (788 *bis*).

A few specimens seen both in summer and winter.

187.—*Columba rupestris*, *Pall.* (789).

C. rupestris never appears in large numbers; and I have never seen a flock of this species which had not specimens of one or the other before mentioned Pigeons with it.

It has a conspicuous white shoulder patch in winter plumage, which is not mentioned by Jerdon. Wing, 9 inches; tarsus, $1\frac{1}{2}$; bill at gape, $\frac{7}{8}$.

188.—*Columba leuconota*, *Vig.* (790).

Not very common. Never seen below 10,000 feet. The whole head and neck are ashy black, not the top of the head and ear-coverts only, as described by Jerdon. The under parts are white, shading into ashy on the abdomen and under tail-coverts.

189.—*Turtur rupicola*, *Pall.* (792).

A summer visitor; appears about 1st May.

190.—*Turtur aurita*, *G. R. Gr.* (792 *bis*).

Appears about the same time as *T. rupicola*.

♂. Length, 12 inches; wing, 7.1; tail, 4.9; tarsus, 0.85.

♀. Length, 11.4 inches; wing, 6.75; tail, 4.7; tarsus, 0.80.

Irides, orange; feet and legs, lake-red.

191.—*Turtur cambayensis*,* *Gm.* (794).

One single specimen, killed in the beginning of March among a flock of *T. suratensis*, in no way differs from the type commonly met with in India.

192.—*Turtur suratensis*, *Gm.* (795).

Never very common, but seen from time to time at all seasons of the year, in small flocks of four or five.

[This is nearer the typical form of *T. suratensis* than the Spotted Dove of the plains, which approaches *T. tigrina*. In one specimen the buff spots on the feathers are enlarged so as almost to make the back uniform, while all the tints are paler and more delicate than usual; four other specimens are undistinguishable from those generally obtained in the Western Himalayas.—G. F. L. M.]

193.—*Tetraogallus himalayensis*, *G.R. Gr.* (816).

Common everywhere in favourable ground. It makes its nest at about 8,000 or 9,000 feet, and breeds early. Directly the young are hatched they go up to the lower edge of the snow—in fact, as high as they can. I procured a nestling about three days old on 28th May. Six eggs (which were hatched two days afterwards under a hen) were brought in the last week in June; the old bird was also snared and brought in, and being let loose she wandered round the tent all night.

I have never seen these birds in large flocks like *T. tibetanus*; they are generally in pairs only. In the depth of winter a few collect together, but when disturbed separate at once.

In the nestling the lower plumage is silky white unspotted; the upper part white, tinged with rufescent, here and there variegated with dark brown markings, darkest and best-defined on the head. Wings and tail pale rufous, mottled with dark brown, except on the terminal fringe.

194.—*Caccabis chukar*, *G. R. Gr.* (820).

Very common. In summer it breeds at all elevations from 5,000 feet to 10,000 feet, the nests at the highest elevations being hatched latest. At 5,000 feet some of the young birds are able to fly by the first week in June. I took a single fresh egg out of a new nest on the 5th May.

A nestling obtained on the 22nd July at about 6,000 feet elevation, with the wing only 3.6 inches long, unable to fly, had the top of the head earthy brown with a slight rufescent tinge; ear-coverts deep brown; chin, throat, and cheeks white,

* [Should apparently stand as *T. senegalensis*, Lin.—A. O. H.]

the rest of the plumage pale earthy brown, each feather with a pale buffy-white tip, largest on the abdomen, where the brown is almost lost; upper plumage rather darker, barred with pale buff, the bars edged with narrow interrupted blackish lines; primaries hair brown, with large irregular buff spots on the outer margin.

195.—*Coturnix communis*, Bonn. (829).

Seen at intervals all through the year. In April becomes common, and breeds in May. Eleven eggs ready to hatch were brought to me on 26th June.

196.—*Otis tetrax*, Lin. (836 *ter*).

A male in winter plumage was shot on 27th March on a stony plain overgrown in places with coarse grass, about six miles from Gilgit. It weighed $21\frac{1}{2}$ ounces. Another was seen at the same time. The natives say that a pair or two are to be found in the same place every summer; so they probably breed there; but I doubt if the bird is to be found anywhere else in the district, as the ground is hardly suitable to it.

197.—*Charadrius fulvus*, Gm. (845).

After I left Gilgit, Dr. Scully secured a specimen during the autumn migration.

198.—*Ægialitis cantiana*, Lath. (848).

A single specimen, a female, procured at Gilgit on the 20th September.

199.—*Ægialitis philippensis*, Scop. (849).

Tolerably common in April and May, in full breeding plumage.

200.—*Ægialitis hiaticula*, Lir. (849 *bis*).

Dr. Scully writes that after my leaving Gilgit he secured a specimen of this species.

201.—*Vanellus vulgaris*, Bechst. (851).

A few are to be seen at all times scattered about during the winter. In March they collect into flocks of twenty or thirty, and disappear about the 25th.

Jerdon mentions that the only distinction between the sexes is in the size of the crest; but the few specimens collected seem to show that the females never have the lores, chin, and throat black like the male. The colours of the male also are much more intense.

202.—Chettusia gregaria, Pall. (852).

Two specimens were secured, a male and a female, one in each year, in the beginning of April, when the birds were apparently passing up from the south. The male had another one with it at the time of being shot. No others were seen alive; but one was picked up apparently freshly killed by a Falcon. Both specimens are in full summer plumage. The axillaries and inner lining of the wing are pure spotless white.

203.—Lobivanellus indicus, Bodd.* (855).

A single one was heard, but not secured, by Dr. Scully on 2nd June, after dusk. There could not be much chance of mistaking the cry for that of any other bird.

204.—Anthropoides virgo, Lin. (866).

One specimen was brought to me alive in September. Two flocks were seen on 29th August late in the evening, in very heavy weather, flying west. They appeared to have just come down from the Pamirs by the Hunza valley.

205.—Scolopax rusticola, Lin. (867).

A winter visitant. During the severe winter of 1877-78 Woodcocks were not uncommon, generally keeping to the small water-courses made for irrigational purposes. I have never seen any in the summer, though they probably breed in the valley. A single specimen in the collection, shot in January, has the pale tone of colouring which characterizes so many of the birds in this locality.

206.—Gallinago solitaria, Hodgs. (869).

A few occur in winter and spring, at heights of from 5,000 to 9,000 feet. I have never noticed them in the summer. A specimen shot in January has the pale lines formed by the edges of the outer dorsal and scapular feathers nearly pure white, and a good deal of white intermixed with the pale bands on the wing-coverts and secondaries.

207.—Gallinago scolopacina,† Bp. (871).

The ground is not sufficiently favourable to induce Snipe to remain in any numbers; but a few are always to be found all through the winter, from 2nd September to the end of April, along the water-courses and edges of rice fields.

* I subsequently obtained a specimen — J. S.

† [Should stand as shown by Dresser as *G. caelestis*, Frenzel.—A. O. H.]

[A point of distinction between this species and *G. stenura*, Temminck, in addition to those which have been noticed by various writers, is the conspicuous white tipping on the secondaries in *G. scolopacina*, corresponding to the wide white tipping of its under wing-coverts.—G. F. L. M.]

208.—*Limosa ægocephala*, *Lin.* (875).

After I left Gilgit Dr. Scully secured a specimen during the autumn migration.

209.—*Machetes pugnax*, *Lin.* (880).

A male was procured in September, apparently on its way southwards. The colours are somewhat more vivid than those of the winter plumage; but the ruff and other breeding insignia are wanting. Wing, 7.25 inches; tail, 2.7; tarsus, 1.75; bill at front, 1.5. A female was subsequently secured in the same month:—Length, 9.5 inches; wing, 6; tail, 2.4; tarsus, 1.6. Irides, brown.

210.—*Tringa subarquata*, *Guld.* (882).

A single specimen, a male, shot on 7th September, evidently passing southwards.

211.—*Tringa minuta*, *Leisl.* (884).

Since my leaving Gilgit, Dr. Scully writes that he found the Little Stint very common during the end of autumn and beginning of winter.

212.—*Tringa temmincki*, *Leisl.* (885).

Four specimens obtained in May in transition plumage—two on the 14th, and two on the 22nd.

Dimensions.—*Male*—Length, 6.2; wing, 3.8; tail, 2.12; tarsus, 0.7. *Female*—Length, 6.1; wing, 3.75; tail, 2.05; tarsus, 0.7. Irides, brown.

213.—*Actitis glareola*, *Lin.* (891).

Several specimens occurred about 23rd April, but not noticed at other times.

214.—*Actitis ochropus*, *Lin.* (892).

One specimen killed in January. Very common in April; disappears May, June, and July; reappears in considerable numbers in the middle of August.

215.—*Tringoides hypoleucus*, Lin. (893).

Tolerably common about the middle of May. A few stragglers noticed during the winter. Considerable numbers suddenly appeared in the middle of May for a short time.

The dates of the northern migrations of these Waders are well marked, and differ a good deal. *Actitis ochropus* appears in considerable numbers about the second week in April, and disappears a little before the end of May. A few stragglers remain all the winter, and also are found in favourable places above 8,000 feet in summer.

A. glareola appears about the end of April, and disappears by the middle of May. No stragglers seen at any other time.

T. hypoleucus and *Tringa temmincki* appear together in considerable numbers about 15th May, and disappear after a short stay.

216.—*Totanus glottis*, Lin. (894).

A single specimen, a male, was procured in September, apparently on its way southwards.

217.—*Totanus fuscus*, Lin. (896).

Not common. One specimen secured on 23rd April, a male in transition plumage, sooty black feathers appearing on the head and under surface; secondaries incompletely barred with white, and wing-coverts with a row of white spots on the outer margin; upper tail-coverts and all the tail barred with white; under tail-coverts with a few narrow brown bars.

218.—*Totanus calidris*, Lin. (897).

A single specimen of the common Redshanks has been obtained by Dr. Scully since I left Gilgit.

219.—*Himantopus candidus*, Bonn. (898).

One specimen, a female, shot in April; no others seen.

220.—*Fulica atra*, Lin. (903).

Common in November and December, but seems to go further south during the great cold, and reappears in March and April on its way back to its breeding grounds, when it is very common. It probably breeds at the big lakes at the head of the valley.

221.—*Gallinula chloropus*, Lin. (905).

Common in spring and autumn. A young bird procured 26th August.

222.—*Porzana maruetta*, Leach. (909).

Though I have procured specimens of three kinds of Rails, strange to say, I have never seen one about, nor has a man who has been employed in shooting birds daily for nearly two years ever procured one. All the specimens I have seen have been brought in alive by natives. I imagine that a few of each species breed here every year. They are certainly only summer visitors.

Two of this kind were brought to me, a male and a female—one in the middle of April, the other at the beginning of July.

223.—*Porzana pygmæa*, Naum. (910).

One specimen, a male, was brought to me alive on 20th May, when it was evidently breeding.

? 224.—*Porzana parva*, Scop. (910 bis).

Since my leaving Gilgit, Dr. Scully writes that he has secured an immature specimen which he believes to belong to this species. Wing, 4 inches.

225.—*Crex pratensis*, Bechst. (910 quat).

Since my leaving Gilgit, Dr. Scully writes that he secured a specimen during the autumn migration.

226.—*Rallus aquaticus*, Lin. (914 bis).

A single specimen which I refer to this species was brought to Dr. Scully alive, by a native, on the 25th April. Length, 10·9 inches; expanse, 15·25; wing, 4·65; tail, 2·3; tarsus, 1·6; middle toe, 1·75; tibia (bare), 0·5; bill from front, 1·54; gape, 1·7; depth, 0·35.

227.—*Ciconia nigra*, Lin. (918).

Flocks of Black Storks appeared at intervals in February, March, and April. One was brought to me alive on 14th April, with the glossy bronze markings on the head and neck very vivid.

228.—*Ardea cinerea*, Lin. (923).

Hérons appear in the end of September, apparently on their way to the south, and again in the end of February, when they are common till the end of March, during which month they collect in flocks of ten or twelve, and gradually disappear, a few being seen till the beginning of May; but as they are known to breed in Kashmir, it is probable that a few pairs

breed in Gilgit also. Most of them appear to go northwards, to breed near the lakes at the head of the Gilgit valley, which are favourite breeding places for Water-fowl.

229.—*Ardetta minuta*, Lin. (935).

After I left Gilgit, Dr. Scully secured a specimen in the month of October.

230.—*Nycticorax griseus*, Lin. (937).

One specimen brought in alive to Dr. Scully in the first week in May. A young bird in the collection, shot on the 8th July, has a wing 10 inches.

231.—*Anser indicus*, Lath. (949).

I have several times observed flocks of Geese flying over Gilgit, but have never shot any in the district. Higher up the valley I saw a number, and shot several specimens of this bird, which is said to breed on the Shandur lake in May. This was the only Goose I saw on the Pamir in April 1874.

232.—*Casarca rutila*, Pall. (954).

A pair occasionally seen in autumn and spring.

233.—*Spatula clypeata*, Lin. (957.)

The first Duck of the season, seen 30th August, looked like *S. clypeata*; and others were noticed in autumn and spring. One specimen shot.

234.—*Anas boscas*, Lin. (958).

Appears about the middle of October, and is the common Duck to be seen during the winter. It remains till nearly the end of April.

235.—*Chaulelasmus streperus*, Lin. (961).

Since my leaving Gilgit, Dr. Scully writes that he has secured a specimen of the Gadwal.

236.—*Dafila acuta*, Lin. (962).

The Pintail is seen at intervals during the winter, but is never common. It remains much later than *Anas boscas*. I have seen it as late as the middle of April.

237.—*Mareca penelope*, Lin. (963).

A single specimen of the Wigeon has been procured by Dr. Scully since I left Gilgit.

238.—*Querquedula crecca*, Lin. (964).

To be seen at intervals all through the winter, from the middle of September to the middle of April, but is never very common or in parties of more than eight or ten, generally less.

239.—*Querquedula circia*, Lin. (965).

Seen occasionally, but is never very common. I shot a pair in the middle of September, and one in the end of March.

One shot 2nd September, and a flight seen flying from the north at the same time. I rather think this Teal only appears very early and very late, but does not remain all through the winter.

240.—*Branta *rufina*, Pall. (967).**

I believe I identified two of this species among a flock of Ducks in March, but was not able to shoot a specimen.

241.—*Fuligula nyroca*, Gld. (969).

On one occasion in March I saw some of the White-eyed Duck among a flock of Teal; and Dr. Scully has since written to me that he has secured a specimen.

242.—*Fuligula cristata*, Leach. (971).

Dr. Scully writes that he has procured a specimen since I left Gilgit.

243.—*Mergus castor*, Lin. (972).

I have several times come across the Merganser in winter in the mountain streams, but never secured a specimen.

244.—*Podiceps philippensis*,† Gm. (975).

One specimen was secured by Dr. Scully out of a small flock on 29th March; but they are seldom seen, and apparently do not stop at all on their passage through.

245.—*Larus affinis*, Reinh. (978 *ter*).

A single specimen which appears to be *L. leucophæus*, Licht., but which now, according to Mr. Howard Saunders (STRAY FEATHERS, VII., p. 463), stands as *L. affinis*, was procured. Top of the head almost white, sinciput and ear-coverts darker; neck and upper plumage generally of various shades of brown, each feather edged with whitish except on the back, where the edgings are grey; primaries brownish black, faintly tipped with whitish; secondaries brown, con-

* [*Lege Fuligula*, the generic name *Branta* certainly cannot stand for this species.—A. O. H.]

† [Should stand as *P. minor*, Gm.—A. O. H.]

spicuously tipped and fringed on the outer margin with white; inner web broadly margined with white, the basal portion being completely white; greater primary coverts brown bordered with white; secondary coverts broadly edged with grey; lesser coverts coloured like the upper surface; tertiaries and scapulars brown tipped with white; upper tail-coverts white, with a few brown spots; tail pure white at base, with a broad black terminal band; under surface white, suffused with brown on the neck and sides of the breast; under tail-coverts white, with a large brown spot on outer web near tip; axillaries pure white, a few of them with a brown spot at tip; under wing-coverts white, barred with brown.*

Dimensions (taken from dried skin):—Wing, 17·15 inches; tail, 7·3; tarsus, 2·65; (longer by 0·4 than the middle toe with claw, which, according to Mr. Howard Saunders, serves to distinguish this species from *L. cachinnans* and *L. argentatus*). Bill, blackish, with horny tips, yellowish at base of lower mandible. Length from gape, 3·25 inches. Legs and feet, yellow.

246.—*Gelochelidon anglica*, Mont. (983).

Terns are seldom seen, and never linger on their passage through. One specimen secured 23rd April.

247.—*Hydrochelidon hybrida*, Pall. (984).

Two specimens secured 22nd April, when a party of eight or ten were seen.

In a young bird procured by Dr. Scully, 29th August, the bill is black, not red, as suggested by Hume (STRAY FEATHERS, VII., p. 445), and the feet are dark brown with a reddish tinge.†

A Tern, which looked like *Sterna fluvialis*‡ was seen by me on 23rd August, evidently passing through on its way south.

248.—*Hydrochelidon nigra*, Lin. (984 ter).

Since my leaving Gilgit, Dr. Scully writes that he has secured five specimens, which he believes to belong to this species or to *H. leucoptera*. The measurements vary from 8·2 to 9 inches in the wing, and from 0·74 to 0·9 in the tarsus.

249.—*Graculus carbo*, Lin. (1005).

Several times I have seen a Cormorant which I assign to this species; but I have never secured a specimen. On 12th September I saw a flock of five in the Sai valley.

* [The specimen described is of course a quite immature bird. Adults are described under the name of *L. argentatus*, S. F., I., 270.—A. O. H.]

† [Not impossibly this specimen was one of *H. nigra*, of which the bill is black and the feet dark brown with a red tinge.—A. O. H.]

‡ [This was almost certainly *Sterna tibetana*.—A. O. H.]

§ [Must stand, I think, as *Phalacrocorax carbo*.—A. O. H.]

A Tentative Catalogue of the Birds of the Deccan and South Mahratta Country.

By CAPT. E. A. BUTLER, *H. M.'s 83rd Regt.*

I DESIRE to reproduce in a somewhat modified, and, I hope, improved form, in STRAY FEATHERS (where it will be more generally available to ornithologists), a paper in which (at the request of the compiler of the *Bombay Gazetteer*) I endeavoured to give as complete a list as possible of the birds of the southern portion of the Bombay Presidency.

Roughly speaking the region to which this paper refers may be said to extend as far north as Nagar in about Latitude 19° ; south, as far as Goa, Latitude 16° ; east to Sholapur about Longitude 76° ; and west to Bombay or Longitude 73° .

It includes the following districts which have been more or less

Ornithologically explored*:

Northern Deccan.—Nagar, Poona, Sholapur.

Southern Deccan.—Satara and Belgaum.

Konkan.—Savantvadi, Ratnagiri and Bombay (in part).

Sahyadri Range.—From Goa to Khandalla (partially); and the following which may be classed as

Ornithologically unexplored:—

Southern Deccan.—Kolapur, Dharwar, Kaladgi.

* It may be useful to note, so far as they are known to me, the names of those who have collected within this region, and of the districts in which their collections have been made.

Name.	District.
G. Vidal, Esq. ...	Ratnagiri, Savantvadi, Sahyadri range (in parts) and Satara.
A. Crawford, Esq. ...	Savantvadi.
Capt. E. A. Butler, 83rd Regt. ...	Belgaum, Sahyadri range (in parts), Poona, Satara, Mahableshwar, Khandalla, &c.
J. Davidson, Esq. ...	Sholapur, Satara, Thana, Poona, Khandalla, Matheran and other parts of the Sahyadri range and Deccan.
H. Wenden, Esq. ...	Sahyadri range, Belgaum, Nagar, Khandalla, Mahableshwar.
Revd. S. Fairbank ...	Konkan and Sahyadri range (in parts).
Major Lloyd ...	Deccan and Sahyadri range (in parts).
Colonel Sykes ...	Belgaum and the Ghats, West, parts of N. Kanara, parts of the Deccan.
J. S. Laird, Esq. ...	Parts of the Deccan and Malabar Coast.
Dr. Jerdon ...	Bombay Island and Harbour.
A. O. Hume, Esq. ...	

Konkan.—Northern Kanara, Thana, Kolaba, and Bombay (in part).

Sahyadri Range.—Many parts still quite unworked.

Necessarily this list must be incomplete when so many of the districts it includes are still blanks for us ; and it is only from the fact that their physical conditions in many cases are apparently identical with those of others which have been more or less satisfactorily worked, that I am able to hope that, as regards the plains portion of the tract dealt with, the list will be found tolerably exhaustive. But the case of the Ghats is totally different, and I feel that many species occurring in these and their neighbourhood, in the vast and almost wholly unworked jungles and forests that they include, must very certainly have been omitted.

Besides my own collections and some of those of Mr. Laird, which he has occasionally allowed me to glance at, I have consulted the following authorities :—

Col. Sykes' Birds of the Deccan, P. Z. S., 1832, 77 and 149.

Lieut. Burgess' Notes on the Habits of Indian Birds, P. Z. S., 1854, pp. 1, 45, 102, 142, 158, 255 ; 1855, 27, 32, 70, 79, 184.

Jerdon's Birds of India, 3 Vols.

Stray Feathers, edited by Allan Hume, Vols. I to VIII.

Major Lloyd's List of Konkan Species.

Mr. Vidal's List of the Birds of the South Konkan, Stray Feathers, IX., p. 1.

To all these authorities I am greatly indebted, as well as to the Editor for his assistance in rewriting this paper ; but I am compelled to say (though I have always duly quoted his statements) that I think some of Major Lloyd's specimens must have been erroneously identified.* It is simply incredible, for instance that *Propasser rhodochrous* should have occurred at Matheran. On many occasions in the course of this list I have been obliged to notice that certain common Deccan birds, as I consider them, are not included in Messrs. Davidson's and Wenden's list of the birds of that region ; but it must not be supposed that I intend by these remarks to impute any carelessness to these gentlemen to whom I am otherwise much indebted. Their list was avowedly hastily compiled, merely to give *some* idea of the avifauna of certain districts with which they were more or less acquainted. It had even less

* I entirely concur. At least a dozen species are included in Major Lloyd's list that I should say certainly never *could* occur in the Konkan, while other birds that certainly do occur are omitted. It would be useful if Major Lloyd would state whether he preserved specimens of every bird he includes, and whether these have all been identified by a competent ornithologist. If he can give us these assurances, then of course we can accept all his species, despite the *à priori* incredibility of the occurrence of a good number. At present all ornithologists out here, who know that part of India, treat his list as a record of—"Not what there is, but what there *might* have been."—ED., S.F.

pretence to exhaustiveness than the present catalogue, which will, I am only too certain, itself prove similarly imperfect.

This catalogue includes altogether 452 species, but out of these 3 (*viz.* Nos. 473, 533 and 538) are doubtful as species, and these I have entered in italics, while the occurrence of 20 other species, (*viz.* Nos. 26, 34, 50, 61, 87, 101, 273, 291, 357, 434, 488, 512, 594, 596, 601, 742, 831, 911, 916 and 960,) is to my mind questionable, and to these I have prefixed a note of interrogation.

The species included are arranged as in Dr. Jerdon's work, and Mr. Hume's Tentative list of the Birds of India, published in Vol. VIII., p. 73, *et seq.* This arrangement is admitted on all hands to be in many respects imperfect, but it is the one with which most Indian ornithologists are familiar, and I have therefore adopted it.

In conclusion I can only express a hope that all ornithologists who discover from time to time errors and omissions in this catalogue will notify the same to the Editor of STRAY FEATHERS for publication in his Journal.

2.—*Otogyps calvus*, Scop. The Black Vulture.

Permanent resident. Occurs throughout the region. Not uncommon as a rule, but less abundant in some districts than in others.

4 *bis.*—*Gyps pallescens*, Hume. The Long-billed Pale-Brown Vulture.

Permanent resident. Not uncommon in districts where there are high cliffs to which it resorts to breed. This is probably the species entered in Mr. Vidal's list of Ratnagiri species as *G. indicus* (S. F., IX., 29). According to Sykes, *G. indicus* of Latham, Vantour Indou of Tem., P. C., 26, is common in the Deccan. Possibly he refers to the present species, but Temminck's plate, to which he specially refers, represents apparently *G. fulvescens*, Hume, and possibly this also should be included in this list.

5.—*Pseudogyps bengalensis*, Gmel. The White-backed Vulture.

Permanent resident. Common throughout the region.

6.—*Neophron ginginianus*, Lath. The Indian Scavenger Vulture.

Permanent resident. Common throughout the region, though less numerous in Ratnagiri than in other districts.

8.—*Falco peregrinus*, Gm. The Perigrine Falcon.

Cold weather visitant. Occurs sparingly along the coast of Ratnagiri, and may be found as a straggler inland. I observed it occasionally in and about Belgaum, but as yet we have no other record of its occurrence in other parts of the region.

9.—*Falco perigrinator*, Sund. The Shaheen Falcon.

Permanent resident. This species belongs to the Ghat district, and, though not common, no doubt occurs sparingly along the whole range. I obtained it near Poona and heard of an eyrie at Khandala, where, I believe, it breeds annually. I also saw a Falcon at Amboli, on the Ghats near Belgaum, which I believe belonged to this species. Mr. Davidson observed it in the Satara districts near Adul on the Kohinoor river, and Mr. Fairbank mentions it as having been found in the Mahratta country. Major Lloyd also includes it in his list of Konkan species.

11.—*Falco jugger*, J. E. Gr. The Laggar Falcon.

Permanent resident. Locally common, but in many parts of the southern portion of the region rare. I seldom observed it about Belgaum, and it has not been recorded yet from Ratnagiri.

13.—*Falco subbuteo*, Lin. The (European) Hobby.

Winter visitant. Not common. I noticed it occasionally about Belgaum, and obtained one fine specimen. Jerdon remarks, "not very common, though occasionally killed in different parts of the country. I have killed it near Jalna in the Deccan."

16.—*Falco chiquera*, Daud. The Turumti or Red-headed Merlin.

Permanent resident. Locally common, but in some districts, Ratnagiri for instance, and about Belgaum, scarce.

17.—*Cerchneis tinnunculus*, Lin. The Kestrel.

Cold weather visitant. Common throughout the region. Mr. Davidson thinks it breeds at Mahableshwar and in the cliffs below Matheran, and, as it is known to do so further south on the Nilgiris, he may be right in his conjecture, but as yet the fact has not been proved.

18.—*Cerchneis naumanni*, *Fleisch*. The Lesser Kestrel.

Cold weather visitant. Locally common in the Deccan. Davidson observed several hundreds near Sholapur on one occasion. Mr. Fairbank obtained it at Nagar, where it appears to occur also in flocks. In the southern portion of the region it has not yet been obtained, and, if it does occur, must be rare.

Mr. Hume remarks, not having seen specimens from Southern India, that it is still doubtful whether the form that occurs there may not be *C. pekinensis*, which differs from the present species in the larger amount of grey on the wings which extends right up to the carpal joint. (S. F., III., 384; VII., 332.)

19 *bis*.—*Cerchneis amurensis*, *Radde*. The Eastern Orange-legged Hobby or Kestrel.

Cold weather visitant. Rare as a rule. I observed a huge flock numbering some thousands passing over Belgaum on the 24th November, and shot two fine specimens. It feeds on insects in open country, hovering over the fields exactly like the common Kestrel. It is not included in any of the other local lists, but Mr. Laird told me he had once obtained a specimen in the same district.

The adult birds differ from the Western form, *C. vespertina*, in having the under wing-coverts and axillaries pure white, the same parts in *vespertina* being bluish grey like the breast.

In both of my specimens, which appear to be in immature plumage, the under wing-coverts are transversely barred with slaty black on a white ground, the front view of the bird closely resembling the common Hobby, as pointed out S. F., II., 528.

23.—*Astur badius*, *Gm*. The Shikra or Indian Sparrow Hawk.

Permanent resident in most parts of the region. Common.

24.—*Accipiter nisus*, *Lin*. The European Sparrow Hawk.

Cold weather visitant. Uncommon, occurring only as a straggler.

? 26.—*Aquila chrysaetus*, *Lin*. The Golden Eagle.

This species is enumerated in Sykes' list, and we are told that his specimen differs so slightly from the European bird

as not to justify its separation. It could not, therefore, have belonged to the next and very much smaller species as has been surmised. But admitting it to have been a genuine golden eagle, it seems next to certain that it cannot have been procured in the Deccan.

27.—*Aquila mogilnik*, S. G. Gm. The Imperial Eagle.

Cold weather visitant. Rare. Mr. Davidson mentions a young male shot at Sholapur in the Deccan, south of which it does not appear to have been obtained within the region.

Sykes includes *A. bifasciata* = *A. nipalensis*, and this species also may occur, but in those days *mogilnik* and *nipalensis* were lumped, and his supposed *bifasciata* may probably have been only *mogilnik*.

28.—*Aquila clanga*, Pall. The Spotted Eagle.

Probably only a seasonal visitant. Very locally distributed and not common, occurring, as a rule, only where there are tanks. Mr. Fairbank believes it breeds near the Ekruk Tank.

29.—*Aquila vindhiana*, Frankl. The Indian Tawny Eagle.

Permanent resident. Common, as a rule, throughout the region, excepting perhaps in Ratnagiri, where it appears to be scarce.

31.—*Hieraetus pennatus*, Gm. The Booted Eagle.

Cold weather visitant. Not uncommon as a rule, but scarce about Belgaum and in Ratnagiri.

32.—*Neopus malayensis*, Reinw. The Black Eagle.

Rare and only found on the Ghats and in the adjoining jungles. Mr. Fairbank obtained it at Mahabaleshwar, and Major Lloyd includes it in his list of Konkan species, so that it probably occurs sparingly along the whole range of hills.

33.—*Nisaetus fasciatus*, Vieill. Bonelli's Eagle.

Permanent resident. Occurs sparingly throughout the region. Mr. Vidal does not include it in his list of Ratnagiri birds, but Major Lloyd enters it as a Konkan species.

? 34.—*Limnaëtus caligatus*, *Raffl.* The Changeable Hawk-Eagle.

Rare. Mr. Fairbank says, "may now and then be obtained in the plains of the Deccan," and that he shot a specimen near Nagar. No one else seems to have met with it, so that probably it only occurs as a straggler if it occurs at all. Possibly he really referred to the next species.

35.—*Limnaëtus cirrhatus*, *Gm.* The Crested Hawk-Eagle.

Permanent resident. Confined, or nearly so, to the hilly tracts where it is not uncommon. In Ratnagiri it appears to be exceptionally plentiful.

38.—*Circaëtus gallicus*, *Gm.* The Common Serpent Eagle.

Probably a permanent resident. Occurs sparingly throughout the region, except in Ratnagiri, whence it has not yet been recorded.

39.—*Spilornis cheela*, *Lath.* The Indian Harrier Eagle.

Rare. A single specimen was obtained by Mr. Crawford at Savantvadi, which is the only instance I have heard of its occurrence. The bird, Mr. Fairbank alludes to as common along the Sahyadris, is doubtless the next species, although he has entered it under this heading.

39 bis.—*Spilornis melanotis*, *Jerd.* The Lesser or Southern Indian Harrier-Eagle.

Permanent resident. Not uncommon as a rule along the Ghats, but confined to the hilly tracts and adjacent jungles.

40.—*Pandion haliaëtus*, *Lin.* The Osprey.

Cold weather visitant. Common along the coast of Ratnagiri amongst the tidal creeks and estuaries, and observed by Mr. Hume in the Bombay Harbour, but occurs nowhere else that I am aware of within the region.

43.—*Haliaëtus leucogaster*, *Gm.* The Grey-backed or White-bellied Sea-Eagle.

Permanent resident. Like the last species, not uncommon along the coast, but not found elsewhere within the region. A large colony frequents and breeds upon Pigeon Island lower down the coast (*vide* S. F., IV, 422.)

45.—*Buteo ferox*, *S. G. Gm.* The Long-legged Buzzard.

Cold weather visitant. Not uncommon throughout the region, excepting in Ratnagiri, whence it has not yet been recorded.

48.—*Butastur teesa*, *Frankl.* The White-eyed Buzzard.

Permanent resident in many parts of the region, and common almost everywhere, except in Ratnagiri and the forest tracts, where it appears to be scarce.

It appears to have been omitted accidentally in Messrs. Wenden and Davidson's Deccan list.

? 50.—*Circus cyaneus*, *Lin.* The Hen Harrier.

Cold weather visitant. Rare, I believe, if it occurs at all. Messrs. Davidson and Wenden record it from the Deccan, but it is not recorded from any other portion of the region at present, and they do not seem at all sure of their identification.

51.—*Circus macrurus*, *S. G. Gm.* The Pale Harrier.

Cold weather visitant. Common throughout the region.

52.—*Circus cineraceus*, *Mont.* Montague's Harrier.

Cold weather visitant. Not very common, but occurs I believe sparingly throughout the region, though not recorded yet from Ratnagiri.

54.—*Circus æruginosus*, *Lin.* The Marsh Harrier.

Cold weather visitant. Common in some parts of the region, less so in others, but occurs in suitable localities throughout the whole tract of country with which we are dealing.

55.—*Haliastur indus*, *Bodd.* The Maroon-backed or Brahminy Kite.

Permanent resident in some parts of the region. Not very common, but generally distributed, occurring in most of the districts. Prefers well-watered tracts.

56.—*Milvus govinda*, *Sykes.* The Common Pariah Kite.

Permanent resident. Very common in most localities throughout the region.

56 bis.—*Milvus melanotis*, Tem. & Schl. The Large Pariah Kite.

Permanent resident in all probability. Not common. Mr. Hume mentions having obtained a single specimen in the Bombay Harbour. I have no other record of its occurrence throughout the region.

57.—*Pernis ptilorhynchus*, Tem. The Crested Honey Buzzard.

Permanent resident. Locally not uncommon, but in some districts very rare or absent altogether. It occurs in the Deccan and again in the jungles west of Belgaum; but Mr. Vidal has not as yet met with it in Ratnagiri. I procured specimens at Satara and in the neighbourhood of Belgaum.

59.—*Elanus cœruleus*, Desf. The Black-winged Kite.

Permanent resident. Not uncommon in many localities, and distributed generally throughout the plains portion of the region, but as yet has not been recorded from Ratnagiri, neither is it found, that I am aware of, on the hills. It seems to be particularly common about Poona, Sholapur and in many other parts of the Deccan, and it is not uncommon about Belgaum.

60.—*Strix javanica*, Gm. The Eastern Screech Owl.

Permanent resident. Common in many localities throughout the region, especially in Belgaum and in the Deccan, and generally distributed throughout the region, including Ratnagiri.

? 61.—*Strix candida*, Tick. The Grass Owl.

Mr. Fairbank says he has more than once flushed a Grass Owl that he believes to be this, and on his authority I have given it a place in the list as a doubtful species; but as no other collector has noticed it within the region, and as Mr. Fairbank omits *Asio accipitrinus* in his list of Mahratti species which is common and frequents the very ground he mentions, possibly he may have mistaken that for the present species.

63.—*Syrnium indranee*, Sykes. The Brown Wood-Owl.

Uncommon and confined to the Ghats and adjacent forests. Mr. Laird has obtained it west of Belgaum, and Mr. Fairbank at Mahabaleshwar and along the Sahyadri Range. Mr. Vidal also records it from Ratnagiri.

65.—*Syrnium ocellatum*, Less. The Mottled Wood-Owl.

Permanent resident. Common in many localities, and generally distributed throughout the region, including Ratnagiri, but does not affect heavy forest, preferring, as Mr. Vidal points out, mango clumps on the outskirts of villages. It is specially common about Satara, and I have constantly seen it in the vicinity of Belgaum.

68.—*Asio accipitrinus*, Pall. The Short-eared Owl.

Cold weather visitant. Generally distributed over the plains portion of the region, and tolerably common, affecting long grass in open country. Mr. Vidal does not mention it from Ratnagiri, but it is not improbable that it occurs there, as it is common in the neighbourhood of Belgaum.

69.—*Bubo bengalensis*, Frankl. The Rock Horned-Owl.

Permanent resident. Common in the plains portion of the region, including Ratnagiri, affecting river banks and big nullahs in open country, and occurring in most of the districts, excepting of course the forest tracts.

72.—*Ketupa ceylonensis*, Gm. The Brown Fish Owl.

Permanent resident. Common in the southern portion of the region wherever there is forest. It affects tall thick jungle with running streams as a rule, and does not occur in the more open parts of the country except as a straggler.

74.—*Scops pennatus*, Hodgs. The Indian Scops Owl.

Cold weather visitant. Rare. Mr. Fairbank obtained this, or a closely allied species, at Mahabaleshwar. I procured it at Belgaum, and Messrs. Davidson and Wenden include it in their list of the Deccan birds, having procured specimens at Sholapur, Sangola and other places. Major Lloyd has also entered it in his list of Konkan species, and Jerdon mentions it from the Western Ghats.

74 sept.—*Scops brucii*, Hume. Bruce's Scops Owl.

Rare. Mr. Fairbank obtained specimens at Rahuri near Nagar, and Mr. Vidal procured it at Khed in Ratnagiri, but no other notice of its occurrence throughout the region has been recorded.

75 *quat.*—*Scops malabaricus*, *Jerd.* The Malabar Scops Owl.

Permanent resident in Ratnagiri, whence it has been recorded by Mr. Vidal. It appears to be not uncommon in that district, but has not yet been noticed in other parts of the region.

76.—*Carine brama*, *Tem.* The Spotted Owlet.

Permanent resident, and common, as a rule, throughout the region, except on the Ghats and adjoining forests, where it is replaced by the next species. It is rare in Ratnagiri.

78.—*Glaucidium malabaricum*, *Blyth.* The Malabar Owlet.

Permanent resident. Common along the Ghats and in the adjoining forests, also in Ratnagiri; but does not occur I believe in the plains portion of the region. The Ratnagiri specimens being intermediate in form between *G. malabaricum* and *G. radiatum*, it would appear that the two supposed species are merely local races of the same bird, especially as both occur along the Malabar Coast.

81.—*Ninox lugubris*, *Tick.* The Brown Hawk-Owl.

Uncommon, but apparently has a somewhat extensive range in the southern portion of the region. Mr. Vidal records it from Ratnagiri. Messrs. Wenden and Davidson obtained it at Sholapur. I shot a specimen in the Fort at Belgaum. Mr. Laird also got it in the jungles west of Belgaum, and Mr. Fairbank mentions it in his list of Mahratti species. None of the specimens, from this part of the country, that I have seen, are typical, but they are nearer to *lugubris* than *scutulata*.

82.—*Hirundo rustica*, *Lin.* The Common Swallow.

Cold weather visitant. Common throughout the region.

84.—*Hirundo flifera*, *Steph.* The Wire-tailed Swallow.

Permanent resident. Common and occurs in most localities throughout the region.

85.—*Hirundo erythropygia*, *Sykes.* The Red-rumped or Mosque Swallow.

Permanent resident. Common throughout the region.

86.—*Hirundo fluvicola*, *Jerd.* The Indian Cliff Swallow.

Permanent resident. Locally common, but in many districts unknown. It occurs at Sholapur and Satara, and has once been obtained by Mr. Vidal in Ratnagiri. I have never heard of its occurrence in the Belgaum District.

? 87.—*Cotyle riparia*, *Lin.* The European Sand-Martin.

Cold weather visitant if it does occur, which is very doubtful. Mr. Fairbank includes it in his list of Mahratti species, but omits the next species, which is common in that portion of the region; and as it does not appear to have been noticed by other collectors, I think, in all probability, he is mistaken in his identification. Jerdon, however, is said to have obtained specimens at Jalna in the Deccan, so that it may possibly occur within our limits.

89.—*Cotyle sinensis*, *J. E. Gr.* The Indian Sand-Martin.

Permanent resident. Common, as a rule, in suitable localities throughout the region, but not as yet recorded from Ratnagiri. It probably avoids the forest tracts.

90.—*Ptyonoprogne concolor*, *Sykes.* The Dusky Crag-Martin.

Permanent resident. Common, as a rule, throughout the region.

91.—*Ptyonoprogne rupestris*, *Scop.* The Mountain Crag-Martin.

Cold weather visitant. Not uncommon on the hills. I observed it at Ambolee, at Khandala, Singhur, and on the Fort hill, Satara, &c., &c., and doubtless it occurs along the whole of the Sahyadri range.

92.—*Chelidon urbica*, *Lin.* The English House-Martin.

Seasonal visitant. I observed several pairs of these Martins flying round the barracks in Belgaum, during the first fortnight in May 1880, after which they disappeared. They used to appear in the morning for about an hour, daily, between 6 and 7 A.M., after which they were not to be seen again till the following day. Where they retired to during the day time I haven't a notion, but there can be no possible doubt about

the species as I watched them closely for several days, being unable to shoot them on account of their being in barracks, and there is no other Martin for which they could have been mistaken. In all probability they were in course of migration from the Nilgiris, where they are known to occur. I believe I saw it also at Singbur some years ago when I first arrived in India, but cannot be quite certain, as I did not take the same interest in ornithology in those days that I do now. It is easily recognised by its short, forked tail, broad white rump band, glossy blue black upper surface and snow white lower surface; legs, feet, and toes feathered white.

98.—*Cypsellus melba*, *Lin.* The Alpine Swift.

Cold weather visitant, as far as my experience goes. Common all along the Ghats, frequenting high cliffs, in which it roosts, and descending into the surrounding plains during the day time to feed. In Belgaum, throughout the cold weather, large flocks may be seen every morning passing over the station between 6 and 8 A.M. in an easterly direction, and returning again in a westerly direction to the hills to roost just before dusk in the evening. Mr. Davidson says that it is a permanent resident at Satara, and he thinks breeds there on the cliffs. This may be the case as it is known to breed on the Nilgiris, and, if so, it may also breed at Singbur and on other high cliffs along the Ghat range, but as yet the fact has not been proved.

100.—*Cypsellus affinis*, *J. E. Gr.* The Common Indian Swift.

Permanent resident. Common throughout the region.

? 101.—*Cypsellus leuconyx*, *Blyth.* The White-clawed Swift.

Entered in Mr. Fairbank's list of Mahratti species, but on what authority, unless Jerdon's, I do not know. No other collector has recorded it, neither have I myself ever come across a specimen; I have therefore entered it as doubtful. If it does occur, which appears to be the case according to Jerdon, it must be a rare bird. Jerdon says, "a rare species. I obtained one specimen on the western part of the Deccan and several in Malabar, where it frequents rocky hills." I have no other record of its occurrence.

102.—*Cypsellus batassiensis*, *J. E. Gr.* The Palm Swift.

Permanent resident. Common in some localities where there are groups of palmyra, areca or cocoanut palm trees; in other

localities it is unknown. Mr. Vidal mentions it from Ratnagiri and it is common at Vengurla. Mr. Davidson records it from Akalkot and Nulwar. It is also common in Poona, so that it is generally distributed, although absent altogether in many districts where there are no palm trees.

103.—*Collocalia unicolor*, Jerd. The Indian Edible-nest Swiftlet.

Seasonal visitant. Appears in the hot weather in large numbers on the Vengurla rocks, where it breeds. Unknown in any other portion of the region.

104.—*Dendrochelidon coronata*, Tick. The Indian Crested Swift.

Permanent resident. Not uncommon along the Sahyadri range, extending into the neighbouring forests; but it can only be regarded as a straggler, if it occurs at all, outside of the forest tracts.

107.—*Caprimulgus indicus*, Lath. The Jungle Night-Jar.

Probably a permanent resident. Appears to be not uncommon throughout the forest portion of the region. Jerdon obtained it in the Deccan.

108.—*Caprimulgus kelaarti*, Blyth. The Nilgiri Night-Jar.

Obtained by Mr. Laird in the forest tract west of Belgaum, and included in the list of Konkan species by Major Lloyd, though Mr. Vidal does not appear to have met with it in Ratnagiri. This species is doubtfully distinct from the preceding.

111.—*Caprimulgus atripennis*, Jerd. The Ghat Night-Jar.

Obtained by Mr. Laird in the forest tract west of Belgaum, but has not as yet been recorded from any other portion of the region.

112.—*Caprimulgus asiaticus*, Lath. The Common Indian Nightjar.

Permanent resident. Locally common throughout the region.

113.—*Caprimulgus mahrattensis*, Sykes. Sykes's Goat-sucker.

Probably a permanent resident. Not common as a rule, but generally distributed. Mr. Laird obtained it in the Belgaum District, and Major Lloyd includes it in his list of Konkan species, though Mr. Vidal has not as yet met with it in Ratnagiri. Mr. Fairbank obtained it at Rahuri near Nagar, in which locality it appears to be rare, and it is not included in Messrs. Davidson and Wenden's list of the Deccan species, though doubtless it will be found hereafter to occur in some of the districts. Colonel Sykes obtained specimens from the Western Ghats.

114.—*Caprimulgus monticolus*, Frankl. Franklin's Nightjar.

Probably a permanent resident. Mr. Vidal records it as common in parts of Ratnagiri, and Mr. Fairbank reports its occurrence on the Goa frontier, and has entered it also in his list of Mahratti species. Mr. Laird also procured it in the forests west of Belgaum, but it is not included in Messrs. Davidson and Wenden's list of Deccan species.

115.—*Harpactes fasciatus*, Forst. The Malabar Trogon.

Permanent resident. Occurs sparingly in most of the well-wooded tracts along the Sahyadri Range. Mr. Laird obtained it in the forest tract west of Belgaum, in which jungles I have other evidence also of its occurrence. Mr. Fairbank procured it in the woods of Savantvadi and at the base of the Goa hills; but it is not as yet recorded from Ratnagiri. In Kanara it is not uncommon. It is essentially a forest bird.

117.—*Merops viridis*, Lin. The Common Indian Bee-eater.

Permanent resident in many localities, and common throughout the region.

118.—*Merops philippinus*, Lin. The Blue-tailed Bee-eater.

Not common. Occurs along the Ghats and in the jungles adjoining, including the south of Ratnagiri and Savantvadi. Mr. Fairbank also obtained a specimen at Nagar.

119.—*Merops swinhoii*, Hume. The Indian Chestnut-headed Bee-eater.

This is another forest-loving species, affecting the same localities as the last, and is not very common. I noticed it on the Ambolee Ghat, west of Belgaum.

120.—*Merops persicus*, Pall. The Egyptian or Blue-cheeked Bee-eater.

Cold weather visitant. Rare. Mr. Davidson obtained a specimen in immature plumage at Pandharpur, about 100 miles east of Sholapur, in October. There is no other record of its occurrence within the region, so probably it only occurs as a straggler.

122.—*Nyctiornis athertoni*, Jard. & Selb. The Blue-necked Bee-eater.

Rare. Obtained by Mr. Laird in the forest tract west of Belgaum. I have not heard of any other instance of its occurrence within the region.

123.—*Coracias indica*, Lin. The Indian Roller.

Permanent resident in some localities, migratory in others, retiring to the better-wooded tracts to breed. Common, as a rule, throughout the region in the cold weather.

127.—*Pelargopsis gurial*, Pears. The Brown-headed Kingfisher.

Rare. Mr. Fairbank mentions having seen it on the Koina river, near Mahableshwar. Mr. Laird obtained it in the forests west of Belgaum, and Mr. Vidal includes it in his list of Ratnagiri species. It does not occur in the plains portion of the region, excepting, perhaps, where there is thick jungle.

129.—*Halcyon smyrnensis*, Lin. The White-breasted Kingfisher.

Permanent resident. Common throughout the region.

130.—*Halcyon pileata*, Bodd. The Black-capped Purple Kingfisher.

Very rare. Mr. Vidal obtained it in Ratnagiri, the only instance recorded of its occurrence within the region. It is a coast species, and not likely to be found at any distance from the sea.

132.—*Halcyon chloris*, *Bodd.* The White-collared Kingfisher.

This is another coast species, obtained by Mr. Vidal in Ratnagiri, where he met with it on one or two occasions in small colonies, in mangrove swamps on the banks of tidal creeks.

133.—*Ceyx tridactylus*, *Pall.* The Three-toed Purple Kingfisher.

Probably a permanent resident. Rare. I first observed this species in the jungles below the reversing station at Khandala, and this year (1880) I saw one in July, perched upon a stone by the side of the road, about half way down the Ghat between Ambolee and Danowlee. Major Lloyd enters it in his list as a Konkan species, and Colonel Sykes got it somewhere in the Deccan, so that it doubtless occurs sparingly all along the Sahyadri range and in the adjacent forests, wherever there are streams running through dense jungles.

134.—*Alcedo bengalensis*, *Gm.* The Common Indian Kingfisher.

Permanent resident. Common, as a rule, throughout the region.

135 *quat.*—*Alcedo beavani*, *Wald.* Beavan's Kingfisher.

Rare. I have a specimen that was shot in the jungles west of Belgaum. I know of no other instance of its occurrence within the region.

136.—*Ceryle rudis*, *Lin.* The Pied Kingfisher.

Permanent resident. Tolerably common wherever there is water throughout the region, excepting, perhaps, on the Ghats.

140.—*Dichoceros cavatus*, *Bodd.* The Great Hornbill.

A permanent resident in the forests of the Sahyadri range, where it is not uncommon, and extends certainly as far north as the south of Kolaba.

141.—*Hydrocissa coronata*, *Bodd.* The Malabar Pied Hornbill.

Permanent resident. Not uncommon in the forests surrounding Belgaum, and extends along the Sahyadri range to

Ratnagiri, but how much further north I don't know. It is common in the Kanara jungles.

144.—*Ocyrceros birostris*, Scop. The Common Grey Hornbill.

Entered in Messrs. Davidson and Wenden's list of Deccan species as "moderately numerous in suitable localities." Neither Mr. Vidal, Mr. Laird, or myself, have ever met with it. Mr. Davidson has lately written to me to say that the specimens referred to in his paper were procured about Satara, and that he *believes* he identified them correctly, and that the species is common in Khandesh.

145.—*Tockus griseus*, Lath. The Jungle Grey Hornbill.

Permanent resident. Obtained by Mr. Fairbank and myself in the jungles below the reversing station at Khandala. Also obtained at Savantvadi and in the forests west of Belgaum; it doubtless therefore occurs sparingly all along the Sahyadri range, though as yet Mr. Vidal has not met with it in Ratnagiri.

148.—*Palæornis torquatus*, Bodd. The Rose-ringed Parroquet.

Permanent resident in most localities. Common, as a rule, throughout the region.

149.—*Palæornis purpureus*, P. L. S. Müll. The Western Rose-headed Parroquet.

Permanent resident in some localities; but most of them retire to the Ghats in the hot weather to breed. Common all along the Sahyadri range and in the adjacent forests, and in the rains and cold weather common in most districts throughout the region.

151.—*Palæornis columboides*, Vig. The Blue-winged Parroquet.

Probably a permanent resident. Not uncommon along the whole Sahyadri range, and extends certainly as far north as Khandala, where I obtained specimens. It is particularly common on the Ghats west of Belgaum.

153.—*Loriculus vernalis*, Sparrm. The Indian Lorikeet.

Cold weather visitant. This is another forest-loving species that occurs along the Sahyadri range, at all events, as far

north as Khandala and in the neighbouring forests. Locally not uncommon. It occurs in the Goa and Savantvadi forests and in parts of Ratnagiri. Mr. Elliot mentions it as visiting Dharwar in the rains.

160.—*Picus mahrattensis*, Lath. The Yellow-fronted Woodpecker.

Permanent resident. Locally not uncommon throughout the region, but in some districts it is absent, especially in the south.

164.—*Yungipicus nanus*, Vig. The Indian Pigmy Woodpecker.

Rare. Occurs sparingly along the Sahyadri range as far north as Khandala. It has been obtained at Mahableshtar, Savantvadi, Ratnagiri, in the Goa forests, and on the hills west of Belgaum.

165.—*Hemicercus cordatus*, Jerd. The Heart-spotted Woodpecker.

Rare. Occurs sparingly along the Sahyadri range as far north as Khandala, where I obtained a specimen, and Mr. Laird got it in the forests west of Belgaum, and in North Kanara.

166 bis.—*Chrysocolaptes strictus*, Horsf.=*C. delesserti*, Malh. apud Jerdon. The Southern Large Golden-backed Woodpecker.

Permanent resident. Not uncommon, all along the Sahyadri range and in the adjacent forests. Mr. Vidal in his list of Ratnagiri species mentions *C. sultaneus*, but probably he refers to this species, which is the Southern Indian form, with the wing about 6 inches and the bill about $1\frac{7}{8}$ inches. I have never seen a specimen from this region large enough for *sultaneus*.

An *albinoid* specimen was shot by Mr. Laird at Nagargali, a few miles south of Belgaum (*vide* S.F., IX., 238).

167.—*Chrysocolaptes festivus*, Bodd. The Black-backed Woodpecker.

Is found in Ratnagiri, according to Mr. Vidal, though not common, and doubtless occurs in other forests along the Ghats also, but it appears to be a very local species and rare or absent in most places. Mr. Elliot met with it in Dharwar, not far from Goa.

169.—*Thriponax hodgsoni*, Jerd. The Great Black Woodpecker.

Rare. Mr. Laird obtained specimens in North Kanara and also in the forests west of Belgaum. I have no other record of its occurrence throughout the region.

171.—*Gecinus striolatus*, Blyth. The Small Green Woodpecker.

Rare. Obtained by Mr. Laird in the jungles west of Belgaum, and is probably the bird referred to by Mr. Davidson as having been observed on the Bhore Ghat, Kolaba district, in which case it probably occurs sparingly along the whole of the Sahyadri range.

175.—*Chrysophlegma chlorigaster*, Jerd. The Southern Yellow-naped Woodpecker.

Probably a permanent resident. Not uncommon in the forests south-west of Belgaum, whence I have seen several specimens shot by Mr. Laird and others, but it does not appear to have been observed elsewhere hitherto within the region, though surely it must occur in some of the other forest districts.

179.—*Micropternus gularis*, Jerd. The Madras Rufous Woodpecker.

Permanent resident. Is not uncommon, and occurs all along the Sahyadri range and in the adjacent forests as far north as Khandala. Some of the specimens procured by Mr. Vidal in the north of Ratnagiri are pronounced by Mr. Hume to be intermediate between *gularis* and *phæoceps*.

181.—*Brachypternus puncticollis*, Malh. The Lesser Golden-backed Woodpecker.

Permanent resident. Not uncommon and occurs along the whole range of hills from Goa to Khandala. In some of the districts, Ratnagiri for instance, it is more numerous than in others. Major Lloyd mentions *B. aurantius* in his list of Konkan birds; but he possibly referred to the present species. At the same time very possibly *aurantius* occurs also within our limits, as it does on the Nilgiris. The two species, I may add, are somewhat doubtfully distinct, and in some localities run into each other.

183.—*Yunx torquilla*, Lin. The Wryneck.

Cold weather visitant. Occurs sparingly in the northern portion of the region about Poona and Nagar, as also in the

south about Belgaum, whence I procured specimens, but it is decidedly uncommon.

193 bis.—*Megalæma inornata*, *Wald.* The Western Green Barbet.

Permanent resident on the Ghats. Not uncommon along the whole of the Sahyadri range as far north as Khandala.

***194.**—*Megalæma viridis*, *Bodd.* The Small Green Barbet.

Permanent resident. Common all along the Sahyadri range as far north, at all events, as Khandala; and in most of the forest tracts adjoining. It is one of the commonest birds in Belgaum. I noticed it occasionally also at Satara.

197.—*Xantholæma hæmacephala*, *P. L. S. Müll.*
The Crimson-breasted Barbet or Copper-smith.

Permanent resident. Common, as a rule, throughout the region.

198.—*Xantholæma malabarica*, *Blyth.* The Crimson-throated Barbet.

Rare. Mr. Laird obtained it in the forests west of Belgaum and Mr. Fairbank records it from Savantvadi. Major Lloyd incredible as it seems, includes it also as a Konkani species; but Mr. Vidal has not as yet obtained it in Ratnagiri. I have no other record of its occurrence in the region.

199.—*Cuculus canorus*, *Lin.* The European Cuckoo.

Cold weather visitant. Uncommon. Colonel Sykes procured it in the Deccan, and Messrs. Davidson and Wenden also include it in their list of Deccan species with the remark, "occurs sparingly during the rains and cold weather," but no other collectors appear to have met with it. I wrote to Mr. Davidson about this bird to make sure of the species, and he replied that he had observed it several times in the Deccan, but had never shot a specimen, being satisfied by the call it uttered ("cuckoo") that it was *canorus*.

* Major Lloyd proposed to separate the Small Green Barbet of Western India under the name of *M. sykesi* (S. F., I., 419), but Mr. Hume has shown (S. F., IV., 391) that this proposal is untenable.—E.A.B.

201.—*Cuculus poliocephalus*, Lath. The Small Cuckoo.

Probably only a seasonal visitant. Not common. Messrs. Wenden and Davidson include it in their Deccan list with the remark, "scarce, but seen and procured during the rainy and cold seasons." Mr. Fairbank records it from Nagar, and Mr. Vidal from Devrukh in Ratnagiri. In the southern portion of the region I have not heard of its occurrence.

202.—*Cuculus sonnerati*, Lath. The Banded Bay Cuckoo.

Probably only a seasonal visitant. Not common. Has been obtained at Khandala, in Ratnagiri, and by myself in Belgaum, and Mr. Hume has specimens from Matheran. It evidently belongs to the forest tracts.

203.—*Cuculus micropterus*, Gould. The Indian Cuckoo.

Probably a permanent resident on the Ghats. Common all along the Sahyadri range and in the adjoining forest tracts. It occurs in Belgaum as a straggler, and Mr. Fairbank records it from Nagar. Mr. Vidal reports that it is exceedingly rare in Ratnagiri. It belongs to the forest districts.

205.—*Hierococcyx varius*, Vahl. The Common Hawk-Cuckoo.

Permanent resident probably. Common, as a rule, along the Sahyadri Range, and extends also to the well-wooded tracts adjacent. It belongs to the Ghat districts, but occurs as a straggler in Belgaum. In Ratnagiri it appears to be rare.

208.—*Cacomantis passerinus*, Vahl. The Indian Plaintive Cuckoo.

Common during the rains in many parts of the southern portion of the region, especially in the forests tract west of Belgaum, as far west as Vengurla.

In the northern portion of the region, although it does occur, it is less common. I noticed it at Satara, and Mr. Fairbank obtained it at Nagar; Mr. Vidal also records it from Ratnagiri, where however it is rare.

212.—*Coccyzus jacobinus*, Bodd. The Pied Crested Cuckoo.

Seasonal visitant. Occurs, I believe, only in the rains. Generally distributed throughout the region, but much more

common in the north than in the south. In fact in many of the southern districts, for instance, Ratnagiri, Belgaum, &c., it only occurs as a straggler.

213.—*Coccyzus coromandus*, *Lin.* The Red-winged Crested Cuckoo.

Very rare. Mr. Vidal obtained a single specimen at Savantvadi, the only instance I know of its occurrence within the region.

214.—*Eudynamis honorata*, *Lin.* The Indian Koel.

Permanent resident in some districts. Locally common throughout the region, especially in Belgaum, Ratnagiri, &c., where it is very abundant.

216.—*Rhopodytes viridirostris*, *Jerd.* The Small Green-billed Malkoha.

Permanent resident. Locally not uncommon. Occurs in the jungles about Belgaum, in Ratnagiri, and about Nulwar, where Mr. Davidson found a nest containing two eggs, in July. I have no record of its occurrence in the northern portion of the region.

217.—*Centrococcyx rufipennis*, *Ill.* The Common Coucal or Crow-Pheasant.

Permanent resident. Common throughout the region.

219.—*Taccocua leschenaulti*, *Less.* The Southern Sirkeer.

Rare in the south-western portion of the region. Mr. Vidal obtained a few specimens and eggs in Ratnagiri, and I have heard of its occurrence in the Belgaum district, about Nulwar, Satara, and other localities in the northern portion of the region, where it is not uncommon, and a permanent resident. Jerdon also records it from the Deccan. Mr. Fairbank mentions *T. affinis*, Blyth, in his list of Mahratti species, and also in his list of birds collected in the vicinity of Khandala, Nagar, &c.; but he does not include the present species, probably only one species occurs. Jerdon also implies in his remarks that the birds he procured at Jalua, in the Deccan, were probably *affinis*, and Mr. Hume has shown that *affinis* and *leschenaulti* are not separable.

224.—*Arachnothera longirostra*, *Lath.* The Little Spider-hunter.

Rare. Mr. Laird obtained specimens in the forests west of Belgaum. I have heard of no other instance of its occurrence

throughout the region. It is eminently a bird of the evergreen forests, though it doubtless also frequents gardens near the borders of these.

226.—*Æthopyga vigorsi*, Sykes. The Violet-eared Red Honey-sucker.

Permanent resident. Common along the Sahyadri range and in the adjacent forests as far north as Khandala.

232.—*Cinnyris zeylonica*, Lin. Amethyst-rumped Honey-sucker.

Permanent resident in the Deccan where it is common. In the southern portion of the region it is rare, or unknown, in many localities. Mr. Vidal says that it is common in Ratnagiri, but I never observed it in Belgaum, though Mr. Laird has obtained it in the neighbouring jungles, and Mr. Fairbank says, "not found at Khandala or Mahableshwar, though it is common about Poona, Satara and Bombay." I fancy it avoids the Ghats. Further south in Madras it is very common.

233.—*Cinnyris minima*, Sykes. The Tiny Honey-sucker.

Permanent resident on the Ghats. Common, as a rule, all along the Sahyadri range from Goa to Khandala, extending often to the adjacent forests. I obtained one or two specimens in Belgaum, where, however, it can only be regarded as a straggler.

234.—*Cinnyris asiatica*, Lath. The Purple Honey-sucker.

Permanent resident in some localities, but in others, Belgaum for instance, only a seasonal visitant. Common, as a rule, throughout the region.

235.—*Cinnyris lotenia*, Lin. The Large Purple Honey-sucker.

Not common. Belongs to the Ghats and adjoining forests. Mr. Vidal records it from Ratnagiri, and Mr. Laird obtained it in the forest tracts west of Belgaum. Mr. Fairbank says, "found in the Konkan, and he is told in Bombay." I have no other record of its occurrence within the region.

238.—*Dicaeum erythrorhynchus*, Lath. Tickell's Flower-pecker.

Permanent resident. Locally common. It is common in Belgaum, and breeds there in the hot weather. Occurs all

along the Sahyadri range as far north, at all events, as Mahableshwar and in Ratnagiri.

239.—*Dicaeum concolor*, Jerd. The Nilgiri Flower-pecker.

Mr. Fairbank remarks : "Occurs in the same localities as the last, but rare." I obtained it in Belgaum, where, in the rains, it is not uncommon. It has also been obtained at Savantvadi. It belongs to the Sahyadri range and adjoining forests, but whether it is a permanent resident or not I do not know. Mr. Vidal has not observed it in Ratnagiri, though Major Lloyd includes it in the Konkan list : possibly the latter was mistaken.

240.—*Piprisoma agile*, Tick. The Thick-billed Flower-pecker.

Occurs in the same localities as the last two species, extending to Ratnagiri. As a rule it is not very common, but I found it tolerably plentiful in Belgaum, especially in the cold weather.

253.—*Dendrophila frontalis*, Horsf. The Velvet-fronted Blue Nuthatch.

Rare as a rule. Confined to the Sahyadri range and adjacent forests. It occurs in the jungles, west of Belgaum, including Savantvadi and along the Goa frontier, but Mr. Vidal does not mention it in his Ratnagiri list. Mr. Laird obtained it at Nagargali, south-west of Belgaum.

254.—*Upupa epops*, Lin. The European Hoopoe.

Cold weather visitant. Common, as a rule, throughout the region.

255.—*Upupa ceylonensis*, Reich. The Indian Hoopoe.

Permanent resident. Common, as a rule, throughout the region.

256.—*Lanius lahtora*, Sykes. The Indian Grey Shrike.

Permanent resident in the localities, where it is common, for instance, in many parts of the Deccan ; but in the south-west portion of the region it is almost unknown. Mr. Vidal has not observed it in Ratnagiri, though Major Lloyd includes it in the Konkan list, and I have very seldom met with it about

Belgaum and only in the cold weather. Mr. Laird has also obtained specimens in the Belgaum district. It belongs to the plains portion of the region.

257.—*Lanius erythronotus*, Vig. The Indian Rufous-backed Shrike.

Permanent resident in most localities. Common, as a rule, throughout the region, excepting perhaps in the Sholapur district, where Mr. Davidson says it is rare.

260.—*Lanius vittatus*, Valenc. The Bay-backed Shrike.

Permanent resident in many localities. Locally common, especially in the Deccan, but in some of the southern districts, for instance Ratnagiri, it is comparatively rare. In the immediate neighbourhood of Belgaum I only observed it in the cold weather, but in the neighbouring jungles it is not uncommon and remains the whole year round.

261.—*Lanius cristatus*, Lin. The Brown Shrike.

Cold weather visitant. Common in Belgaum, but Mr. Fairbank remarks, "rare in the Nagar districts." It is not mentioned by Mr. Vidal from Ratnagiri, neither is it included in Messrs. Davidson and Wenden's list, so that if it occurs elsewhere within our limits, it is probably rare.

264.—*Tephrodornis sylvicola*, Jerd. The Malabar Wood Shrike.

Not common. Mr. Laird obtained it in the jungles west of Belgaum. Major Lloyd includes it in his list of Konkan species, but I very much doubt its occurrence in the Konkan; Mr. Vidal has not met with it as yet in Ratnagiri, the only portion of Konkan in which it was at all likely to occur,—and I have no other record of its occurrence throughout the region.

265.—*Tephrodornis pondicerianus*, Gm. The Common Wood Shrike.

Permanent resident. Locally not uncommon, and occurs from north to south of the region, but in some districts it is rare, or absent altogether. It is most abundant along the Sahyadri range and in the Konkan. I never observed it about Belgaum.

267.—*Hemipus picatus*, *Sykes*. The Little Pied Shrike.

Locally not uncommon along the Sahyadri range. Mr. Fairbank obtained it at Nagar, Mr. Laird in the jungles south-west of Belgaum, Mr. Crawford at Savantvadi, and Mr. Vidal mentions it from the south of Ratnagiri. Outside of the forest tracts, it probably does not occur. Jerdon remarks, "occurs all along the crest of the Western Ghats, as far south as the Nilgiris."

268.—*Volvocivora sykesi*, *Strickl*. The Black-headed Cuckoo Shrike.

Locally not uncommon, but probably only a seasonal visitant in most localities, though it may breed on the Ghats and in the neighbouring forests. It passes through Belgaum in considerable numbers before and after the rains, but where it goes to breed I don't know. Mr. Fairbank says: "Common in the woods by the Ghatprabha river in the Belgaum districts." In the northern portion of the region and in Ratnagiri it appears to be much less common.

269.—*Volvocivora melaschista*, *Hodgs*. The Dark-grey Cuckoo Shrike.

Rare. Has been obtained at Savantvadi, but I have no other record of its occurrence throughout the region.

270.—*Graucalus macii*, *Less*. The Large Cuckoo Shrike.

Permanent resident in Ratnagiri and other localities. Locally not uncommon, but in the plains portion of the region it appears to be rare. It is not included in Messrs. Wenden and Davidson's list of Deccan species, and I only met with it as a straggler in Belgaum and Satara. In Ratnagiri and about the Ghats it is much more common, though it avoids very dense forest.

272.—*Pericrocotus flammeus*, *Forst*. The Orange Minivet.

Permanent resident. Not uncommon all along the Sahyadri range from Goa to Khandala. It does not occur in the plains portion of the region.

? 273.—*Pericrocotus brevirostris*, *Vig*. The Short-billed Minivet.

Cold weather visitant. Rare if it occurs at all, which is doubtful (*vide* distribution of species, S. F., IV., 209, and V.,

188). Mr. Davidson says, "saw a flock of this species at Sangola, but it is not common in these districts." I have heard of no other instance of its occurrence throughout the region; and as Mr. Davidson does not seem certain of his identification, I have only entered it as doubtful.

276.—*Pericrocotus perigrinus*, *Lin.* The Small Minivet.

Permanent resident. Common, as a rule, throughout the region.

277.—*Pericrocotus erythropygius*, *Jerd.* The White-bellied Minivet.

Rare. Mr. Laird obtained it in the Belgaum district, and Mr. Fairbank procured it in the Nagar districts. I have no other record of its occurrence throughout the region, except Jerdon's, who procured it near Jalna, in the Deccan.

278.—*Buchanga atra*, *Herm.* The Common Drongo-Shrike or King-Crow.

Permanent resident in most localities in the plains portion of the region. Common, as a rule, throughout the region, except perhaps, along the Ghats, where it is replaced by the next species.

280.—*Buchanga longicaudata*, *Hay.* The Long-tailed Drongo.

Permanent resident on the Ghats and in the adjoining forests. Common all along the Sahyadri range and in the adjacent forests, extending, at all events, as far north as Khandala. It is particularly common in Belgaum in the cold weather.

281.—*Buchanga cærulescens*, *Lin.* The White-bellied Drongo.

Permanent resident probably on the Ghats, along the whole range of which it occurs sparingly, being common in some localities. In the plains portion of the region it is a seasonal visitant and not common, but generally distributed. I got it in Belgaum, and Mr. Davidson at Sholapur, and Mr. Vidal mentions a specimen obtained by Dr. Armstrong in the south of Ratnagiri.

282.—*Chaptia ænea*, *Vieill.* The Bronzed Drongo.

Permanent resident, probably, on the Ghats. Not uncommon along the whole of the Sahyadri range as far north as

Khandala, but does not occur in the plains portion of the region, neither has Mr. Vidal observed it in Ratnagiri.

285.—*Dissemurus paradiseus*, *Lin.* The Lesser Racket-tailed Drongo.

Permanent resident. Not uncommon in suitable localities, all along the Sahyadri range, as far north as Khandala, extending into the adjoining forests below the Ghats. It is particularly partial to bamboo jungles. Unknown in the plains portion of the region outside of the forest tract.

286.—*Chibia hottentotta*, *Lin.* The Hair-crested Drongo.

Rare. Has been obtained at Savantvadi by Mr. Crawford and Mr. Vidal, where it is not uncommon. I have no other record of its occurrence throughout the region. Like the last it is unknown in the plains portion of the region.

287.—*Artamus fuscus*, *Vieill.* The Ashy Swallow-Shrike.

Rare. Mr. Vidal remarks, "has been found in the cocoanut gardens round Vengurla." I have no other record of its occurrence within our limits, though Jerdon records it as a rare visitant to the Deccan.

288.—*Muscipeta paradisi*, *Lin.* The Paradise Flycatcher.

Probably a permanent resident on the hills and in the adjacent jungles. Not uncommon, and occurs, as a rule, sparingly throughout the region. It is most abundant on the Ghats and in the forest tracts adjoining.

290.—*Hypothymis azurea*, *Bodd.* The Black-naped Blue Flycatcher.

Probably a permanent resident in the better-wooded districts along the Ghats. Occurs sparingly along the whole of the Sahyadri range, as far north as Khandala, and extends as a seasonal visitant to the well-wooded districts adjoining. I got it in Belgaum, and Mr. Fairbank mentions it from Nagar; Mr. Vidal also obtained it in Ratnagiri. It belongs to the Ghat region.

? 291.—*Leucocerca albicollis*, *Vieill.* The White-throated Fantail.

Jerdon remarks: "Not known in most parts of the south of India, though Colonel Sykes includes it in his birds of the

Deccan." Adams also records it as common at Poona, but he does not mention *albofrontata* which is common there; possibly he may have mistaken the species. I have no record of its occurrence.

292.—*Leucocerca aureola*, Vieill. The White-browed Fantail.

Permanent resident in some districts, but seems to be far more common in the Deccan than in the southern portion of the region, where, if it does occur, it is decidedly rare. Mr. Vidal has not observed it in Ratnagiri, and I have only once heard of its occurrence in the neighbourhood of Belgaum; at Satara it is common.

293.—*Leucocerca leucogaster*, Cuv. The White-spotted Fantail.

Permanent resident. Common in the southern portion of the region and in some parts of the Deccan, according to Mr. Fairbank, who observed it at Satara and Poona. Mr. Davidson mentions it also from Igatpuri. All along the Sahyadri range and in the neighbouring forests it is plentiful, also in Ratnagiri and about Belgaum.

295.—*Culicicapa ceylonensis*, Swains. The Grey-headed Flycatcher.

Probably only a cold weather visitant. Common in Satara, where, Mr. Davidson thinks, it breeds, but this, in the absence of proof, I am strongly inclined to doubt. Mr. Fairbank also mentions it from the Nagar districts. I have no record of its occurrence in the southern portion of the region.

297.—*Alseonax latirostris*, Raffl. The Southern Brown Flycatcher.

Cold weather visitant. Occurs sparingly throughout the region, but seems to be more plentiful in the south-west portion of the region about Ratnagiri and Belgaum than in the north.

301.—*Stoporala melanops*, Vig. The Verditer Flycatcher.

Cold weather visitant. Generally distributed in suitable localities throughout the region, but most common along the Ghats and in the better-wooded districts. It is not uncommon in Belgaum, and has been obtained at Nagar, Sholapur, Mahableshwar and in Ratnagiri.

304.—*Cyornis rubeculoides*, Vig. The Blue-throated Redbreast.

Cold weather visitant. Rare. I obtained a specimen at Belgaum and saw another in the same neighbourhood. Major Lloyd also includes it as a Konkan species, but Mr. Vidal has not met with it in Ratnagiri. I also heard of a specimen being seen at Savantvadi, but have no other record of its occurrence throughout the region, though Jerdon met with it also on the Western Coast.

306.—*Cyornis tickelli*, Blyth. Tickell's Blue Redbreast.

Probably a permanent resident in the forest districts. Common along the Ghats and in the adjacent forests and in Belgaum and Ratnagiri, but in the plains portion of the region, although it does occur in the cold weather, it is somewhat scarce and locally distributed.

307.—*Cyornis ruficaudus*, Swains. The Rufous-tailed Flycatcher.

Cold weather visitant. Rare. Mr. Fairbank mentions it from Nagar, and Mr. Davidson from Sholapur. I have no other record of its occurrence throughout the region. It probably therefore only occurs as a straggler.

309.—*Cyornis pallipes*, Jerd. The White-bellied Blue Flycatcher.

Probably only a cold weather visitant. Rare. Mr. Fairbank procured specimens near Parwar, on the Goa frontier, and Mr. Laird obtained it on the Ghats, west of Belgaum. I have no other record of its occurrence throughout the region. It belongs to the Ghat range.

310.—*Muscicapula superciliaris*, Jerd. The White-browed Blue Flycatcher.

Seasonal visitant, and only occurs as a straggler. Very rare. Mr. Fairbank obtained a single specimen at Nagar. I have no other record of its occurrence throughout the region.

323 bis.—*Erythrostera parva*, Bechst. The White-tailed Robin Flycatcher.

Cold weather visitant. Common, as a rule, throughout the region.

342.—*Myiophoneus horsfieldi*, Vig. The Malabar Whistling-Thrush.

Permanent resident. Not uncommon along the whole of the Sahyadri range as far north, at all events, as Thana. Affects well-wooded ravines and rocky nalas, water-falls, &c., on the hill sides.

345.—*Pitta brachyura*, Lin. The Indian Ground-Thrush.

Seasonal visitant. Locally common at the seasons of migration (April and May, and again in September and October), especially along the Ghats and in the adjacent forests. I obtained many specimens in Belgaum in May. Mr. Davidson observed it at Sholapur at both seasons of migration. Mr. Vidal mentions it from Ratnagiri, and Mr. Fairbank observed it at Khandala and Nagar, so that it is generally distributed throughout the region. It prefers the better-wooded districts.

351.—*Cyanocinclus cyanus*, Lin. The Blue Rock-Thrush.

Cold weather visitant. Common as a rule. Occurs throughout the region.

353.—*Petrophila cinclorhyncha*, Vig. The Blue-headed Chat-Thrush.

Cold weather visitant. Not uncommon all along the Sahyadri range, and occurs also sparingly in the plains. It is recorded from Nagar, Poona, Sholapur, Nulwar and Belgaum; also from Mahableshwar and Ratnagiri, so that it is generally distributed throughout the region.

354.—*Geocichla cyanotis*, Jard. & Selb. The White-throated Ground-Thrush.

Permanent resident. Common all along the Sahyadri range and adjoining forests, as far north as Khandala. It is essentially a forest bird, but I shot a single specimen once in Belgaum.

355.—*Geocichla citrina*, Lath. The Rusty-throated Ground-Thrush.

Cold weather visitant (?) Very rare, occurring, if at all, only as a straggler. Mr. Vidal mentions instances of its supposed occurrence in Ratnagiri, and it is included in Major Lloyd's list of Konkan species, but it has not been recorded from any other part of the region.

356.—*Geocichla unicolor*, Tick. The Dusky Ground-Thrush.

Cold weather visitant. Rare. Mr. Blanford obtained a specimen at Khandala in November, and I procured another in Belgaum in April. Jerdon also procured it in the Deccan. I have no other record of its occurrence throughout the region.

? 357.—*Turdulus wardi*, Jerd. Ward's Pied Blackbird.

Jerdon remarks: "Spread very sparingly through the plains of India in the winter." He obtained it from the foot of the Nilgiris, and it is included in Major Lloyd's list of Konkan species, but its occurrence within the region requires confirmation.

359.—*Merula nigropileus*, Lafr. The Black-capped Blackbird.

Permanent resident. Common all along the Sahyadri range and in the adjacent forests as far north as Khandala, being most abundant in the rains. It belongs almost exclusively to the Ghat region, but I have shot stragglers in Belgaum on two occasions.

385.—*Pyctoris sinensis*, Gm. The Yellow-eyed Babbler.

Permanent resident. Tolerably common throughout the region.

389.—*Alcippe poiocephala*, Jerd. The Nilgiri Quaker Thrush.

Permanent resident. Locally common along the Sahyadri range and in the adjoining forests as far north as Khandala.

390.—*Alcippe atriceps*, Jerd. The Black-headed Wren-Babbler.

Not uncommon locally. Obtained by Mr. Laird in the forests west of Belgaum, but I have no other record of its occurrence throughout the region.

397.—*Dumetia hyperythra*, Frankl. The Rufous-bellied Babbler.

Permanent resident. Mr. Wenden found it breeding near Thana and at Khandala in the rains, and remarks, "that it is tolerably numerous in the Konkan." I have no other record of its occurrence throughout the region.

398.—*Dumetia albogularis*, Blyth. The White-throated Wren-Babbler.

Permanent resident. Not uncommon. Occurs all along the Sahyadri range and in the adjoining forests.

399.—*Pellorneum ruficeps*, Swains. Swainson's Wren-Babbler.

Not uncommon. Occurs all along the Sahyadri range and in the neighbouring forests, at all events as far north as Mahableshwar. In Ratnagiri it extends sparingly as far as the coast.

404.—*Pomatorhinus horsfieldi*, Sykes. The Southern Scimitar Babbler.

Permanent resident. Common all along the Sahyadri range as far north as Mahableshwar (and probably to Khandala), extending often into the adjoining forests.

433.—*Malacocercus griseus*, Lath. The White-headed Babbler.

Permanent resident. Seems to be confined to the jungle south and east of the Ghatprabha river; north of Belgaum as far as Sutgatti, and east and south of Belgaum it is common, but on the hills to the west, I don't think it occurs at all. Anyhow I have no record of its occurrence along the Sahyadri range, and Mr. Vidal has not observed it in Ratnagiri.

435.—*Malacocercus somervillii*, Sykes. The Rufous-tailed Babbler.

Permanent resident. Common throughout the Southern Konkan and all along the Sahyadri range and in the adjoining forests as far north as Khandala. I observed it on the Ambolee Ghat, west of Belgaum, but where it joins the last species I am not quite certain.

? 434.—*Malacocercus malabaricus*, Jerd. The Jungle Babbler.

Jerdon remarks: "found in forests and jungles throughout the greater part of the Peninsula of India, including the Malabar Coast to the latitude of Bombay, slopes of the Nilgiris, &c.," and Major Lloyd includes it in his list of Konkan species. I have not heard of its occurrence within the region from any other source, and believe its occurrence within our region, except perhaps in the Northern Konkan, very doubtful.

436.—*Argya malcolmi*, Sykes. The Large Grey Babbler.

Permanent resident. Common in the Deccan, but does not occur along the Ghats. I have noticed it occasionally in the Belgaum district, but in the southern portion of the region it is scarce. Mr. Fairbank thinks that the Ghatprabha river, about 20 miles north of Belgaum, separates this species from *M. griseus*, but this cannot be the case, as Jerdon mentions it from much further south, Mysore and the Nilgiris.

437.—*Layardia subrufa*, Jerd. The Rufous Babbler.

Occurs sparingly along the Sahyadri range. Rare. Mr. Laird procured it on the hills west of Belgaum, and Mr. Fairbank obtained a specimen at Talmet near Mahableshwar. It is also, doubtless, included in Major Lloyd's list of Konkan species, but Mr. Vidal has not observed it in Ratnagiri, again the only part of the Konkan in which it was likely to occur.

438.—*Chatarrhæa caudata*, Dum. The Striated Bush-Babbler.

Permanent resident. Common in the Deccan, but rare or absent in some localities in the southern portion of the region. I have observed it occasionally along the Dharwar road seven or eight miles south of Belgaum, and in one or two other places about Belgaum, but it does not appear to occur in the forest tracts to the west or in Ratnagiri.

442.—*Schœnicola platyurus*, Jerd. The Broad-tailed Reed Bird.

Probably only a seasonal visitant. Very rare. I found five or six pairs at Belgaum breeding in September in long grass by the side of rice fields, and obtained some good specimens.

446.—*Hypsipetes ganesa*, Sykes. The Ghat Black Bulbul.

Permanent resident. Rare. Occurs sparingly along the Sahyadri range as far north as Mahableshwar, being most abundant along the Goa frontier. Mr. Vidal obtained it at the foot of the hills in Ratnagiri and at Savantvadi, and Mr. Fairbank at Mahableshwar. Colonel Sykes also obtained it along the Western Ghats.

450.—*Criniger ictericus*, Strickl. The Yellow-browed Bulbul.

Permanent resident. Locally not uncommon along the Sahyadri range as far north as Mahableshwar. Mr. Vidal says, "plentiful at Bavda at the foot of the hills in Ratnagiri in the Rajapur sub-division," and Mr. Fairbank remarks that it is "abundant along the Goa frontier." He also obtained it at Mahableshwar, and Mr. Laird met with it on the hills west of Belgaum, and Mr. Crawford at Savantvadi.

452.—*Ixus luteolus*, Less. The White-browed Bush-Bulbul.

Permanent resident. Not uncommon in some localities. Mr. Fairbank met with it along the Ghatprabha river, 20 miles north of Belgaum, Mr. Laird got it west of Belgaum, and Mr. Vidal also procured it in Ratnagiri at Vijaydurg, near the coast, and it occurs also in Bombay. It appears to be a very local species, and, as Mr. Vidal remarks, to avoid the Ghat range, being absent altogether in most districts throughout the region.

455.—*Rubigula gularis*, Gould. The Ruby-throated Bulbul.

Rare. Mr. Laird obtained it in the forest south-west of Belgaum. I have no other record of its occurrence throughout the region.

457.—*Brachypodius poiocephalus*, Jerd. The Grey-headed Bulbul.

Permanent resident. A purely forest species; in some few localities not uncommon. Obtained in the forests south-west of Belgaum by Mr. Laird. No other record of its occurrence throughout the region.

460 *bis*.—*Otocompsa fuscicaudata*, Gould. The Southern Red-whiskered Bulbul.

Permanent resident. Common all along the Sahyadri range, and in the adjacent forests from Goa to Khandala. I observed it occasionally at Satara, but it does not, as a rule, stray far from the Ghats.

462.—*Molpastes hæmorrhous*, Gm. The Common Madras Bulbul.

Permanent resident. Common throughout the region.

463.—*Phyllornis jerdoni*, Blyth. The Common Green Bulbul.

Permanent resident. Common all along the Sahyadri range and in the adjoining forests as far north as Khandala. Mr. Davidson found it also at Egutpuri.

464.—*Phyllornis malabaricus*, Gm. The Malabar Green Bulbul.

Permanent resident. Not uncommon all along the Sahyadri range from Goa to Khandala in the well-wooded tracts. Mr. Vidal does not mention it however in his list of Ratnagiri species.

468.—*Iora tiphia*, Lin. The Black-headed Green Bulbul.

Permanent resident. Common, as a rule, throughout the region. Mr. Vidal remarks, "both forms *tiphia* and *zeylonica* are common in Ratnagiri."

469.—*Irena puella*, Lath. The Fairy Blue Bird.

Probably a permanent resident. Rare. Occurs at Savantvadi, and has been obtained by Mr. Laird in the forests south-west of Belgaum. I have no other record of its occurrence throughout the region.

470.—*Oriolus kundoo*, Sykes. The Indian Oriole.

Permanent resident in many localities. Common, as a rule, throughout the region, excepting perhaps on the Ghats, where it is replaced partly by *O. melanocephalus*.

471.—*Oriolus indicus*, Jerd. The Black-naped Indian Oriole.

Rare. Occurs at Savantvadi, and has been obtained at Devrukh at the foot of the hills in Ratnagiri. I have no other record of its occurrence throughout the region.

472.—*Oriolus melanocephalus*, Lin. The Bengal Black-headed Oriole.

Permanent resident. Common all along the Sahyadri range and in the adjoining forests as far north as Khandala.

473.—*Oriolus ceylonensis*, Bp. The Southern Black-headed Oriole.

Permanent resident. Occurs in the same localities as the last, excepting Ratnagiri, if it is a good species, which seems

to be a disputed point at present. Mr. Wenden procured a specimen at Egutpuri.

475.—*Copsychus saularis*, *Lin.* The Magpie Robin.

Permanent resident in the southern portion of the region, where it is very common everywhere. In the Deccan, as a rule, it only occurs as a seasonal visitant and is less plentiful. It breeds abundantly in and about Belgaum.

476.—*Cercotrichas macrura*, *Gm.* The Shama.

Permanent resident. Not uncommon all along the Sahyadri range and in the adjoining forests as far north as Khandala.

479.—*Thamnobia fulicata*, *Lin.* The Indian Black Robin.

Permanent resident. Common, as a rule, throughout the region.

481.—*Pratincola caprata*, *Lin.* The White-winged Bushchat.

Permanent resident. Common, as a rule, throughout the region, but merging on the higher portions of the Ghats into the larger, doubtfully distinct, *P. bicolor*.

483.—*Pratincola maura*, *Pall.* The Indian Bushchat.

Cold weather visitant. Common, as a rule, throughout the region.

? 488.—*Saxicola opistholeucus*, *Strickl.* The Indian White-tailed Wheatear.

Cold weather visitant, and rare if indeed it occurs at all. Mr. Fairbank *thinks* he has observed this species on one or two occasions near Nagar. I have no other record of its occurrence within the region, and if entitled to inclusion in this list, which seems doubtful, it will only be, I apprehend, as a rare straggler to some of the northern districts.

491.—*Saxicola isabellinus*, *Rüpp.* Menetries' Wheatear.

Cold weather visitant. Rare. Occurs as a straggler about Nagar. I have no other record of its occurrence within the region.

492.—*Saxicola deserti*, Rüpp. The Black-throated Wheatear.

Cold weather visitant. The same remarks apply to this species as to the last.

497.—*Ruticilla rufiventris*, Vieill. The Indian Redstart.

Cold weather visitant. Tolerably common throughout the region, avoiding, as a rule, the forest tracts.

507.—*Larvivora superciliaris*, Jerd. The Blue Woodchat.

Cold weather visitant. Not common. Mr. Fairbank got it at Mahabaleshwar and along the Goa frontier in damp deep shade, and Messrs. Davidson and Wenden in their list of Deccan species remark, "moderately common during the rains and cold weather." Mr. Vidal records it from Gotna in the Sangameshwar sub-division of Ratnagiri, and Mr. Laird got it in the forests south-west of Belgaum. I also obtained a single specimen in the Fort of Belgaum.

? 512.—*Calliope camtschatkensis*, Gm. The Common Ruby-Throat.

Jerdon mentions having once seen a specimen that had taken refuge on board ship, a little south of Bombay, in the month of November.

514.—*Cyanecula suecica*, Lin. The Red-spot Blue-throat.

Cold weather visitant. Locally not uncommon, throughout the region, affecting swampy ground. In the rice-fields about Belgaum it is particularly common.

515.—*Acrocephalus stentorius*, Hemp. & Ehr. The Large Reed Warbler.

Cold weather visitant. Rare. Affects reed-beds, sugarcane fields, and standing crops. Mr. Fairbank procured it at Nagar, and Mr. Vidal obtained a single specimen in Ratnagiri at Khed. I also shot a few specimens about Belgaum.

516.—*Acrocephalus dumetorum*, Blyth. The Lesser Reed Warbler.

Cold weather visitant. Tolerably common throughout the region.

517.—*Acrocephalus agricola*, *Jerd.* The Paddy-Field Warbler.

Cold weather visitant. Not uncommon about Belgaum, frequenting standing crops, rice fields, sugarcane and tall reed-beds. I have no record of its occurrence in other parts of the region.

520.—*Locustella hendersoni*, *Cass.* Henderson's Locustelle.

Probably only a seasonal visitant. Not uncommon about Belgaum during the rains, frequenting rice fields and high grass. I have no record of its occurrence in any other portion of the region, though doubtless it will be found to occur hereafter in other suitable localities.

530.—*Orthotomus sutorius*, *Forst.* The Indian Tailor Bird.

Permanent resident. Common, as a rule, throughout the region, affecting gardens.

533.—*Prinia adamsi*, *Jerd.* The White-bellied Wren-Warbler.

This species is included in the Indian list, solely I believe on the authority of Dr. Adams, who says that it occurs at Poonia in corn-fields. Is it a good species?

534.—*Prinia socialis*, *Sykes.* The Ashy Wren-Warbler.

Permanent resident. Common, as a rule, throughout the region, affecting corn fields, &c. In Ratnagiri it appears to be rare.

536.—*Prinia gracilis*, *Frankl.* Franklin's Wren-Warbler.

Permanent resident. Common all along the Sahyadri range, and in the adjoining forests.

538.—*Prinia hodgsoni*, *Blyth.* The Malabar Wren-Warbler.

Permanent resident. The same remarks apply to this as to the last. I have entered it in italics since, according to Mr. Brook's remarks (S. F., VIII., 476), it = *P. gracilis* in breeding plumage.

539.—*Cisticola cursitans*, Frankl. The Fantail Warbler.

Permanent resident. Common, as a rule, in all grass lands and corn-fields throughout the region.

543.—*Drymœca inornata*, Sykes. The Earth-brown Wren-Warbler.

Permanent resident. Common in all grass lands and corn-fields throughout the region. In winter plumage it=544 *D. longicaudata*, Tick.

544 bis.—*Drymœca rufescens*, Hume. The Great Rufous Wren-Warbler.

Probably a permanent resident. Recorded by Mr. Vidal as "common in the brambles on the slopes of Fort Victoria or Bankot in Ratnagiri," and Mr. Hume has specimens from Mahabaleshwar. I have no other record of its occurrence at present, throughout the region, but doubtless it will be found hereafter to occur in suitable places all along the Sahyadri range and in the adjacent jungles. In all probability this=545 bis *D. insignis*, Hume, in cold weather plumage (*vide* S.F., VII., 217, 218.)

546.—*Drymœca neglecta*, Jerd. The Allied Wren-Warbler.

Rare. Mr. Vidal obtained a single specimen at Khed in Ratnagiri. I have no other record of its occurrence throughout the region. In all probability this=545 *D. sylvatica*, Jerd., in cold weather plumage, which Jerdon records from the Nilgiris and Malabar Coast.

551.—*Franklinia buchanani*, Blyth. The Rufous-fronted Wren-Warbler.

Probably a permanent resident in the Nagar districts, whence it is recorded by Mr. Fairbank. I have no other record of its occurrence throughout the region. It does not occur, I believe, anywhere in the southern portion of the region.

553.—*Hypolais rama*, Sykes. Sykes' Warbler.

Cold weather visitant. Not uncommon, as a rule, throughout the region.

553 bis.—*Hypolais caligata*, Licht. The Booted Warbler.

Cold weather visitant. Mr. Vidal obtained a single specimen at Khed in Ratnagiri. I have no other record of its

occurrence within the region, though it is not improbable that it has occurred in other localities, and been passed over in mistake for the last species to which it is closely allied.

554.—*Phylloscopus tristis*, *Blyth*. The Brown Tree-Warbler.

Cold weather visitant. Recorded from Nagar by Mr. Fairbank, and from the Konkan by Major Lloyd.

556.—*Phylloscopus magnirostris*, *Blyth*. The Large-billed Tree-Warbler.

Cold weather visitant. Not common. I procured a single specimen in Belgaum, but it does not appear in any of the other local lists.

558.—*Phylloscopus lugubris*, *Blyth*. The Dull Green Tree-Warbler.

Cold weather visitant. Recorded from Nagar by Mr. Fairbank.

559.—*Phylloscopus nitidus*, *Blyth*. The Bright Green Tree-Warbler.

Cold weather visitant. Recorded from Ratnagiri as common by Mr. Vidal, and from Nagar by Mr. Fairbank. I also obtained it in Belgaum.

560.—*Phylloscopus viridanus*, *Blyth*. The Greenish Tree-Warbler.

Cold weather visitant. I obtained it in Belgaum where it is common, and it is recorded from Khandala by Mr. Fairbank, and from Ratnagiri by Mr. Vidal, where it is also common.

561.—*Phylloscopus affinis*, *Tick*. Tickell's Tree-Warbler.

Cold weather visitant. Recorded from Karti near Khandala by Mr. Fairbank.

562.—*Phylloscopus indicus*, *Jerd*. The Olivaceous Tree-Warbler.

Cold weather visitant. Recorded from Nagar and Khandala by Mr. Fairbank, and from Karkulla, between the Bhore Ghat and Poona, by Messrs. Wenden and Davidson. Jerdon also procured it near Jalna in the Deccan.

563.—Reguloides occipitalis, Jerd. The Large Crowned Tree-Warbler.

Cold weather visitant. Recorded from Nagar by Mr. Fairbank, and from Ratnagiri by Mr. Vidal.

565.—Reguloides superciliosus, Gm. The Crowned Tree-Warbler.

Cold weather visitant. Recorded by Mr. Fairbank as common along the Sahyadri range.

565 bis.—Reguloides humii, Brooks. Hume's Crowned Tree-Warbler.

A specimen I shot in Belgaum was pronounced by Mr. Hume to belong to this species, which seems to be very closely allied to the last, but differs principally in having the back, wings, and tail of a less bright green, and the yellow tips to the wing-coverts not so pure. It is only a cold weather visitant.

NOTE.—Probably the whole of the species of this family enumerated above will be found hereafter to occur more or less abundantly throughout the region in suitable localities, as hitherto few collectors seem to have taken the trouble to collect specimens.

581.—Sylvia jerdoni, Blyth. The Eastern Black-capped Warbler.

Cold weather visitant. Not uncommon, as a rule, in the plains portion of the region, but is not included in Mr. Vidal's list of Ratnagiri species. Probably it avoids the hills and forest tracts. I obtained it near Belgaum. It is somewhat partial to babool jungles.

582.—Sylvia affinis, Blyth. The Allied White-throat.

Cold weather visitant. Mr. Fairbank remarks, "common in the Deccan," but strange to say it is not included in Messrs. Wenden and Davidson's list of Deccan species, neither has it been recorded yet from Ratnagiri. I procured it at Belgaum towards the end of the cold weather, but it seems to be decidedly scarce in the southern portion of the region, and probably avoids the Ghats and forest tracts. Jerdon also mentions it from Jalna and other parts of the Deccan. It is doubtless this species that Mr. Fairbank intends to refer to when he records *S. curruca*, Lin., (which does not occur in India) as common in the Deccan.

589.—*Motacilla maderaspatensis*, Gm. The Large Pied Wagtail.

Permanent resident. Tolerably common, as a rule, throughout the region, frequenting river banks and swampy ground.

591.—*Motacilla personata*, Gould. The Masked Wagtail.

Cold weather visitant. Not uncommon in Belgaum, especially about the barracks and round the edges of the tanks; but I have no other record of its occurrence throughout the region, except Jerdon's remark, "very common in the Deccan."

591 bis.—*Motacilla dukhunensis*, Sykes. The Indian White-faced Wagtail.

Cold weather visitant. Common throughout the region.

592.—*Calobates melanope*, Pall. The Grey and Yellow Wagtail.

Cold weather visitant. Common throughout the region. I observed it in Belgaum as late as the 10th May, but it had not then assumed the summer plumage.

593.—*Budytes cinereocapillus*, Savi. The Slaty-headed Field Wagtail.

Cold weather visitant. Common in suitable localities throughout the region. Mr. Vidal records it from Ratnagiri, and Messrs. Davidson and Wenden record it as a common winter visitant in the Deccan, and I can testify to its being plentiful about Belgaum. To what species Mr. Fairbank refers under the head of *B. viridis* in his two lists I am not sure, but probably to this one.

593 bis.—*Budytes melanocephalus*, Licht. The Blackcap Field Wagtail.

Cold weather visitant. Common as a rule, I believe, in suitable localities throughout the region, though strange to say it does not appear to be included in any of the local lists before me, unless it is also included under the head of *B. viridis* in Mr. Fairbank's paper. It is certainly common about Poona, Satara, and Belgaum, assuming the black cap about March. It is always to be found plentifully about night-soil pits.

593 ter.—*Budytes flavus*, Lin. The Grey-headed Field Wagtail.

Cold weather visitant. Rare. I obtained a single specimen in Belgaum, feeding round the edge of one of the night-soil pits, but have no other record of its occurrence throughout the region. I cannot now be certain whether this was the true *FLAVUS* or the Indian form now often separated as *dubius*, but which Mr. Hume informs me must, if so separated, stand as *B. beema*., Sykes, P. Z. S., 1832, p. 90.

? **594.—*Budytes calcaratus*, Hodgs.** The Black-backed Yellow Wagtail.

Cold weather visitant. Mr. Fairbank remarks that, "it occurs sparingly about Nagar and Khandala in beds of streams and other damp places," and Major Lloyd includes it in his list of Konkan species, but Mr. Vidal has not met with it in Ratnagiri. I have no other record of its occurrence throughout the region. Can Mr. Fairbank have mistaken it for the next species, which is not included in either of his lists, and which is common?

594 bis.—*Budytes citreolus*, Pall. The Grey-backed Yellow Wagtail.

Cold weather visitant. Common, as a rule, in suitable localities throughout the region, affecting rice fields and swampy ground. Mr. Vidal does not mention it from Ratnagiri, but I fancy it must occur there. It is abundant about Belgaum, and Messrs. Wenden and Davidson record it as common throughout the Deccan districts.

595.—*Limonidromus indicus*, Gm. The Forest Wagtail.

Rare. Probably only a cold weather visitant. Mr. Fairbank records it from Mahableshwar and the Goa frontier, Mr. Vidal from Rajapur and Vengurla in the south of Ratnagiri, Mr. Laird procured specimens at Nagargali, a few miles south-west of Belgaum, and I obtained a single specimen in Belgaum. It belongs strictly to the forest tracts.

? **596.—*Anthus maculatus*, Hodgs.** The Indian Tree-Pipit.

Cold weather visitant. Messrs. Davidson and Wenden, and Mr. Fairbank, record this species as common, and possibly such may be the case, as Jerdon says, "it occurs all over India," but is it not possible that they have mistaken *A. trivialis* for

it which is common throughout the region, and yet omitted in both of their lists? Mr. Vidal has not observed it in Ratnagiri, and I have never seen it about Belgaum.

597.—*Anthus trivialis*, Lin. The European Tree-Pipit.

Cold weather visitant. Common throughout the region.

600.—*Corydalla rufula*, Vieill. The Indian Tit-Lark.

Permanent resident. Common throughout the region. Breeds plentifully about Belgaum.

? 601.—*Corydalla striolata*, Blyth. The Large Tit-Lark.

Recorded by Mr. Fairbank as "not uncommon in the Deccan." I have no other record of its occurrence. It is not included by Messrs. Wenden and Davidson in their list of Deccan species, nor by Mr. Vidal in his Ratnagiri paper, neither have I observed or heard of it about Belgaum. Mr. Hume has never seen a specimen from the Deccan, and thinks it possible that Mr. Fairbank may not have correctly identified the species.

602.—*Agrodroma campestris*, Lin. The Stone-Pipit.

Cold weather visitant. Recorded by Mr. Fairbank as "common in the Deccan." It is not included in Mr. Vidal's Ratnagiri list, nor in Messrs. Wenden and Davidson's paper, neither have I noticed it about Belgaum. Jerdon remarks, "most abundant in the Deccan."

603.—*Agrodroma similis*, Jerd. The Rufous Rock-Pipit.

Rare. Mr. Fairbank obtained a single specimen on the Imampur Ghat, near Nagar, and remarks, "that he has observed others in the same neighbourhood on the hill sides." I have no other record of its occurrence throughout the region.

604.—*Agrodroma sordida*, Rüpp. The Brown Rock-Pipit.

Jerdon obtained this species at Jalna in the Deccan, on rocky ground, at the edge of stony ravines.

631.—*Zosterops palpebrosa*, Tem. The White-eyed Tit.

Permanent resident. Not uncommon, as a rule, throughout the region. Mr. Vidal remarks, that "it appears to be rare in Ratnagiri."

645.—*Parus nipalensis*, Hodgs. The Indian Grey Tit.

Permanent resident. Locally not uncommon. Major Lloyd mentions it as a Konkan species, but Mr. Vidal has not met with it in Ratnagiri. It is common in Belgaum, and according to Mr. Fairbank in the Deccan, but strange to say it is not included in Messrs. Wenden and Davidson's list of Deccan species. I myself procured specimens in Poona. Sykes also includes it.

648.—*Machlolophus aplonotus*, Blyth. The Southern Yellow Tit.

Permanent resident. Common along the Sahyadri range, and in all the adjoining well-wooded country, including Ratnagiri and Belgaum. In the more open country it is rare or unknown.

660.—*Corvus macrorhynchus*, Wagl. The Indian Bow-billed Corby or Carrion Crow.

Permanent resident. Common throughout the region.

663.—*Corvus splendens*, Vieill. The Common Indian Grey-necked Crow.

Permanent resident. Common everywhere throughout the region, except on the Ghats, where it does not occur at any great elevation. In Ratnagiri it appears to breed twice in the year according to Mr. Vidal, and from noticing very early broods about Belgaum, I am inclined to think it does the same in that district also.

674.—*Dendrocitta rufa*, Scop. The Common Indian Magpie.

Permanent resident. Common all along the Sahyadri range and in most of the well-wooded districts throughout the region.

684.—*Acridotheres tristis*, Lín. The Common Myna.

Permanent resident. Generally distributed throughout the region, but more common in the Deccan than in the southern

districts. In Ratnagiri it is comparatively scarce, being, to a great extent, replaced by the next species.

686 bis.—*Acridotheres mahrattensis*, Sykes. The Southern Dusky Myna.

Permanent resident. Locally common along the Sahyadri range, and in the adjoining forests, including Ratnagiri. I also noticed it constantly about Belgaum in the cold weather. The Southern Indian form, having pale blue irides, should be separated perhaps as above, but for my part I confess I should rather prefer to treat it as only a local race.

687.—*Sturnia pagodarum*, Gm. The Black-headed Myna.

Permanent resident. Common, as a rule, throughout the region.

688.—*Sturnia malabarica*, Gm. The Grey-headed Myna.

Probably only a cold weather visitant. Common in the neighbourhood of Belgaum in the cold weather, and occurs also but sparingly in Ratnagiri, but as it is not included in either of Mr. Fairbank's lists nor in Messrs. Wenden and Davidson's paper, it is probably confined to the well-wooded tracts in the south-western portion of the region.

689.—*Sturnia blythi*, Jerd. The White-breasted Tree-Myna.

Common all about Belgaum in the rains, remaining till October, after which it retires, *I believe*, to the hills west to breed. Mr. Vidal has not observed it in Ratnagiri, neither has it been recorded from any other portion of the region, so that it appears to be a very local species; but Jerdon remarks, "only found in the Malabar forests, occurring from the extreme south of the Malabar Coast to about N. Lat. 15° or 16.°" It seems to me to be a well-marked species. Mr. Hume has lately received eggs from Mysore.

690.—*Pastor roseus*, Lin. The Rose-colored Pastor or Jowari Bird.

Cold weather visitant. Common throughout the region wherever there is cultivation.

692.—*Eulabes religiosa*, Lin. The Southern Hill Myna.

Rare. Major Lloyd mentions it as found in the Sahyadri forests in the Southern Konkan. As yet Mr. Vidal has

not met with it in Ratnagiri, but Mr. Laird has procured it in the forests south-west of Belgaum. It only occurs along the Ghats, and in Kanara it is not uncommon. Jerdon remarks, "found in the forests of Malabar from Travancore to N. Lat. 16° or 17°."

694.—*Ploceus philippinus*, *Lin.* The Common Weaver-Bird.

Permanent resident. Common throughout the region.

695.—*Ploceus manyar*, *Horsf.* The Striated Weaver-Bird.

Common about Belgaum in the rains, breeding in the sugarcane fields and bulrushes round the edges of tanks. Jerdon remarks, "extends to the Deccan, but not common."

697.—*Amadina malacca*, *Lin.* The Black-headed Munia.

Seasonal visitant. Very common all about Belgaum in the rains, breeding abundantly in the sugarcane fields. It occurs also sparingly in Ratnagiri, but I have no other record of its occurrence throughout the region. The young birds of the year have the upper parts plain rufescent brown, and the lower parts pale buff, the chin and throat being albescent, and the lores dusky.

698.—*Amadina rubronigra*, *Hodgs.* The Chestnut-bellied Munia.

Probably only occurs as a rare straggler. Two specimens were obtained by Dr. Armstrong in the Ratnagiri District. I have no other record of its occurrence throughout the region.

699.—*Amadina punctulata*, *Lin.* The Spotted Munia.

Permanent resident in some districts. Locally not uncommon, but in many districts rare or unknown. I observed it occasionally about Belgaum, and Mr. Fairbank met with it rarely at Nagar. In parts of Ratnagiri, according to Mr. Vidal, it is common, and Messrs. Davidson and Wenden include it in their Deccan list as a common species.

700.—*Amadina pectoralis*, *Jerd.* The Rufous-bellied Munia.

Rare. Procured by Mr. Laird in the jungles west of Belgaum. I have no other record of its occurrence throughout the region.

701.—*Amadina striata*, *Lin.* The White-backed Munia.

Permanent resident. Common in the Konkan and all along the Sahyadri range and in the adjoining forests from Goa to Khandala. It is confined to the Ghat region.

703.—*Amadina malabarica*, *Lin.* The Plain Brown Munia.

Permanent resident. Common, as a rule, throughout the region, (excepting perhaps in the forest tracts) especially in the Deccan.

704.—*Estrela amandava*, *Lin.* The Red Wax-bill.

Not common as a rule, but occurs locally. I procured it at Belgaum, where it breeds in September and October, and Mr. Laird in the same district, and Mr. Fairbank obtained it near Mahableshwar. It has not been observed as yet in Ratnagiri, and it is not included in Messrs. Davidson and Wenden's list of Deccan species. Jerdon, however, found it, though rarely, in the Deccan.

705.—*Estrela formosa*, *Lath.* The Green Wax-bill.

Not common. Mr. Fairbank procured it near Mahableshwar, and Major Lloyd includes it in his list of Konkan species; but Mr. Vidal has not observed it in Ratnagiri. I have no other record of its occurrence throughout the region.

706.—*Passer domesticus*, *Lin.* The House Sparrow.

Permanent resident. Common everywhere throughout the region.

711.—*Gymnoris flavicollis*, *Frankl.* The Yellow-throated Sparrow.

Probably a permanent resident. Not uncommon in many districts, and occurs throughout the region. It appears to be most plentiful in the hot weather, at which season it breeds. In Belgaum it is common.

716.—*Emberiza buchanani*, *Blyth.* The Grey-necked Bunting.

Cold weather visitant. Mr. Fairbank remarks, "everywhere and abundant on some Ghats," but it does not appear in Mr. Vidal's Ratnagiri list, nor in Messrs. Wenden and Davidson's list, so that I conclude it is only locally distributed. I myself have observed it about Poona, where it is not uncommon, and

on one or two occasions about Belgaum, where it occurs only I believe as a straggler in the migratory seasons.

721.—*Euspiza melanocephala*, Scop. The Black-headed Corn Bunting.

Cold weather visitant. Common in the plains portion of the region in all of the cultivated districts.

722.—*Euspiza luteola*, Sparrm. The Red-headed Corn Bunting.

Cold weather visitant. Mr. Fairbank procured it sparingly in the Nagar districts, and I found it common about Belgaum in company with the last species, so that it occurs probably wherever there is cultivation throughout the plains portion of the region, though it has not been observed as yet in Ratnagiri, nor is it recorded in Messrs. Davidson and Wenden's list of Deccan species. Mr. Elliot found it abundant about Dharwar.

724.—*Melophus melanicterus*, Gm. The Crested Black Bunting.

Probably a permanent resident. Mr. Fairbank remarks, "sparsely scattered on the sides of the Sahyadris and along the spurs that extend into the Deccan." I observed it also along the base of the hills, west of Poona, but have no record of its occurrence in any other portion of the region, though Colonel Sykes obtained it also in the Deccan on rocky and bushy mountains.

738.—*Carpodacus erythrinus*, Pall. The Common Rose-Finch.

Cold weather visitant. Common along the Sahyadri range as far north as Khandala, but outside of the forest tract less numerous. Mr. Vidal has obtained it in Ratnagiri, and I got it in Belgaum, one or two early arrivals being in breeding plumage. It is not included in Messrs. Wenden and Davidson's list of Deccan species.

? 742.—*Propasser rhodochrous*, Vig. The Pink-browed Rose Finch.

Cold weather visitant. Extremely rare, if it occurs at all which is almost incredible. Major Lloyd, indeed, records it in his general Konkan list from Matheran, but there is no other record, I believe, of its occurrence throughout the region.

756.—*Mirafr erythroptera*, Jerd. The Red-winged Bush-Lark.

Permanent resident. Common in the Deccan and all along the railway line as far south, at all events, as Raichore, but in the south-western portion of the region, including Ratnagiri, the Ghat, and forest districts and Belgaum is it virtually unknown. Jerdon remarks that "it is very common about Jalna in the Deccan."

758.—*Ammomanes phoenicura*, Frankl. The Rufous-tailed Finch-Lark.

Permanent resident. Common in the plains portion of the region, and found sparingly in Ratnagiri; but in the forest tracts it is unknown. It is common about Belgaum.

760.—*Pyrrhulauda grisea*, Scop. The Black-bellied Finch-Lark.

Permanent resident. Common everywhere throughout the region, except in the forest tracts.

761.—*Calendrella brachydactyla*, Leisl. The Short-toed or Social Lark.

Cold weather visitant. Common in the plains in most localities throughout the region wherever there is cultivation, but does not extend to Ratnagiri so far as we know at present, or the hills. I found it plentiful about Belgaum, and Mr. Fairbank records it as plentiful in the Nagar districts, but it is not included in Messrs. Wenden and Davidson's list of Deccan species.

765.—*Spizalauda deva*, Sykes. The Small Crown-crest Lark.

Permanent resident. Common, as a rule, throughout the plains portion of the region, but does not occur in Ratnagiri so far as we know at present, nor *I believe* on the Ghats, nor, as a rule, in the forest tracts.

765 bis—*Spizalauda malabarica*, Scop. The Large Crown-crest Lark.

Permanent resident in some localities. Common all along the Sahyadri range from Goa to Khandala, extending to Ratnagiri and Belgaum. I don't think it breeds about Belgaum.

767.—*Alauda gulgula*, *Frankl.* The Indian Sky-Lark.

Permanent resident. Common, as a rule, in the plains portion of the region and in the southern parts of Ratnagiri. I noticed it as particularly plentiful on all the grass lands about Belgaum. It also occurs on the hills on open grass land, but avoids the forest tracts.

769.—*Galerita cristata*, *Lin.* The Crested Lark.

This species is entered in Messrs. Wenden and Davidson's paper as "observed to be common on the top of the Satara Ghats," but I have no other record of its occurrence throughout the region, except Jerdon's statement, and possibly *Spizalauda malabarica*, which is not included in their list, was mistaken for it. I wrote to Mr. Davidson on the subject, and he replied that he could not be sure of the species, but he may be right, as Jerdon mentions, it also as common in the Deccan, though he does not say in what districts.

773.—*Crocopus chlorigaster*, *Blyth.* The Southern Green Pigeon.

Permanent resident. Not uncommon along the Sahyadri range and in the neighbouring forests, extending to Ratnagiri, and occurs also in the plains, as a rule, throughout the region wherever there are tall banian trees, upon the fruit of which it feeds.

775.—*Osmotreron malabarica*, *Jerd.* The Grey-fronted Green Pigeon.

Occurs sparingly all along the Sahyadri range as far north as Khandala, extending also to the well-wooded tracts of Ratnagiri. Mr. Laird got it in the forests west of Belgaum.

786.—*Palumbus elphinstonii*, *Sykes.* The Nilgiri Wood-Pigeon.

Not common. Mr. Vidal records it from the Chiplun subdivision in Ratnagiri, and Mr. Fairbank from Mahableshwar, where it is well known. It occurs, therefore, probably all along the Sahyadri range and in the adjoining forests. Jerdon remarks, "found on the higher elevations of the Western Ghats."

788.—*Columba intermedia*, *Strickl.* The Common Indian Blue-Rock Pigeon.

Permanent resident. Common throughout the region wherever there is cultivation, avoiding dense forests.

792.—*Turtur pulchratus*, *Hodgs.* The Indian Turtle Dove.

Recorded by Mr. Fairbank as "common all along the Sahyadris, especially on the western slopes, but rare in the Nagar district." I observed it also in Belgaum and the neighbouring villages, where it is common at the end of the cold weather. Mr. Vidal does not mention it from Ratnagiri, nor is it included in Messrs. Wenden and Davidson's list of Deccan species. Dr. Scully in his paper on the Ornithology of Nepal tries to prove that this and *T. meena* belong to the same species, and proposes lumping them under the name of *orientalis*, however Mr. Hume disagrees with him *in toto*, in which I think he is right.

793.—*Turtur meena*, *Sykes.* The Rufous Turtle Dove.

Probably only a cold weather visitant. Common all along the crest of the Sahyadri range, according to Mr. Vidal, and at Mahableshwar. In Ratnagiri it has only been met with hitherto at Gotna in Sangameshwar. Mr. Davidson also mentions it as common in Satara and on the surrounding hills, and Mr. Elliot records it from Dharwar. It is distinguishable at once from the last species by the under tail-coverts which are slatey grey, whereas in *pulchratus* they are pure white or nearly so.

794.—*Turtur senegalensis*, *Lin.* The Little Brown Dove.

Permanent resident. Common, as a rule, throughout the plains portion of the region; but only occurs as a straggler in Ratnagiri, and it is not very common about Belgaum. Mr. Crawford got it at Savantvadi, but it does not belong to the Ghat region.

795.—*Turtur suratensis*, *Gm.* The Spotted Dove.

Permanent resident on the hills. Common all along the Sahyadri range and in the adjoining forests, also in Ratnagiri. Mr. Davidson remarks, "common in Sholapur during the rains." It belongs to the hills and well-wooded portions of the region. I have not observed it in Belgaum, but in the surrounding jungles it is plentiful.

796.—*Turtur risorius*, *Lin.* The Common Ring-Dove.

Permanent resident in the plains. Common, as a rule, throughout the region, but scarce in some localities in the south-

western portion of the region. I never saw it in the station of Belgaum, but in some parts of the adjoining country it is common. It appears to visit Ratnagiri only in the cold weather, and somewhat irregularly, being abundant some seasons, and absent altogether in others, avoiding the Ghats, as a rule.

797.—*Turtur tranquebaricus*, *Herm.* The Ruddy Ring-Dove.

Permanent resident in some localities. Locally not uncommon throughout the region, but in some districts it is rare or absent. In Ratnagiri Mr. Vidal has only met with it on one occasion, and it is not common about Belgaum.

798.—*Chalcophaps indica*, *Lin.* The Emerald Ground Dove.

Probably a permanent resident. Occurs doubtless sparingly in suitable localities all along the Sahyadri range. I procured it at Khandala, and Mr. Vidal along the Shastri river in Ratnagiri. It usually frequents dense forests.

800.—*Pterocles fasciatus*, *Scop.* The Painted Sand-Grouse.

Permanent resident. Not uncommon in suitable localities, throughout the plains portion of the region as far south, at all events, as Belgaum, and as far north as Nagar. In Ratnagiri it is unknown. It is most abundant in scrub jungle at the base of low rocky hills.

802.—*Pterocles exustus*, *Tem.* The Common Sand-Grouse.

Permanent resident. Common throughout the region, excepting in Ratnagiri and the forest tracts, where it does not occur. It affects dry open country.

803.—*Pavo cristatus*, *Lin.* The Common Peacock.

Permanent resident. Very common in the jungles about Belgaum, and occurs all along the Sahyadri range and in the adjoining forests, including Ratnagiri, but it has been so persecuted by sportsmen and *Phansi Pardis* that it is not very common now in most localities. It is essentially a jungle bird in this part of the country.

813.—*Gallus sonnerati*, *Tem.* The Grey Jungle-Fowl.

Permanent resident. Tolerably common all along the Sahyadri range from Goa to Khandala and in the adjoining forests,

including the hilly parts of Ratnagiri and Belgaum. Mr. Davidson also records it from the granite hills about Nulwar, In some of the jungles, about Belgaum and along the Ghats. it is particularly plentiful.

814.—*Galloperdix spadiceus*, Gm. The Red Spur-Fowl.

Permanent resident. Tolerably common all along the Sahyadri range as far north as Khandala, and in most of the adjoining forests, extending to the jungles about Belgaum and the hilly jungles of Ratnagiri.

815.—*Galloperdix lunulatus*, Valenc. The Painted Spur-Fowl.

Rare. I have only once heard of the occurrence of this species within the region, and that was shot at Gokak about 40 miles north-east of Belgaum. I examined the skin myself, so that there is no doubt about the species, and the man who shot it told me he saw a few others in the same locality.

819.—*Francolinus pictus*, Jard. & Selb. The Painted Partridge.

Permanent resident. Not uncommon in suitable localities, throughout the plains portion of the region. About Belgaum it is particularly partial to sugarcane fields. It avoids the forest tracts, and is unknown in Ratnagiri, though included in Major Lloyd's list of Konkan species. Mr. Vidal has met with them at Karli in the valley of the Indrayani, not five miles from the watershed of the Ghats, at Kadkalla, ten miles east of Karli, and again north of Karli even nearer the crest of the Ghats, but generally they avoid the hills.

822.—*Ortygornis pondicerianus*, Gm. The Common Grey Partridge.

Permanent resident. Common throughout the plains portion of the region as a rule, but does not extend to Ratnagiri, and is scarce about Belgaum. It avoids the Ghats and forest tracts.

826.—*Perdica asiatica*, Lath. The Jungle Bush-Quail.

Permanent resident. Common all along the Sahyadri range and in the adjoining forests. It occurs also in Ratnagiri and in the jungles about Belgaum, Nulwar and Satara. It is essentially a jungle bird.

827.—*Perdicula argoondah*, Sykes. The Rock Bush-Quail.

Permanent resident. Common throughout the plains portion of the region from Nagar to Belgaum, avoiding the Ghat range and adjoining forests. It does not occur in Ratnagiri, according to Mr. Vidal, but is included in the Konkan list by Major Lloyd.

828.—*Microperdix erythrorhynchus*, Sykes. The Painted Bush-Quail.

Permanent resident. Locally not uncommon. Occurs all along the Sahyadri range as far north as Khandala, extending often into the well-wooded districts adjoining. According to Mr. Vidal it does not occur in Ratnagiri, but it is included in Major Lloyd's list of Konkan species. In some localities about Belgaum, a few miles south-east, for instance, it is common; but in most localities, as a rule, it is not common. Mr. Fairbank met with it at Khandala and Mahableshwar and Mr. Davidson at Sholapur, Satara hills and near Poona, where I myself also procured a specimen on the hills. Jerdon says that it occurs all along the Ghats, from the Wynaad to near Poona.

829.—*Coturnix communis*, Bonn. The Large Grey Quail.

Cold weather visitant. Common, as a rule, throughout the region, but less numerous on the Ghats and in the adjoining forests and in Ratnagiri, where it only occurs as a straggler. It is much less common in the south-west portion of the region about Belgaum, &c., than in the plains further north. In fact it avoids well-wooded districts.

830.—*Coturnix coromandelica*, Gm. The Black-breasted or Rain-Quail.

Permanent resident in many districts. Common, as a rule, throughout the region, but less numerous, like the last, along the Ghat range and in the adjoining forests. It is scarce in Ratnagiri, but common in the plains from Nagar to Belgaum, being most abundant in the rains and cold weather. It breeds abundantly about Belgaum in August, September and October.

831.—*Excalfactoria chinensis*, Lin. The Blue-breasted Quail.

Jerdon mentions a single specimen from Belgaum, but I have no other record of its occurrence within the region.

Mr. Hume it is true on Mr. Laird's authority also records in the GAME BIRDS its occurrence near Belgaum, but this was a mistake of Mr. Laird's, and has been corrected in the Appendix.

832.—Turnix taigoor, Sykes. The Black-breasted Bustard-Quail.

Probably only a seasonal visitant in most localities, being most numerous in the rains. Not uncommon throughout the region, though less common on the Ghats and in the forest tracts. It is rare in Ratnagiri.

834.—Turnix joudera, Hodgs. The Large Button-Quail.

Probably only a seasonal visitant. Rare. I procured it myself at Poona, as did Mr. Wenden, who obtained it also at Sholapur, but have no other record of its occurrence throughout the region, though Jerdon mentions it as "rare in the Deccan."

835.—Turnix dussumieri, Tem. The Small Button-Quail.

Most numerous in the rains and cold weather. Not uncommon throughout the region, excepting in Ratnagiri, where it is scarce. It prefers open country, avoiding the Ghat and forest tracts.

836.—Eupodotis edwardsi, J. E. Gr. The Indian Bustard.

Probably a permanent resident. Locally not uncommon in the plains portion of the region, but confined to certain districts. It is common about Miraj and Sholapur. Occurs also in the Nagar, Poona, and Belgaum districts, but does not occur in Ratnagiri, nor in the forest tracts.

839.—Sypheotides aurita, Lath. The Lesser Florican or Likh.

Permanent resident in some localities, at all events, if not in all. Locally not uncommon throughout the plains portion of the region. It is common about Sholapur, Dharwar, some parts of the Belgaum district and in other places, but is rare in Ratnagiri, and of course avoids the forest tracts. A few remain about Belgaum all the year round.

840.—*Cursorius coromandelicus*, Gm. The Indian Courier-Plover.

Permanent resident. Common throughout the plains portion of the region, but is rare in Ratnagiri, and avoids the forest tracts.

842.—*Glareola orientalis*, Leach. The Larger Swallow-Plover, or Eastern Pratincole.

Rare. Probably only a cold weather visitant. Mr. Davidson observed it along the Bhima river, 40 or 50 miles south of Sholapur. I have no other record of its occurrence throughout the region.

842 bis.—*Glareola pratincola*, Lin. The Collared Pratincole.

Seasonal visitant. Rare. Obtained by Mr. Vidal on one occasion in Ratnagiri. I have no other record of its occurrence throughout the region; in fact this is the only record of its occurrence within Indian limits out of Sindh.

843.—*Glareola lactea*, Tem. The Smaller Swallow-Plover, or Eastern Pratincole.

Rare. Probably only a cold weather visitant. Observed by Mr. Davidson along the Bhima river south of Sholapur, where it was common in the cold weather. I have no other record of its occurrence throughout the region.

844.—*Squatarola helvetica*, Lin. The Grey Plover.

Cold weather visitant. Occurs sparingly along the coast of Ratnagiri according to Mr. Vidal; and Mr. Fairbank says, "that it occurs in the Deccan in flocks in the cold weather;" but as it is a coast bird, and not included in Messrs. Wenden and Davidson's list of Deccan species, and as I have never met with it myself, nor heard of it inland in this part of the country, I am inclined to think he may have been mistaken.

845.—*Charadrius fulvus*, Gm. The Eastern Golden Plover.

Cold weather visitant. Rare in the Deccan, but not uncommon in Ratnagiri and in some parts of the Belgaum districts, where I have met with it in large flocks. At Hubli, about 18 miles south-east of Belgaum, I saw several hundreds feeding in flocks upon a grassy plain.

845 *quat.*—*Ægialitis asiatica*, *Pall.* The Caspian Sand-Plover.

Cold weather visitant. Very rare. Mr. Vidal obtained a single specimen at Ratnagiri, which is the first authentic instance of its occurrence within Indian limits.

846.—*Ægialitis geoffroyi*, *Wagl.* The Large Sand-Plover.

Cold weather visitant. Occurs sparingly along the coast. I have no record of its occurrence inland.

847.—*Ægialitis mongola*, *Pall.* The Lesser Sand-Plover.

Cold weather visitant. Common along the coast of the Konkan and Ratnagiri. I have no record of its occurrence inland.

848.—*Ægialitis cantiana*, *Lath.* The Kentish Ring-Plover.

Cold weather visitant. Not common, but occurs along the coast. I have no record of its occurrence inland, though Jerdon states that it does occur often far inland.

849.—*Ægialitis dubia*, *Scop.* The Common Ring-Plover.

Possibly a permanent resident in some districts. Common, as a rule, throughout the region. Mr. Davidson says he found it breeding in the Deccan, but it is doubtful whether this species breeds in the plains of India. Probably the bird he found breeding was *Æ. jerdoni* of Legge.

850 —*Ægialitis jerdoni*, *Legge.* The Lesser Ring-ed-Plover.

Jerdon remarks: "I procured this small Plover in the Deccan generally among hills."

852.—*Chettusia gregaria*, *Pall.* The Black-sided Lapwing.

Rare. Cold weather visitant. Mr. Vidal has once met with it in Ratnagiri, and I obtained a few specimens that were shot by a friend of mine in the Belgaum District. I have no other record of its occurrence throughout the region, though Jerdon met with it about Jalna in the Deccan.

- 855.—*Lobivanellus indicus*, *Bodd.* The Red-wattled Lapwing, or "Did-he-do-it."

Permanent resident. Common throughout the region.

- 856.—*Lobipluvia malabarica*, *Bodd.* The Yellow-wattled Lapwing.

Permanent resident. Common in suitable localities throughout the region, except in Ratnagiri, where it is scarce, and the Ghat region. It affects dry uplands and cultivated districts.

- 858.—*Æsacus recurvirostris*, *Cuv.* The Large Stone-Plover.

Burgess records having procured specimens of this species on the Bhima river, and it must therefore probably be included in our list.

- 859.—*Œdicnemus scolopax*, *S. G. Gm.* The Stone-Plover, Norfolk Plover, or Bastard Florican.

Permanent resident. Not uncommon in suitable localities, throughout the region, except in Ratnagiri, where it is rare, and in the Ghat region.

- 860.—*Streptilas interpres*, *Lin.* The Turnstone.

Cold weather visitant. Rare. A coast bird, seldom occurring inland, though Jerdon mentions having procured a specimen in the Deccan, 200 miles inland. Mr. Vidal obtained a single specimen in Ratnagiri, and Mr. Hume procured it in the Bombay harbour.

- 862.—*Hæmatopus ostralegus*, *Lin.* The Oyster-Catcher.

Cold weather visitant. Not uncommon along the Coast, but does not occur inland. Mr. Vidal records it from Ratnagiri, and Mr. Hume observed it on Bombay Island and about the harbour.

- 865.—*Grus communis*, *Bechst.* The Common Crane.

Cold weather visitant. Not uncommon in the Deccan, but in Ratnagiri about Belgaum and in the forest region it is unknown, though it may occur possibly as a straggler.

- 866.—*Anthropoides virgo*, *Lin.* The Numidian or Demoiselle Crane.

Cold weather visitant. Common in the Deccan. The same remarks apply to this species as to the last.

867.—*Scolopax rusticula*, Lin. The Woodcock.

Cold weather visitant. Rare. Has been procured in the jungles about Belgaum by Mr. Laird, near Thana by Mr. Cairns, and in Kanara by Colonel Peyton, and will probably be found to occur as a straggler all along the Sahyadri range.

868.—*Gallinago nemoricola*, Hodgs. The Wood-Snipe.

Cold weather visitant. I have entered this species on the authority of Mr. Richardson, a well-known sportsman in Belgaum, who told me that he had shot a solitary Snipe some years ago on some swampy ground near Turus, about 15 miles south of Hubli and some 30 miles south of Dharwar, and another one, a few years later, on the borders of the Mysore country. I have also been told that it has been killed in Kanara by Colonel Peyton. Certainly from the description given to me of the bird killed at Turus I should say unhesitatingly that it was a solitary Snipe, and as the present species is recorded from the Nilgiris by Jerdon and Mr. Davison, probably it was *nemoricola*. Burgess also records a specimen from Nasik.

870.—*Gallinago sthenura*, Kühl. The Pin-tail Snipe.

Cold weather visitant. Very common in Ratnagiri, about Thana, in the Belgaum district and in all of the woodland tracts adjoining, and common, according to Messrs. Wenden and Davidson, in the Deccan; but it is not included in Mr. Fairbank's list of birds collected in the vicinity of Khandala, Nagar, &c., and at that time he possibly did not distinguish this species from the next.

871.—*Gallinago cœlestis*, Frenzel. The Common or Full Snipe.

Cold weather visitant. Common throughout the region, especially in Ratnagiri and about Belgaum, Dharwar, &c.

872.—*Gallinago gallinula*, Lin. The Jack Snipe.

Cold weather visitant. Less common than the two last species, but generally distributed throughout the region.

873.—*Rhynchæa capensis*, Lin. The Painted Snipe.

Permanent resident. Occurs throughout the region, but is somewhat local in its distribution. In many districts it is common, and in others scarce.

877.—*Numenius lineatus*, *Cuv.* The Curlew.

Cold weather visitant. Not uncommon in the tidal creeks along the Coast, but rare inland, though it has been recently observed near Belgaum.

878.—*Numenius phæopus*, *Lin.* The Whimbrel.

Cold weather visitant. Not uncommon in the tidal creeks along the Coast, but almost unknown, I believe, inland.

880.—*Machetes pugnax*, *Lin.* The Ruff.

Cold weather visitant. Rare. Mr. Vidal procured a single specimen in Ratnagiri, Mr. Davidson shot one out of a small flock at Pandharpur, west of Sholapur, and I myself procured it near Belgaum. Mr. Fairbank does not appear to have met with it.

882.—*Tringa subarquata*, *Güld.* The Curlew Stint.

Cold weather visitant. Occurs in large flocks in Ratnagiri; elsewhere it is rare. It is recorded from Sholapur by Mr. Wenden, who shot two or three specimens in June. What they were doing there at that season of the year I don't know, as they certainly don't breed in this part of the country, if they do anywhere in India which I should doubt. I have no other record of its occurrence throughout the region.

884.—*Tringa minuta*, *Leisl.* The Little Stint.

Cold weather visitant. Occurs throughout the region in the cold weather, and in many localities it is common.

885.—*Tringa temmincki*, *Leisl.* The White-tailed Stint.

Cold weather visitant. Obtained by Mr. Fairbank at Nagar, mentioned also by Sykes, and occurs *probably* throughout the region, but it is not included in Messrs. Wenden and Davidson's list of Deccan species, neither is it recorded by Mr. Vidal from Ratnagiri, and I do not remember ever noticing it myself within our limits.

888.—*Calidris arenaria*, *Lin.* The Sanderling.

Cold weather visitant. Rare. Occurs along the Coast only, and has been procured on one occasion in Ratnagiri by Mr. Vidal.

891.—*Rhyacophila glareola*, *Lin.* The Spotted Sandpiper.

Cold weather visitant. Common, according to Messrs. Wenden and Davidson, in the Deccan and recorded from Nagar

by Mr. Fairbank, but not common in Ratnagiri. It occurs probably throughout the region. I noticed it about Belgaum, Satara and Poona.

892.—*Totanus ochropus*, *Lin.* The Green Sandpiper.

Cold weather visitant. Common throughout the region, but not so plentiful in Ratnagiri as in other localities.

893.—*Tringoides hypoleucus*, *Lin.* The Common Sandpiper.

Cold weather visitant. Common throughout the region.

894.—*Totanus glottis*, *Lin.* The Green-Shank.

Cold weather visitant. Common throughout the region.

895.—*Totanus stagnatilis*, *Bechst.* The Lesser Green-Shank.

Cold weather visitant. This is not included in Mr. Vidal's list of Ratnagiri birds, but is recorded from Nagar by Mr. Fairbank, and is included as a common species in Messrs. Wenden and Davidson's Deccan list. It probably therefore occurs throughout the region. Jerdon mentions having seen it in large flocks on the banks of the Trichoor lake in south Malabar.

897.—*Totanus calidris*, *Lin.* The Red-Shank.

Cold weather visitant. Common in Ratnagiri amongst the tidal creeks according to Mr. Vidal, but rare in the Deccan according to Messrs. Davidson and Wenden, and it is not mentioned in either of Mr. Fairbank's list. I believe I saw it in the neighbourhood of Belgaum.

898.—*Himantopus candidus*, *Bonn.* The Stilt or Long-legs.

Cold weather visitant. Common, as a rule, in suitable localities throughout the region, except in Ratnagiri, where Mr. Vidal reports it to be rare.

900.—*Parra indica*, *Lath.* The Bronze-winged Jacana.

Probably a permanent resident. A very local species and not common. It occurs sparingly from north to south of the region, as I have heard of its occurrence in the Thana district and in the Belgaum district. Mr. Fairbank mentions it as rare in the

Deccan, and it is included in the Konkan list by Major Lloyd, though not yet observed in Ratnagiri by Mr. Vidal. Messrs. Wenden and Davidson, however, have omitted it in their Deccan list.

901.—*Hydrophasianus chirurgus*, Scop. The Pheasant-tailed Jacana.

Probably a permanent resident in some of the well-watered tracts. Mr. Vidal records it from Ratnagiri as not uncommon in the cold weather, and it occurs, as a rule, sparingly in suitable localities throughout the region. I only observed it occasionally about Belgaum.

902.—*Porphyrio poliocephalus*, Lath. The Purple Coot.

Rare, but probably a permanent resident in some localities. Occurs sparingly in the Deccan, frequenting tall reed beds, and has once been obtained from Malvan in Ratnagiri, by Mr. Vidal, but I have not met with it in the neighbourhood of Belgaum.

903.—*Fulica atra*, Lin. The Common or Bald Coot.

Cold weather visitant as a rule, but remains to breed in some districts. Common in many parts of the Deccan, but scarce now in Ratnagiri and other localities and about Belgaum, though I got a nest in the latter district.

905.—*Gallinula chloropus*, Lin. The Common Water-Hen.

Probably a permanent resident in some parts of the region; not uncommon in Ratnagiri and in some localities in the Deccan, but about Belgaum and other districts it seldom occurs at all.

907.—*Erythra phænicura*, Penn. The White-breasted Water-Hen.

Not uncommon as a rule in the rains, throughout the region, but whether it remains with us the whole year round I cannot say. In the Ratnagiri and Belgaum districts it is particularly common.

908.—*Porzana akool*, Sykes. The Brown and Ashy Crane.

Jerdon remarks, "has been found in the Deccan," whence indeed Sykes' type was obtained, and Mr. Hume assures me that some of the eggs I sent him from Belgaum belong to this species, but I myself have never come across the bird.

909.—*Porzana maruetta*, Leach. The Spotted Crake.

Cold weather visitant. Not uncommon in the Deccan; but has not yet been obtained in Ratnagiri. I have observed and shot it also occasionally about Belgaum.

910.—*Porzana bailloni*, Vieill. Baillon's Crake.

Cold weather visitant. Not uncommon, as a rule, throughout the region. Mr. Fairbank records it from Nagar, and Mr. Vidal mentions it as common in Ratnagiri. I found it plentiful too about Belgaum; but as it is not included in Messrs. Wenden and Davidson's list of Deccan species, it is probably somewhat local in its distribution.

? 911.—*Porzana fusca*, Lin. The Ruddy Crake.

Probably only a seasonal visitant. Rare, if it occurs at all, which is doubtful. Mr. Vidal thinks he saw it on one occasion in a mangrove swamp in the Dapoli sub-division of Ratnagiri, but unfortunately was unable to secure specimens. I have no other record of its occurrence throughout the region.

913.—*Hypotaenidia striata*, Lin. The Blue-breasted Banded Rail.

Seasonal visitant. I observed it on several occasions in the rice and sugarcane fields about Belgaum in the rains, procuring several specimens and eggs, and Mr. Vidal records it from Ratnagiri, but I have no record of its occurrence from any other portion of the region. It breeds in August and September.

915.—*Leptoptilus argalus*, Lath. The Adjutant.

Seasonal visitant. Rare. Occurs sparingly in the Deccan, but I have no record of its occurrence from any other portion of the region. Jerdon remarks, "not rare about Hyderabad in the Deccan."

? 916.—*Leptoptilus javanicus*, Horsf. The Hair-crested Stork.

Seasonal visitant. Rare. Mr. Wenden is sure that he has seen this species occasionally about Nulwar in the rainy season, but as he did not obtain specimens, and as I have no other record of its occurrence within our limits, I have included it as a doubtful species.

917.—*Xenorhynchus asiaticus*, Lath. The Black-necked Stork.

Rare. Observed at Habli, and Mr. Davidson is almost certain that he also has observed this species in the Deccan.

918.—*Ciconia nigra*, *Lin.* The Black Stork.

Cold weather visitant. Rare. Occurs sparingly in the Deccan. Mr. Davidson observed it in the Sholapur Collectorate, and Mr. Vidal on the Nira in Satara. It is also mentioned in Mr. Fairbank's list as occurring rarely in the Deccan. I have no other record of its occurrence within our limits. Jerdon also procured it in the Deccan.

919.—*Ciconia alba*, *Bechst.* The White Stork.

Cold weather visitant. Not uncommon in the Deccan, and Major Lloyd records it as having been seen on one occasion in the Mahad sub-division of Kolaba, but it has not been observed yet in Ratnagiri, neither have I observed it about Belgaum, though it may occur as a straggler in those districts.

920.—*Dissura episcopa*, *Bodd.* The White-necked Stork.

Permanent resident. Generally distributed throughout the region. Tolerably common in the Deccan and in Ratnagiri, and occurs also about Belgaum.

923.—*Ardea cinerea*, *Lin.* The Common Heron.

Common as a rule. Occurs throughout the region in the cold weather, but I am not sure whether it remains in any of the districts to breed.

924.—*Ardea purpurea*, *Lin.* The Purple Heron.

Not uncommon in Ratnagiri, and in the Deccan in the cold weather, but I have not observed it about Belgaum. The same remarks about breeding apply to this as to the last species.

925.—*Herodias torra*, *B. Hamilton.* The Large Egret or Large White Heron.

Common throughout the region as a rule, in the cold weather, but I know of no breeding grounds within our limits.

926.—*Herodias intermedia*, *Hass.* The Little White Heron.

Common throughout the region in the cold weather, except in Ratnagiri, whence it has not been recorded by Mr. Vidal; probably, however, it will be found to occur there hereafter. It also disappears in the breeding season.

927.—*Herodias garzetta*, *Lin.* The Little Egret.

Common as a rule throughout the region, disappearing like the others in the breeding season.

928.—*Demi-egretta gularis*, Bosc. The White-throated Reef Heron.

Occurs sparingly amongst the creeks along the Coast, and according to Mr. Fairbank it is plentiful in the Deccan, though Messrs. Wenden and Davidson have not included it in their Deccan list. Mr. Laird also found it not uncommon along the banks of rivers inland in the neighbourhood of Belgaum, and Jerdon and Colonel Sykes also found it far inland on the banks of rivers in the Deccan. It is, however, I believe, more of a coast than inland species.

929.—*Bubulcus coromandus*, Bodd. The Cattle Egret.

Common as a rule. Occurs throughout the region in the cold weather, and breeds in some districts in the Sholapur collectorate in the hot weather.

930.—*Ardeola grayi*, Sykes. The Indian Pond Heron.

Permanent resident in most districts. Common throughout the region.

931.—*Butorides javanica*, Horsf. The Little Green Bittern.

Permanent resident. Common in Ratnagiri, especially in the mangrove swamps, where it breeds, and not uncommon throughout the region in suitable localities, frequenting well wooded rivers, canals, &c. Always more or less crepuscular in its habits.

933.—*Ardetta cinnamomea*, Gm. The Chestnut Bittern.

Seasonal visitant probably. Common all about Belgaum in the rains and breeds. In Ratnagiri it is scarce. Mr. Fairbank procured it at Mahableshwar, where it is also rare. Sykes remarks that it is rare in the Deccan. I have no other record of its occurrence throughout the region.

934.—*Ardetta sinensis*, Gm. The Yellow Bittern.

Rare. Mr. Davidson procured a single specimen in some reeds at Pandharpur west of Sholapur in October. I have no other record of its occurrence throughout the region. It affects tall reed-beds.

936.—*Botaurus stellaris*, Lin. The Bittern.

Cold weather visitant. Rare. Sykes says it is rare in the Deccan. Mr. Inverarity mentions having shot two and seen a

third in the vicinity of Bombay (S. F., VII., 526). I have no other record of its occurrence throughout the region.

936 bis.—*Goisakius melanolophus*, *Raffl.* The Malayan Tiger Bittern.

Very rare. Mr. Laird procured a single specimen in a *nalah* in thick jungles in the forests west of Belgaum. I have no other record of its occurrence throughout the region.

937.—*Nycticorax griseus*, *Lin.* The Night Heron.

Probably a permanent resident in some districts. Locally not uncommon throughout the region, in suitable localities. Mr. Hume recorded it as very numerous on the island of Elephanta.

938.—*Tantalus leucocephalus*, *Forst.* The Pelican Ibis.

Permanent resident probably about Nagar, where it breeds in large numbers in some of the villages. It occurs also sparingly throughout the Deccan, but does not extend to Ratnagiri, though it has been recently observed about Belgaum.

939.—*Platalea leucorodia*, *Lin.* The Spoonbill.

Not uncommon in some localities in the Deccan, and breeds in some of the districts. It is rare in Ratnagiri, and I have not observed it about Belgaum, though possibly it may occur as a straggler.

940.—*Anastomus oscitans*, *Bodd.* The Shell Ibis.

Occurs sparingly in the Deccan in the rains and cold weather, but I have no record of its occurrence in other parts of the region.

941.—*Ibis melanocephala*, *Lath.* The White Ibis.

Probably a permanent resident in some districts. Occurs sparingly throughout the region in suitable localities, but is more common in Ratnagiri and the Deccan than in the southern districts.

942.—*Inocotis papillosus*, *Tem.* The Warty-headed or Black Ibis or King Curlew.

Permanent resident. Common, as a rule, in the Deccan, but does not occur in Ratnagiri, though included by Major Lloyd in the general Konkan list, and I have not noticed it about Belgaum.

943.—*Falcinellus igneus*, S. G. Gm. The Glossy Ibis.

Cold weather visitant. Rare. A single specimen was observed by Mr. Davidson at Pandharpur, west of Sholapur, in September, and Mr. Vidal says, "comparatively common on the rivers of the Satara district." I have no other record of its occurrence throughout the region.

944.—*Phoenicopterus roseus*, Pall. The Flamingo.

Cold weather visitant. Rare as a rule. Mr. Vidal has observed it in the large tidal backwater north of the Ratnagiri fort, and Mr. Fairbank remarks, "occasionally visits the larger pieces of water in the Deccan and the salt-pans in Bombay." Messrs. Wenden and Davidson have also observed it occasionally in the Deccan. In the southern portion of the region, about Belgaum, it is virtually unknown, though it occurs in the Dharwar districts occasionally.

944 bis.—*Phoenicopterus minor*, G. St. Hill. The Lesser Flamingo.

Captain Feilden procured this species at Secunderabad in the Deccan, and there can therefore be little doubt as to its right to a place in this list.

950.—*Sarcidiornis melanonotus*, Penn. The Nuktah or Comb Duck.

Seasonal visitant. Occurs sparingly in the rains and cold weather in the Deccan and about Belgaum, but it is not common. Mr. Fairbank omits it in his list, and Mr. Vidal has not observed it in Ratnagiri, but I have occasionally seen it in the Belgaum district, and Messrs. Wenden and Davidson record it in their Deccan list as "moderately common."

951.—*Nettopus coromandelianus*, Gm. The White-bodied Goose Teal or Cotton Teal.

Seasonal visitant. Locally not uncommon. It appears to be comparatively scarce in Ratnagiri, but according to Messrs. Wenden and Davidson "moderately common in the Deccan." Mr. Fairbank, however, does not include it in his list, and I have not met with it about Belgaum. It prefers secluded tanks overgrown with weeds and lotus plants.

952.—*Dendrocygna javanica*, Horsf. The Whistling Teal.

Seasonal visitant. Not common as a rule. Mr. Vidal found it very rare in Ratnagiri, and Mr. Fairbank only mentions it

from Mahableshwar. Messrs. Wenden and Davidson, however, in their Deccan list remark, "somewhat rare in the more open parts of the country, but very common about the wooded districts in the rains and cold weather." I have shot it occasionally about Belgaum in the rains.

953.—*Dendrocygna fulva*, *Gm.* The Large Whistling Teal.

Seasonal visitant. Rare. Mr. Fairbank procured a pair at Nagar, and according to Mr. Wenden it occurs at Nulwar. I have no other record of its occurrence throughout the region, though Jerdon found it tolerably plentiful at Jalna in the Deccan, in fact as common as the last species.

954.—*Casarca rutila*, *Pall.* The Ruddy Sheldrake or Brahminy Duck.

Cold weather visitant. Not uncommon on the larger rivers in the Deccan; but does not extend to Ratnagiri, so far as we know at present, and it is rare in the Belgaum district. Jerdon remarks, "that it is a well-known winter visitant to all parts of the country."

957.—*Spatula clypeata*, *Lin.* The Shoveller.

Cold weather visitant. Not uncommon in the Deccan, but rare in Ratnagiri and about Belgaum. It occurs throughout India according to Jerdon.

958.—*Anas boschas*, *Lin.* The Mallard or Common Wild Duck.

Cold weather visitant. Rare. I have only once met with this species within the region, and that was at Habli on the Dharwar road, about 18 miles south-east of Belgaum. I flushed three from a small tank and shot one, but have no other record of its occurrence within our limits.

959.—*Anas pœcilorhyncha*, *Forst.* The Spotbill or Grey Duck.

Probably a permanent resident in some districts. Not uncommon in the Deccan, but not recorded from Ratnagiri, and not common about Belgaum.

? 960.—*Rhodonessa caryophyllacea*, *Lath.* The Pink-headed Duck.

Seasonal visitant. Rare. Mr. Fairbank remarks in his list of Khandala species, &c., "one rose from a tank close by me, so that I am sure of its identity though I did not bag it." The bird referred to not having been secured, and having no

other record of its occurrence throughout the region, I feel justified in entering it as a doubtful species. It is a pity Mr. Fairbank has not mentioned the locality in which the bird referred to was flushed. Jerdon also *heard* of it as an occasional visitant to the Deccan, but says that it is rare in Southern India, which is doubtless the case. In fact it seems to be rare everywhere.

961.—*Chaulelasmus streperus*, *Lin.* The Gadwall.

Cold weather visitant. Common, as a rule, throughout the region, wherever Ducks occur, but less numerous in Ratnagiri than in other districts.

962.—*Dafila acuta*, *Lin.* The Pin-tail.

Cold weather visitant. Occurs throughout the region, but is not very common as a rule, and in Ratnagiri it appears to be rare.

963.—*Mareca penelope*, *Lin.* The Wigeon.

Cold weather visitant. Common, as a rule, throughout the region, especially in Ratnagiri. It is strange that neither this species nor the last should be entered in Mr. Fairbank's list of birds collected in the vicinity of Khandala.

964.—*Querquedula crecca*, *Lin.* The Common Teal.

Cold weather visitant. Common throughout the region.

965.—*Querquedula circia*, *Lin.* The Garganey or Blue-winged Teal.

Cold weather visitant. Common, as a rule, throughout the region, but less numerous in Ratnagiri than in other districts.

967.—*Fuligula rufina*, *Pall.* The Red-crested Pochard.

Cold weather visitant. Rare. Mr. Fairbank has recorded it from the Deccan, but it is not included in any of the other lists, and I have no other record of its occurrence throughout the region. Mr. Fairbank's lists contain no other species of Pochard.

968.—*Fuligula ferina*, *Lin.* The Pochard or Dun-bird.

Cold weather visitant. Occurs sparingly in the Deccan, and is recorded by Major Lloyd in his list of Konkan species, though it has not been observed by Mr. Vidal yet in Ratnagiri. It has recently been observed at Habli.

969.—*Fuligula nyroca*, *Guld.* The White-eyed Pochard.

Cold weather visitant. Not common, but occurs sparingly throughout the region. Mr. Vidal has only once noticed it in Ratnagiri. I have procured it myself near Belgaum and near Poona. Jerdon remarks, "common in Northern and Central India, less so in the south."

971.—*Fuligula cristata*, *Lin.* The Tufted Pochard.

Cold weather visitant. According to Messrs. Wenden and Davidson it is fairly common in the Deccan, and Mr. Vidal records it from Chiplun in Ratnagiri, but I should say, as a rule, that it was rare. I shot it occasionally about Poona and Belgaum. Jerdon says, "very common in Central and Southern India."

975.—*Podiceps minor*, *Gm.* The Little Grebe or Dabchick.

Common throughout the region in the rains and cold weather; breeding in the monsoon.

978 *ter.*—*Larus affinis*, *Reinh.* The Slatey Herring Gull.

Cold weather visitant. Occurs sparingly along the Coast. Probably it was this species that Dr. Jerdon obtained at Jalna in the Deccan and not *L. fuscus*, the occurrence of which in India seems to be very doubtful.

979.—*Larus ichthyaetus*, *Pall.* The Large Black-headed Gull.

Cold weather visitant. Occurs sparingly along the Coast.

980.—*Larus brunneicephalus*, *Jerd.* The Brown-headed Gull.

Cold weather visitant. Common along the Coast.

981.—*Larus ridibundus*, *Lin.* The Laughing Gull.

Cold weather visitant. Not uncommon along the Coast.

981 *ter.*—*Larus hemprichi*, *Bonap.* The Sooty Gull.

Cold weather visitant. Rare. Mr. Hume observed it in the Bombay harbour. I have no other record of its occurrence throughout the region, even the northern portions of whose coasts are almost outside its normal range.

982.—*Sterna caspia*, *Pall.* The Caspian Tern.

Cold weather visitant. Rare. Mr. Hume observed it in the Bombay harbour. I have no other record of its occurrence

throughout the region, though it doubtless must occur occasionally all along the Coast as it extends even to Ceylon.

983.—*Sterna anglica*, Mont. The Gull-billed Tern.

Cold weather visitant as a rule, but Mr. Vidal mentions that it occurs in Ratnagiri during the greater part of the year, and according to Mr. Davidson a few remain in parts of the Deccan all the year round. Eggs, however, have not been taken, and I do not think it probable, if any do remain throughout the year, that they breed in this part of the country. It is not included in Mr. Fairbank's list of Deccan species, neither have I noticed it about Belgaum, but it doubtless occurs throughout the region wherever there are large rivers or marshes.

984.—*Hydrochelidon hybrida*, Pall. The Whiskered or Small Marsh Tern.

Not common. Mr. Vidal has not yet observed it in Ratnagiri, though it is included in Major Lloyd's list of Konkan species. According to Mr. Davidson a few remain in the Deccan throughout the year, but it has not been observed breeding. I have not noticed it about Belgaum, but doubtless it will be found wherever there are large tanks and marshes.

985.—*Sterna seena*, Sykes. The Large River Tern.

Probably only a seasonal visitant, though it may breed in some districts. Mr. Fairbank remarks, "that it is found along the Deccan rivers," but it is not included in any of the other lists, and I have no other record of its occurrence throughout the region.

987.—*Sterna melanogastra*, Tem. The Black-bellied Tern.

Permanent resident in some districts. According to Messrs. Wendon and Davidson it is very common on all the rivers in the Deccan. I have also noticed it myself occasionally in the Belgaum district in winter plumage. Mr. Vidal has not met with it, however, in Ratnagiri, neither is it included in Mr. Fairbank's list of Deccan species.

987 bis.—*Sterna albigena*, Licht. The White-cheeked Tern.

Cold weather visitant. A Coast species. Mr. Vidal remarks, "arrives on the Ratnagiri coast in considerable numbers towards the end of September." The late Lord Tweeddale recorded the receipt of specimens from Bombay, and Mr. Hume got it on the Laccadive islands further down the Coast. It breeds

abundantly in the Persian Gulf, on the islands near Bushire, in June, whence I have procured eggs.

988 ter.—*Sterna saundersi*, Hume. Saunders' Little Tern.

Cold weather visitant. Not common. A single specimen was obtained along the Ratnagiri coast by Mr. Vidal. I observed a Tern of the *minuta* group flying about the tank, outside of the Fort at Belgaum, but whether it belonged to this or one of the other four species I cannot say. I have not heard of its occurrence in any other portion of the region, except Mr. Fairbank's general remark in his list of Mahratti species after 983, 984, 985, 987 and 988, "rarely found by our tanks and rivers."

989.—*Sterna bergii*, Licht. The Large Sea Tern.

Cold weather visitant. Not uncommon. Mr. Vidal records it from the coast of Ratnagiri. Jerdon also mentions it from the Malabar coast. It does not occur inland.

990.—*Sterna media*, Horsf. The Lesser Sea Tern.

Cold weather visitant. Not very common. Recorded from the coast of Ratnagiri by Mr. Vidal. Like the last it is a maritime species and does not occur inland.

992.—*Sterna anætheta*, Scop. The Panayan Tern.

Mr. Hume found this species in enormous numbers on the Laccadive islands along the Malabar coast, and again where they had evidently bred on the Vengurla Rocks (S. F., IV., 420, 474), whence Mr. Vidal also obtained dessicated specimens.

992 bis.—*Sterna fuliginosa*, Gm. The Sooty Tern.

Probably a permanent resident. Mr. Hume mentions one shot in the Bombay harbour, and found it breeding in abundance on the Laccadive islands along the coast, further south. It probably occurs, therefore, all along the Coast.

995.—*Rhynchops albigollis*, Swains. The Indian Skimmer.

Probably only a seasonal visitant. Rare. Mr. Davidson procured a single specimen on the Bhima river. I have no other record of its occurrence throughout the region, though Jerdon remarks, "found throughout India, frequenting rivers, especially the larger ones."

1004.—*Pelecanus philippensis*, *Gm.* The Grey Pelican.

Cold weather visitant. Rare. Mr. Davidson observed a single specimen on the tank at Pandharpur, west of Sholapur, in September, and I procured a specimen in immature plumage on the tank outside of the Fort at Belgaum on the 16th November 1880. I have no other record of its occurrence throughout the region.

1006.—*Phalacrocorax fuscicollis*, *Steph.* The Lesser Cormorant.

Probably only a seasonal visitant. Not common as a rule. Mr. Wenden obtained specimens at Nulwar, and believes he observed it also at Sholapur. I have no other record of its occurrence throughout the region.

1007.—*Phalacrocorax pygmæus*, *Pall.* The Little Cormorant.

Probably a permanent resident in some districts in the plains. Common throughout the region.

1008.—*Plotus melanogaster*, *Penn.* The Indian Snake Bird.

Probably a permanent resident in many of the districts. Tolerably common throughout the region, and specially plentiful in Ratnagiri.

Passer pyrrhonotus, *Blyth.*

MR. DOIG has followed up his re-discovery of *Passer pyrrhonotus* in the most vigorous manner, and sends the following detail of measurements, colours of soft parts, and notes on habits, which will be most acceptable to all ornithologists.

He says: "As to measurements I have measured a large series very carefully with the following results:—

Sex.	Length.	Expanse.	Tail.	Wing.	Bill at front.	Bill from gape.	Tarsus.
Male.	5.25	8.50	2.12	2.68	.37	.50	.75
"	5.25	8.25	2.12	2.68	.37	.50	.62
"	5.25	8.37	2.18	2.68	.37	.50	.62
"	5.18	wings broken	2.12	2.62	.37	.50	.62
"	5.12	8.37	2.25	2.56	.37	.50	.68
"	5.18	wings broken	2.25	2.68	.37	.50	.68
"	5.37	8.5	2.25	2.68	.37	.50	.68
"	5.25	8.25	2.25	2.68	.37	.50	.68
"	5.25	8.25	2.12	2.68	.37	.46	.68

Sex.	Length.	Expanse.	Tail.	Wing.	Bill at front.	Bill from gape.	Tarsus.
Male	5.25	wings broken	2.12	2.68	.37	.46	.68
"	5.	7.87	2.12	2.43	.37	.46	.62
"	5.12	8.12	2.12	2.68	.37	.46	.62
"	5.25	8.37	2.12	2.62	.37	.46	.62
"	5.25	8.37	2.25	2.75	.37	.46	.68
"	5.25	8.37	2.25	2.62	.37	.46	.68
"	5.37	8.40	2.25	2.62	.37	.46	.68
Female.	4.93	8.00	2.12	2.50	.37	.50	.62
"	4.87	8.00	2.12	2.50	.37	.50	.68
"	4.62	7.50	1.87	2.43	.37	.50	.65
"	4.62	wings broken	2.00	2.43	.37	.50	.68
"	5.12	8.00	2.12	2.56	.37	.46	.68
"	5.25	8.12	2.12	2.62	.37	.46	.68
"	5.37	8.12	2.12	2.52	.37	.43	.62
"	5.	8.00	2.12	2.50	.37	.43	.62
"	5.	8.00	2.12	2.50	.37	.43	.68
"	5.	8.00	2.12	2.50	.37	.43	.68

As to colours of soft parts:—"Irides in all stages and sexes the same, *viz.*, light brown, pupil black, eyelids leaden slatey.

"Bill in young bird dusky at tip of upper mandible; rest of upper and whole of lower mandible a fleshy pink; as the bird gets older the upper and lower mandibles get more dusky, until in the fully adult bird the whole bill is deep dusky brown, only the base of the lower mandible having a faint fleshy tinge.

"Tarsi and toes in young birds a pale fleshy brown, and in old birds a dusky fleshy brown.

"Claws dusky.

"Soles of feet a dirty pale yellow; wings reach to within 1.25 of end of tail. Measurements given with specimens were all taken in the flesh."

As to habits:—"I have never as yet met them at any distance from water; they keep generally in small flocks of five or six; once only have I come on a flock of 15 or 20. Their food apparently (from dissection) consists of seeds and insects. There is a small dense creeper which covers the tamarisk bushes growing in the water, and which has its seeds contained in a long thin pod similar to a French bean, only thinner; when unripe it is of a reddish purple colour. These seeds seem to be just now (December) the principal food of this Sparrow; when not feeding on this they are picking up food of some kind along the edge of the water, or searching for insects among the dried branches of withered old babool trees in the water. For a long time I could not hear them utter any note, though my boatman could and got me numerous shots by listening for this chirrup. At last I heard it; it is very similar to that of the common Sparrow, but very faint. The nests I found, three in number, were exactly similar to those of *P. domesticus* but smaller, and were situated in the tops of "acacia" trees growing in the water. Two nests were in one tree, and the third in a tree close

by it. At night in the cold weather they roost in some small dried acacia or tamarisk bush standing in the water, and which is covered with a dense mass of dried stems of creepers thickly interlaced together."

To Mr. Doig I am further indebted for a large series of specimens of this species in winter plumage, in addition to the two with which he formerly favoured me, in breeding plumage. My remarks on page 232 had reference to the breeding plumage, and will require some modification where the winter plumage is concerned. In this latter the plumage much more closely resembles that of the common Sparrow, so much so that I am no longer surprised at the bird having been so long overlooked. As for the females, except that they are everywhere paler, a purer white beneath, a lighter and greyer brown above, with a slightly redder tinge on the lesser wing-coverts and on the lower back, and a rather more conspicuous white upper wing bar formed by the tips of the medial wing-coverts, there is really nothing tangible, except their very much smaller dimensions, by which they can be separated from those of the common Sparrow. In the case of the males, in the winter plumage, not only the small size and paler tints and the narrowness of the black throat stripe not descending on to the breast, enable one to separate them from those of the common Sparrow, but though the chestnut has almost wholly disappeared from the mantle and rump, a trace of it lingers on the lower back, and the patch behind the ear-coverts remains a pure light chestnut instead of a maroon as in the common species. But whereas in the breeding plumage, at any rate in the only male that I have seen, there are no conspicuous white tips to the medial wing-coverts as in the common Sparrow, in the non-breeding plumage these white tippings are quite as conspicuous and pure as in the latter species; and indeed the entire upper surface, with the exception of the faint red tinge lingering on the lower back, is only a paler greyer reproduction of that of the common bird.

Moreover the light patch on the primaries immediately below the tips of the greater coverts, which, in the breeding plumage, is almost white and very conspicuous, in the non-breeding plumage is only a pale fawn color, much as in the common species.

From my single specimen I gather that in the breeding plumage the bill of the male is quite black.

Strange as it may seem, this species appears to be a local race confined to very small area. I cannot identify it with any of the other known Sparrows. In size and habits it seems most to resemble *Passer moabiticus* of Tristram (P. Z. S., 1864,

169, and *Ibis*, 1867, 370), the habitat of which is similarly extremely restricted. But neither in winter nor in summer plumage does it exhibit any trace of the yellow patch, characteristic of *moabiticus*, and it is a trifle larger than that species.

The small legs and feet, and the very marked change of plumage in the breeding season, might lead to the suspicion that it ought to be located elsewhere, but alike where bills, wings, tail, character of feet and plumage are concerned, I think it must be upheld as a true *Passer*.

A. O. H.

Dumeticola brunneipectus, Blyth.

BY W. EDWIN BROOKS.

WHEN at the British Museum the other day I saw and examined all the *Dumeticolas* or *Triburas*, and I did not find one of my *Dumeticola mandellii*.

I cannot tell which of the birds, all put together now as *affinis*, was Blyth's type of *brunneipectus*, but one and all that I saw were *affinis*, spotted and unspotted.

I think that *brunneipectus* may safely be suppressed as a species, and placed as a synonym of *affinis*. This is what Mr. Seebohm has done, and I think very correctly.

Tribura mandellii is of a lighter and redder tone above, and is much closer to *T. luteoventris* than to *affinis*, especially as to tone of upper surface. It is also a bird with a spotted breast, although it appears also, like *affinis*, to have both a spotted and unspotted stage. Perhaps the spotted ones may be the males and the unspotted the females, or they may be young and old birds, but this is mere conjecture, and much remains to be discovered regarding the natural history of this group.

As *brunneipectus* was said by Blyth to have the same color of upper surface as *affinis*, and as *mandellii* has a different one, and moreover differs also from what we know of *luteoventris*, I think, for the present at all events, *mandellii* should stand. It is not known that *luteoventris* ever has the peculiar small spots on the throat characteristic of *mandellii* in one of its stages, and to me it appears to be a decidedly more rufous bird.

The new species *Tribura intermedia*, Oates, becomes *T. taczanowskia*, Swinhoe, with the type of which Mr. Seebohm and I compared it. The correspondence was perfect.

Pernis Tweedalii, Hume.

(Note on a Malayan species of *Pernis* distinct from *P. ptilorhynchus*.)

BY J. H. GURNEY.

IN *Stray Feathers*, Vol. IX., pp. 122, 123, Mr. Hume has described, under the heading of *Pernis brachypterus*, Blyth, a male and female *Pernis* from the Malay Peninsula, which may possibly be of the same race as the young bird formerly described by Blyth under the title of *Pernis brachypterus*,* but subsequently referred by him to *P. ptilorhynchus*, and has given it as his opinion that, whether the two specimens are or are not identical with Blyth's *P. brachypterus*, they are, in either case, "quite distinct from *ptilorhynchus*."

Mr. Hume's specimens appear to be an adult female, and a male not fully adult; the latter he has been so good as to send for my inspection, and through the kindness of Lieut. R. G. Wardlaw Ramsay, I have been enabled to compare it with the late Lord Tweeddale's specimen from Sochedana in south-eastern Sumatra described in the *Ibis* for 1877, p. 286, and for 1880, pp. 213, 214 and 216. Mr. Hume, in his article already referred to, expressed his opinion that his birds and the Sumatran specimen above-mentioned were probably referable to the same species, and such I find, on comparison, to be the fact; but the Sumatran bird agrees more closely with Mr. Hume's description of the adult female than with the younger male. The following are comparative measurements of the three specimens:—

	Wing.	Crest.	Cere.	Culmen.	Tarsus.	Mid-toes.
Malay (assumed ♂) †	15·6	·3	·5	·9	·2	1·9
Malay (assumed ♀) ‡	16·1	...	...	...	...	...
S.E. Sumatra (assumed ♀) §	16·7	2·1	·5	1·	2·2	2·1

On comparing Mr. Hume's Malay male with the female (evidently an older bird) from south-eastern Sumatra, I find the markings and coloration agree closely with the following exceptions.

In the Sumatran specimen the lores, together with a space above, behind, and below the eye, are all brownish grey, thus

* *Vide* Journ. As. Socy., Bengal, Vol. for 1852, pp. 436 and 440; also Vol. for 1875, Part 2. Extra No., p. 60.

† Mr. Hume gives this as 14·75, his mode of measurement being probably different to mine. I measure the wing along the curve outside, which gives a result of 15·4 for one wing and 15·6 for the other.

‡ As given by Mr. Hume.

§ I quoted this in the *Ibis* as 17, which I find, on re-measurement, is rather too much.

agreeing with the description of the Malay female; the feathers of the forehead are mostly edged with a similar grey tint instead of with white as in the Malay male.

None of the feathers of the crest in the Sumatran bird are tipped with white, and as far as appears, none of those of the nape, but many of the latter are missing.

The dark bars across the primaries are broader in the Sumatran specimen, the broadest being an inch in breadth, but only .8 of an inch in the Malay male.

The Sumatran female also differs in having the paler brown interspaces on the outer webs of the secondaries tinged with grey.

The Sumatran bird has the principal dark transverse bars on the tail broader than those in the Malay male, and four in number instead of five, the subterminal band being 2 inches across, and the band next above it being 1.5, whereas the breadth of each of the corresponding bands in the Malay male is a trifle under one inch, and in the Malay female (as given by Mr. Hume) 2.3 and 2.

The dark line along the centre of the throat in the Sumatran female, though slightly irregular towards the chin, is well marked, and about .2 in width at the lowest part which is the broadest.

The rufous tinge on the paler portions of the feathers of the upper breast is more decided in the Sumatran bird than in the Malay male, and is also less limited to the sides of the breast.

The cross barring on the breast and abdomen of the Sumatran specimen is more fully developed than in the Malay male, which I attribute to its being an older bird, and agrees with Mr. Hume's description of the Malay female, except that none of the pectoral and abdominal feathers have less than three dark cross bars, and some of the latter have a fourth less distinct bar near the base.

In the Sumatran female the dark transverse bars are slightly broader on the abdomen than in the Malay male, and very decidedly so on the thighs and under tail-coverts.

The peculiarities of this specimen from south-east Sumatra did not escape the observation of the late Lord Tweeddale (*vide Ibis*, 1877, p. 286), but he felt a hesitation, in which I concurred, in describing it as specifically distinct from its very variable congener *P. ptilorhynchus* on the strength of only a single specimen. The subsequent acquisition by Mr. Hume of two similar specimens appears to me to remove the grounds for such hesitation, and to prove that there exists in Sumatra and in the Malay Peninsula a *Pernis* distinct from *P. ptilorhynchus* and intermediate between that species and

P. celebensis, approaching, however, more nearly to the latter than to the former.

The late Mr. Blyth's description of his *Pernis brachypterus* may possibly have been taken from a young male of this species; but it seems to me more probable that it represents a young specimen of *P. ptilorhynchus* in a somewhat unusual phase of plumage, and unless the type of *P. brachypterus* still exists, it is to be feared that this question cannot be settled with any certainty.

The new species now under consideration differs from *P. ptilorhynchus* and approaches *P. celebensis* in the character of the transverse markings on the breast, abdomen, flanks, thighs, under tail and under wing-coverts; but *P. celebensis* differs from it in having the occipital feathers and those of the sides of the neck and of the nape edged on the side of the feather with dull rufous, and in having those of the upper breast similarly, but still more broadly, edged with bright rufous, the corresponding edging on the breast-feathers of the Sumatran birds being partly white and partly rufous, and the latter tint being much duller and less extended than in *P. celebensis*.

In *P. celebensis* all the upper wing-coverts are of a brown color, much less inclining to black than in the case in our new species, and this remark equally applies to all the dark transverse markings of the under surface, whilst the intervening light bars are pure white throughout, whereas in the Sumatran and Malay birds these bars are tinged with fulvous everywhere except upon the breast.

P. celebensis appears to be, on the average of specimens, slightly smaller than the new Sumatran and Malay species, its wing measurements, so far as I have observed, varying from 14.1 to 15.5 inches.

[Mr. Gurney has advised me to bestow a distinct specific appellation on the Malayan Honey Buzzard, which I have already fully described, *ante*, pp. 122, 123. I have therefore named it as above in memory of one who laboured long and zealously in the cause, and did much for Oriental Ornithology. Owing to his repeated change of name, comparatively few species bear the name he bore when taken from us, and this bird, one of the very handsomest Raptors of the province where he was first led to turn his attention to ornithology, may most appropriately, it seems to me, assist in keeping his memory green.—A. O. H.]

A List of Birds observed in the neighbourhood of Chaman, S. Afghanistan.

BY H. E. BARNES.

AT p. 212, *et seq.*, I submitted some few notes in regard to the nidification of certain species of birds whose nests I had met with in and about Chaman.

Of course besides collecting eggs, I collected, and so far as I was able, observed, all the birds I could, but my time was so fully occupied with public duties, camp regulations against straying outside very narrow limits were so strict, and the country at times so disturbed, that, although stationed at Chaman from October 1879 to October 1880, and doing my best at birds throughout this period, I should never have dreamt of coming forward with any list of the Avifauna, had any one better qualified shown any intention of undertaking the task.*

As it is, in the absence of better men, and after patiently waiting for nearly a year to give one of these the chance of speaking, I venture at last, for fear that nothing at all should be put on record, to submit my own imperfect list, believing that with all its defects it will at least be better than none.

If any one is surprised that, despite a whole year's residence, this list is nevertheless so very meagre, containing, as it does, only 100 species, I must be allowed to urge that I worked in no peaceful time, that my leisure was almost *nil*, and that my rambles were curtailed by camp regulations, which were not to be disobeyed with impunity, as many an imprudent camp follower, whose hacked and mangled body bore witness to the wisdom and necessity of the restrictions imposed, discovered to his cost.

At times my work was so incessant as to preclude my ever touching a gun for weeks together, and at other times it often happened that after snatching an hour that I could ill spare from my desk, I have had to throw birds away unidentified as I did not recognize them and could not find time to skin them.

Moreover there were long periods during which the state of the country rendered ornithological explorations, however limited, simply impossible. After the murder of poor Major Waudby in April, the country was for many weeks in too disturbed a state to permit the prosecution of any out-door pursuits, and matters

* Although I have long had in hand a list of the Birds of Afghanistan and Beluchistan founded on all the notes and specimens forwarded to me by numerous officers during the past three years, I think it better to publish Mr. Barnes' paper as it stands than merely, as he privately suggests, to incorporate it in my own.—ED.

had barely settled down after this to their ordinary level, when the reverse at Maiwand occurred, the whole country rose in arms, and all rambling was effectually put a stop to.

Probably out of the year I spent at Chaman, there were at most seven months during which any ornithological work was possible, and out of these certainly not one, from first to last, during which my duties permitted me to carry on that work, even within the narrow limits inside which we were allowed, and it was moderately safe, to stray.

Besides this the seasons were against me. Many more species than those I met with must occur in ordinary seasons, but for the last two years scarcely any rain had fallen, and in consequence the country was almost an arid desert.

Of Chaman and its neighbourhood I have already, in my previous paper, given a brief sketch, and I shall therefore at once proceed to my list, only noting that my specimens were named, or my naming of them confirmed by Mr. Murray, except in a few doubtful cases, such as *Scops giu*, *Sitta neumayeri*, *Erythrospiza mongolica*, &c., &c., of which the specimens, sent by Mr. Murray, were identified by the Editor.

1.—*Vultur monachus*, *Lin.*

The Cinereous Vulture is not uncommon at and in the vicinity of Chaman, and it breeds on the Khojak. I was unfortunate in not obtaining eggs, but a full fledged nestling was brought to me in May, which however I failed to rear.

The numerous carcasses strewn along the line of communications furnished these and other Vultures with a perpetual feast, and doubtless under normal circumstances they would have been less numerous than we found them.

3 *bis.*—*Gyps fulvensens*, *Hume.*

The Bay Vulture occurs, but is not so numerous as *Vultur monachus*. It is apparently a permanent resident, but I failed to obtain any authentic information in regard to its nidification.

6 *bis.*—*Neophron percnopterus*, *Lin.*

The Egyptian Scavenger Vulture is very common, but is not a resident. It arrives about the end of February, and soon after commences to breed, the young being hatched in April or early in May. It leaves Chaman during September, and by the end of the month not one is to be seen. I observed several Neophrons in the Bolan Pass at a much later date, but cannot say whether they were *percnopterus* or *ginginianus*, as I did not secure a specimen.

7.—Gypaëtus barbatus, Lin.

Lammergeyers are very common, and form a conspicuous feature in the landscape, as they sail to and fro quartering the ground at the base of the hills and surrounding country in search of food. They are still more common on the Khoja Amran Range, where they breed. The egg is a large edition of that of the preceding species, but is not so highly colored as many of those of the Neophron are.

11.—Falco juggur, J. E. Gray.

The Juggur Falcon is extremely rare, only a single pair having been noted. This was in April.

17.—Cerchneis tinnunculus, Lin.

The Kestrel is very common; it breeds on the Khojak in March and April.

I did not observe it until March, but when I left in October it was still abundant. I once had an opportunity of observing this bird in pursuit of its prey. Its *modus operandi* was as follows:—It hovered for a short time at a height of 35 or 40 feet from the ground, then made a sudden stoop and hung about a yard above a bush, from which a small bird flew out and took refuge in another. The Kestrel pursued, again hovered and again stooped, the bird each time darting out in alarm from the bush over which the Falcon poised itself. It continued these tactics until the little bird was tired out and allowed itself to be captured; then seizing it in its claws it flew with it to a convenient stone, and commenced to tear it to pieces. I followed and shot it. The victim proved to be a small Wren Warbler (*Scotocerca inquieta*.)

A young bird that I have reared from the nest will catch mice, and has in a short time cleared my quarters of them; it will also eat small birds, but they have to be crippled first or they escape. When hungry it will not hesitate to attack a tame Wood Pigeon, which is much larger than itself. It is very tame, comes readily when called by name, and never seems so happy as when it is perched either on my wrist or the top of my head.

24.—Accipiter nisus, Lin.

The Sparrow Hawk is not uncommon.

25.—Accipiter virgatus, Tem.

The Besra Sparrow Hawk was obtained at Chaman by Mr. Murray, but appeared to be uncommon.

45.—*Buteo ferox*, S. G. Gm.

The Long-legged Buzzard is extremely common, and though believed to breed in the neighbourhood, no nests were taken. Mr. Murray, I may mention, secured a young bird which could only have left the nest very recently.

51.—*Circus macrurus*, S. G. Gm.

Extremely common at and about Chaman, also at the foot of the Khojak and at Killa Abdalla, and wherever there was any cultivation.

I had no difficulty in procuring as many of these birds as I wanted. My plan was to take up a position in a wheat field just at dusk and shoot them as they hawked about overhead. In this way I have obtained six or seven specimens in half an hour, whereas by ordinary means I should perhaps not have succeeded in obtaining one.

54.—*Circus æruginosus*, Lin.

The preceding remarks apply equally to the Marsh Harrier, both species being generally found hawking over the same field together.

56 quat.—*Milvus migrans*, Bodd.

This was the only Kite noticed at Chaman. *Milvus govinda* was not observed, although on my return journey in October, I found that *govinda* occurred below and on the Pisheen side of the Khojak, but not *migrans*.

It is not a permanent resident, none being observed in the cold weather; it breeds in March and April.

It is astonishing the amount of lead these birds can carry away without being apparently the worse for it.

74 sept.—*Scops brucii*, Hume.

Is not uncommon and breeds. The young birds are very easily reared.

74 sept A.—*Scops giu*, Scop.

A specimen was obtained by Mr. Murray.

75 ter.—*Scops bakkamcena*, Penn.

Obtained by Mr. Murray.

76 ter.—*Carine bactriana*, Hutt.

Occurs commonly at and beyond Chaman.

82.—*Hirundo rustica*, *Lin.*

The Chimney Swallow is very common during summer.

In the middle of January, during a severe snowstorm, three of these birds took shelter in my hut and remained a day or two until the snow disappeared. No others were observed until six weeks later. They breed in May.

99.—*Cypsellus apus*, *Lin.*

The European Swift is not uncommon during April and May. It is said to breed at Gatai, but I was unable personally to verify this.

111 *bis.*—*Caprimulgus unwini*, *Hume.*

This Goatsucker is very common and breeds. I did not obtain it until the commencement of May.

121.—*Merops apiaster*, *Lin.*

The European Bee-eater is very common, and I have reason to believe breeds on the Khojak.

125.—*Coracias garrula*, *Lin.*

The European Roller is not uncommon. I did not note it until August, but Mr. Murray secured specimens on the Khojak, as early as May.

158.—*Picus scindianus*, *Gould.*

Common, and breeds during April and May.

I succeeded in rearing a young bird from the nest. I fed it with small shreds of meat previously well soaked in water, and as soon as it could feed itself, I gave it its liberty, but it never attempted to fly away, always returning at nightfall. It was very fond of pecking at a loaf or piece of plum-pudding, picking out and eating the plums; it had also a great liking for grapes, swallowing them whole. Unfortunately it got strangled on my way back to India.

199.—*Cuculus canorus*, *Lin.*

Very common during the warmer months. First noticed on the 1st April.

248 *quint.*—*Sitta neumayeri*, *Mich.*

This Nuthatch is extremely common, and is a permanent resident. I have given full particulars of its nidification in my previous paper, and have nothing to add to what I then said.

254.—*Upupa epops*, *Lin.*

The European Hoopoe is very common, arriving early in March and breeding soon after its arrival.

256.—*Lanius lahtora*, *Sykes.*

This is the commonest Shrike in the country; it breeds in March and April, and the young are easily reared in captivity.

260.—*Lanius vittatus*, *Valenc.*

Not uncommon; it was not observed until the end of March. I never found a nest, but have no doubt that it breeds at Chaman.

278.—*Buchanga atra*, *Herm.*

Very rare.

299 *bis.*—*Butalis grisola*, *Lin.*

Very rare; only seen once; this was in October.

323 *bis.*—*Erythrostera parva*, *Bechst.*

Not uncommon.

365.—*Turdus atrogularis*, *Tem.*

The Black-throated Thrush was very common during January, but remained a very short time.

481.—*Pratincola caprata*, *Lin.*

Not uncommon.

488.—*Saxicola opistholeucus*, *Strickl.*

Occurs sparingly.

489.—*Saxicola picatus*, *Bly.*

The Pied Stonechat is very common and breeds, arriving at the end of February and leaving in September.

490.—*Saxicola monachus*, *Rüpp.*

Very rare.

491.—*Saxicola isabellinus*, *Rüpp.*

Extremely common and breeds.

492.—*Saxicola deserti*, *Rüpp.*

Common.

497.—*Ruticilla rufiventris*, *Vieill.*

Common.

498 bis.—*Ruticilla erythronota*, *Eversm.*

R. rufogularis, Moore, accepted by the Editor as identical with the above, is not uncommon during parts of the year.

514.—*Cyanecula suecica*, *Lin.*

Extremely common during spring. I thought they would breed here, as the testes of the males and ovaries of the females became much enlarged at the end of March, but they soon after left and did not return until October.

550 bis.—*Scotocerca inquieta*, *Rüpp.*

Very common; is a permanent resident and breeds during March and April. They do not appear to frequent the hills, but on the plains, wherever there were stunted bushes, these birds were numerous.

553.—*Hypolais rama*, *Sykes.*

Common in suitable localities. I found a deserted nest in the centre of a stunted bush, which contained fragments of three eggs, exact counterparts of eggs of this species given to me by Mr. Doig.

581.—*Sylvia jerdoni*, *Blyth.*

582.—*Sylvia affinis*, *Blyth.*

Both common.

591.—*Motacilla personata*, *Gould.*

591 ter.—*Motacilla alba*, *Lin.*

592.—*Calobates melanope*, *Pall.*

? 592 bis.—*Budytes rayi*,* *Bp.*

593 bis.—*Budytes melanocephala*, *Licht.*

594 bis.—*Budytes citreola*, *Pall.*

Wagtails of the above species are very common, but as far as I could ascertain none remain to breed.

597.—*Anthus trivialis*, *Lin.*

Only one specimen secured.

* I have seen no specimen of *Budytes rayi* from anywhere near Chaman, and I very much doubt the correctness of this identification, the more so that *B. flava*, *B. cinereocapilla* and *B. calcaratus*, all of which do occur about Chaman, are omitted.—Ed.

604.—*Agrodroma sordida*, Rüpp.

Not uncommon.

645.—*Parus nipalensis*, Hodg.

The Grey Tit is very common on the Khojak and on the spurs at its base, where these are wooded; it is a permanent resident, and of course breeds.

657 bis.—*Corvus lawrencii*, Hume.

Extremely common, and is a permanent resident.

668 bis.—*Pica rustica*, Scop.

The Magpie is extremely common on the Khojak and in the wooded ravines at its base, but does not extend its visits far into the plains.

As in England these birds when domesticated (I have kept several) are arrant thieves.

690.—*Paster roseus*, Lin.

The Rose-colored Pastor was very common in April, remained a week or so, and then disappeared, and was not again observed until the end of July.*

706.—*Passer domesticus*, Lin.

Common during summer; in winter I did not see any.

710.—*Passer montanus*, Lin.

The Tree Sparrow is common and is a resident.

718.—*Emberiza stewarti*, Bly.

Extremely common, and apparently breeds in the hills.

721.—*Euspiza melanocephala*, Scop.**722.—*Euspiza luteola*, Sparrm.**

Extremely common in March and April.

728 bis.—*Coccothraustes vulgaris*, Pall.

The Hawfinch is a permanent resident, and is very common on the hills. One I purchased from an Afghan ate *dhall* greedily, but would not touch grain. Unfortunately it fell a victim to the carnivorous propensities of a cat.

* Where all the millions on millions of this species that inhabit India from about the middle of August to the end of March, or even later, go to breed is still unknown. They do not cross the Himalayas northwards, but go somewhere west or north-west of Kandahar. From Chaman it will be observed they are absent on their honeymoon little more than three months, so that they can scarcely go far.—Ed.

732 bis.—Erythrospiza githaginea, Licht.

Common.

732 bis A.—Erythrospiza mongolica, Swinh.

Not uncommon.

738.—Carpodacus erythrinus, Pall.

Rarely seen.

749.—Carduelis caniceps, Vig.

The Indian Goldfinch is extremely common.

751.—Metaponia pusilla, Pall.

Common in cultivated ground in April and May; not observed later.

769.—Galerita cristata, Lin.

Extremely common, and a permanent resident, but I failed to find its nest.

784.—Palumbus casiotis, Bp.

The Indian Cushat is very common; it was not observed till midwinter; it retires to the hills to breed.

One that I have reared from the nest, and which I have brought with me to India, is wonderfully tame, answers when called, is fond of perching on my shoulders, and never attempts to fly away, although as usual I allow it full liberty.

It is now in adult plumage and has the neck spot bright buff.

788.—Columba intermedia, Strickl.

At times these birds literally swarm. I have often noticed numbers of white and parti-colored Pigeons consorting with them, probably domesticated birds, but where they can come from is an enigma to me, as Chaman is far from any large village or town and midway between Quetta and Kandahar.

788 bis.—Columba livia, Bp.

This bird has been obtained by both Mr. Murray and myself; the rump is pale ashy, not white, but it can easily be distinguished from *intermedia*.*

793.—Turtur meena, Sykes.

Uncommon; only obtained by me in May.

* These of course are not true *livia*, but one of the intermediate forms, *C. neglecta*, Hume, *C. spelæa*, Hutt., &c., which, as also true *livia*, occur in S. Afghanistan.—Ed.

794.—*Turtur senegalensis*, *Lin.*

Not uncommon and breeds.

795.—*Turtur suratensis*, *Gm.*

Obtained by Mr. Murray, but I did not obtain or even see one.

796.—*Turtur risorius*, *Lin.*

Extremely common and breeds. None of the Doves arrive until after the cold weather.

799.—*Pterocles arenarius*, *Pall.*

Is very common and breeds.

801.—*Pterocles alchata*, *Lin.*

Fairly common; appears to be a resident, but no eggs were found.

801 *ter.*—*Pterocles coronatus*, *Licht.*

The Coronetted Grouse is much less common than either of the other two. It breeds during May and June.

820.—*Caccabis chukar*, *Gray.*

The Chukor is extremely common, and breeds during March and April; it thrives well in confinement.

821.—*Ammoperdix bonhami*, *Gray.*

The Seesee is not uncommon, and seems to frequent the plains to a greater degree than the preceding species.

Either the males are wilder and more difficult to shoot, or they are much less numerous than the females, as out of the number that I have seen shot, only two were males. Like the chukor they bear confinement well.

829.—*Coturnix communis*, *Bonn.*

Uncommon; only noted in April.

840 *bis.*—*Cursorius gallicus*, *Gm.*

Not often seen.

857.—*Houbara macqueeni*, *J. E. Gray.*

The Houbara is not very common.

849.—*Ægialitis dubia*, *Scop.*

Fairly common near water.

852.—Chettusia gregaria, Pall.

Very uncommon.

855.—Lobivanellus indicus, Bodd.

The Red-wattled Lapwing is rare, but occurs in suitable localities, near water.

871.—Gallinago cœlestis, Frenzl.

Lieutenant Keene, R.A., shot one at Morgha, Chaman, about 16 miles from Chaman; there are no suitable places nearer.

884.—Tringa minuta, Leisl.**891.—Rhyacophila glareola, Lin.****892.—Totanus ochropus, Lin.****893.—Tringoides hypoleucus, Lin.**

All occur, but *ochropus* is by far the most common.

890.—Lobipes hyperboreus, Lin.

One specimen only obtained in September; none others were seen.* The weather for some days previous had been showery, and several birds not before noted appeared, amongst others *Podiceps minor* and *Porphyrio poliocephalus*.

902.—Porphyrio poliocephalus, Lath.

A specimen was secured on the 10th September. Another, apparently a young bird, was purchased from a native the same day, and was allowed to run about the Fort. It became a great pet with the soldiers, but would not allow itself to be caught. It was always present at meal times, and ate meat, bread and vegetables freely. Strange to say, after it had been with us a few days, another bird of the same species came and voluntarily shared its captivity, and when I left Chaman three months later, they were both still there.

903.—Fulica atra, Lin.**905.—Gallinula chloropus, Lin.**

Several of each of these birds were captured and brought for sale by Afghans, but I could never ascertain certainly whence they were obtained. The captors asserted that they caught them on the hills; this could scarcely be true, unless

* This was of course on its downward migration to the Gulf of Oman, where it is so abundant during the colder months of the year. Specimens have been procured, similarly on migration at the Najjaigarh jheel, the Sambhur lake, &c.—Ed.

they were exhausted birds resting during a course of migration. They were only obtained in March.

F. atra will live in confinement, and does not appear any the worse for it. I used to feed them upon soaked grain and rice; they never became tame.

910.—Porzana bailloni, Vieill.

These birds were abundant in September, and were easily caught by hand as, instead of taking refuge in flight, they would merely run to the nearest bush and hide.

930.—Ardeola grayi, Sykes.

Several were seen on the 1st July, and a specimen in breeding plumage secured; they were never afterwards met with.

962.—Querquedula crecca, Lin.

A few common Teal were obtained by an officer of the R. A. during winter at a small pool of water not far from Chaman.

975.—Podiceps minor, Gm.

Numbers of the Little Grebe were seen on the 10th September, *vide* remark under *Lobipes hyperboreus*.

987.—Sterna melanogastra, Tem.

Only observed once hawking over a small pool of water close to the Fort. It was not uncommon in the Bolan Pass.

Naturally the normal scarcity of water in the neighbourhood of Chaman would prevent the list of water-birds ever comparing with that of almost any part of Sindh for instance, but the abnormal drought which prevailed throughout my residence there left scarcely a drop of water anywhere to which any wild fowl could come, and hence the excessive meagreness of my list where water birds are concerned. Doubtless in seasons of good rainfall a very large addition to the Avifauna, but specially to the water birds, must occur.

Novelties ?

Callophasis humiæ, Sp. Nov.*Mrs. Hume's Pheasant.*

Male.—Length, 33·0 inches ; expanse, 26 ; tail (of 16 feathers) from vent, 21 ; wing, 8·6 ; tarsus, 2·75 ; bill from gape, 1·3. Weight, 2lbs. 6ozs. The legs, feet, claws and spurs (the latter 0·85 in length), all a pale delicate drab brown ; the facial skin an intense crimson ; irides orange ; bill greenish horny, dusky on cere and base of upper mandible and pale yellowish horny towards the tips of both mandibles.

A narrow black band bounds the anterior angle of the bare, velvety, crimson, diamond-shaped patch in which the eye is set ; the forehead, crown, occiput and ear-coverts are brown ; the feathers of the occiput, especially on the sides of this and a few of those on the crown also, with a dark terminal hair-line producing a somewhat scaly appearance ; the chin, throat, neck all round, upper breast and extreme upper part of the back, a smoky black ; all the feathers, except those of the chin and quite the upper throat, fringed with metallic blue black, which, except on the front of the middle and lower throat, is, owing to the overlapping of the feathers, the only color seen. Just inside the fringe, on all the feathers of the upper parts of the breast and back there is a triangular or arrow-head black velvet spot ; the interscapular region is dark metallic pheasant maroon or red with a fiery crimson sheen, each feather with a similar subterminal velvet black shaft spot ; middle and lower back, rump and all but the longest upper tail-coverts black, with a grey blue sheen, each feather fringed with white ; the longest upper tail-coverts and the tail grey brown ; the central tail feathers with eight rather narrow and irregular, mingled black and chestnut transverse bands ; the next pair, which are eight inches shorter, with five similar but broader black bands, only here and there showing a trace of a chestnut tinge ; the bars on the next two pairs, broader again and a purer black ; the three outer pairs broadly black at the tips and the rest grey freckled with black.

The inner scapulars silver white, the innermost of all with large, subterminal, unsymmetrical, blue grey spots, and the outer ones partially fringed at the tip with a somewhat purpler grey ; the outer scapulars much the same colour as the interscapular region ; the smallest wing-coverts a dull maroon ; the rest of the lesser and most of the median coverts a dull dusky metallic green, but the longest median coverts a maroon chestnut ; the primaries and greater coverts and winglet hair brown,

the first with the terminal one-third or more of the outer webs a yellowish chestnut; the secondaries blackish interiorly, exteriorly chestnut, obliquely tipped white and with an antepenultimate black band; tertiaries and their greater coverts similar, but more of the inner webs chestnut and the tipping transverse; secondary greater coverts blackish, broadly tipped white.

The lower parts, below the upper breast, a rich maroon chestnut, but the feathers of the lower breast and its sides and quite the upper abdomen with fiery crimson fringes (scarcely visible in some lights) preceded by a black shaft spot; vent and tibial plumes brown; lower tail-coverts black, with a dull green metallic sheen; wing lining (except the lower greater primary coverts, which are a delicate satin grey) a pale brownish chestnut, the feathers narrowly margined with brown.

The female, is still unknown.

The day before I crossed the Jhiri River, which divides the British District of Cachar from His Highness the Maharaja of Manipur's territories, the Manipur Envoy, who was to accompany me in my peregrinations as guide, mentor and commandant of my Manipur escort, came to meet me.

In Manipur, officials of rank who have deserved well of the State, receive from the Maharaja's hands a plume of feathers, which they are thenceforth entitled to wear, and which, in this simpler state of society, represents our stars and garters, our G. C. B.'s and grand crosses, &c. Not unnaturally the Envoy who boasted one of these coveted insignia drew my attention to his plume, of which he was evidently proud, and on my examining it I immediately saw that it contained three or four long tail feathers of a Pheasant with which I was unacquainted. I at once enquired about the bird to which these feathers belonged, and was informed that it belonged to the *Loe-nin-koi* which occurred in the extreme south of the Manipur territory and in the eastern Looshai country. But the Envoy had never seen it, nor, so far as he knew, had any other Manipuri ever seen it. It was an inhabitant of pathless hill jungles on the southern border, which had for long been subject to the ravages of the Kamhows, a fierce so-called Kuki tribe (they are not genuine Kukis), who invariably killed every one they came across. The tail feathers, and these only, filtered into Manipur through the agency of certain semi-savages, originally residents of the Kamhow territory, but now refugees in Manipur, and though afraid to return, yet maintaining secretly some sort of intercourse with some of their former tribe-fellows.



Day by day, as I marched, I persisted in my enquiries. One officer only, a Manipuri, who commanded a number of detachments scattered about the hills in the neighbourhood of Noong-zae-ban, or rather with that as a centre, in stockades, as a protection against Looshai raids, assured me that once in former years he had himself seen the *Loe-nin-koi* in the Jhiri Valley, a good deal south of where I crossed it and near the Looshai border.

Arrived at Manipur, "from the Minister down to the Clerk of the Crown," I gave no one any peace about the *Loe-nin-koi*; but all to no purpose. No one had ever seen the bird; the Maharaja, who alone has the right to keep these tail feathers, very kindly offered me a bunch of them, and he sent out stringent orders to all his officers in the south of the district to procure specimens of the bird, and really did all he could to get these; but all to no purpose.

So time passed and the *Loe-nin-koi* became daily more and more of a myth, the more so that after all ordinary methods of getting the bird had failed, it began to be suggested that "there never was no such bird," that perhaps the feathers grew on trees, or were brought from some far distant country. Still I stuck to it that that *Loe-nin-koi* I had to get, and I hope my good friends, the two Chief Ministers, have forgiven me for the way in which I worried them about this phoenix. The Maharaja himself, however, got interested, and when after working the central part of Manipur I started for the south, I was, through his kindness and that of Colonel Johnstone, the Political Agent, to whose support and friendship I was mainly indebted for whatever little success attended my explorations, armed with full powers to get at the *Loe-nin-koi*, if within the compass of the resources of the State.

At the south of the Manchar Lake we got together the most important officers of the country further south, and my Envoy made them understand that the bird had to be got. It was not distinctly said that every one would have their heads chopped off if we didn't get it, but a vague gloomy cloud of awful possible eventualities was discreetly left to veil the vista.

My Envoy and the officers had confabs off and on lasting a week; the exact localities nearest to us where the bird occurred were ascertained from old villagers, summoned from the more southern fortified villages, but the hitch was this—although just within the nominal boundaries of the State, and in a tract where in past time there were scattered Manipuri villages, of late years the Kamhows had so harried the country that it had been entirely deserted, and no Manipuri could get within ten miles of the nearest known haunt without the certainty of being murdered. On the other hand, if we were to

go openly, we should want an army to secure our safety, should have to fight a number of regular battles, and probably set the whole southern frontier in a blaze.

I replied that this might be all true (and I did not doubt it, as, when I went down to the junction of the Chakpee and the Imphal Turail, the main Manipur river, some 30 miles short of the nearest haunt, 600 soldiers were turned out to make the trip safe) ; BUT—and there was a great deal in that but—the *Loe-nin-koe* had to be got.

Then at last,—necessity is often the mother of invention,—seeing that escape was hopeless, a notable scheme was devised. A party of Kamhow refugees, living or wandering about near the border, were sent for, and two of these I taught to skin. The plan was that all the adult males of the party, some 60 in number, should make their way to the nearest place where the *Loe-nin-koi* was known to occur, and while three or four trapped and two skinned, the rest, who all knew the ground well, should spread out in all directions and guard against a surprise. Set a thief to catch a thief ; being Kamhows themselves, they knew what to expect and how to guard against it, and they knew moreover every inch of the ground. Any one else was certain to be killed, but in their case there was, as they arranged the expedition, little danger. Of course they were clamorous for some of the Enfield rifles of my guard, but as I well knew that then instead of trying to get Pheasants they would have gone head hunting amongst their former acquaintances on their own account, and probably have thus led to a serious counter raid into Manipur, I positively refused to give them any arms. They were to run, not fight, and with all their scouts out, and knowing the ground far better than the Kamhows on the other side of what I may call the Debateable Land, there was no chance of their getting into serious trouble. Now these creatures were the most absolute savages ; they never had, I believe, though my Envoy thought otherwise, the slightest intention of bringing the Pheasants ; all they were manœuvring for was to get a pretext for raiding into their old country and to procure arms so as to enable them to pay out old scores. So naturally when they found that they were to have no chance of doing business on their own account they decamped during the night. Then we sent some of the Moirang people, who had a certain acquaintance with them, to warn them that they must either come back and arrange definitely to get those Pheasants, or they should be driven out of Manipur territory, when, as they well knew their quondam compatriots, would have very speedily accounted for them.

Thereupon they all returned, remarking blandly that they had only run back to their camp in order to fetch food for the

trip. They seemed in such perfect good humour that we were a little too kind to them, whereon they at once began to say that without arms they would certainly not go, and to assume a distinctly insolent manner, though a few hours previously they had crept into the village in mortal terror. Then my Manipur mentor, one of the sweetest-tempered and most patient old gentlemen I ever met with, blazed out in wrath, for the first and last time during the six months we were together (and even then, as I found out, it was only a piece of excellent acting). In a minute two of the leaders were seized, eight men of the guard loaded their rifles, and it seemed as if there was going to be an execution then and there. All the rest of the men began to howl and throw themselves at my feet, but of course I shrugged my shoulders. I could not understand what was passing, but I knew well that my old friend would not hurt a fly, and was quite content to let him play his own game. I found out later that what he had said when he pretended to be so furious was this: "You scoundrels, how many Manipuris have you not killed in old times; when you came as fugitives and we ought to have killed you. I it was who was Governor down here, who induced the Maharaja to spare your lives; now the first time His Highness desires a small service of you, you treat his sacred orders with insolence, you, you dogs! You shall die. Here seize those two and shoot them to begin with."

All began to cry and howl and throw themselves on the ground, but the old gentleman was not to be appeased, and I really became nervous, for eight men with loaded Enfields (which they did not in the least know how to use) but which they were brandishing in the most terrifying manner, were dangerous.

Guessing that he wanted a stepping stone down from his high horse, I then came forward and suggested that, if they at once went off for the Pheasants and brought some within a week, their lives might be spared. He appeared to receive the suggestion with great deference, but most unwillingly, and walked backwards and forwards saying in their language as I afterwards learnt: "No, they shall die; they are only fit to be shot, dogs; still His Excellency is His Highness's guest; it is as though the Maharaja himself spoke, but they ought to be shot. Well, never mind, I will shoot them the next time they give the smallest trouble." Then he turned to them and said that at my request he would spare them if they went off then and there and brought the Pheasants.

Instantly they agreed to go; there was no more hesitation, and in half an hour they were off, laughing and chuckling and vociferously chaffing the two who had been seized for

execution, and who, although they fully believed that they had been within an ace of death, equally treated the matter as a most amusing adventure. Indeed, they went off in such high spirits that I suspected that they had seen through the joke, and that we should see no more of them; but the Envoy told me not to fear. He said: "These are not men, they are mere animals; unless you frighten them you can get nothing done; they always meant to go; all this has been done in the hopes of getting something more out of us; they are in high delight now, because they can easily get the Pheasants without any real danger, and though they have failed to extort more, what you promised them at first is to them what a crore would be to you; they never saw so much money in their whole lives!"

Sure enough, within the week they returned with one beautiful fresh skin and one perfectly uninjured bird in a cage, both unfortunately males. According to their account, the first day they began trapping they were scented, their scouts driven in, and they had to fly. This was probably true, because, as they were to be paid a large sum per bird, once they were on the ground they would assuredly not have contented themselves with securing only two. Being therefore probably true, it was out of the question to think of sending them back again, and for the nonce I had to be satisfied with the two birds.

When I exhibited the skin at the capital the Maharaja was delighted. Neither he nor any one there had ever before seen the bird, and he has kindly promised to procure me more and especially to get me females. Now that I have shown that the bird does exist, and can be got, His Highness is pretty sure to insist on a good supply henceforth.

The live bird, though a full-grown cock, became perfectly tame in a few days, and a great favourite in the camp. It would eat bread, boiled rice, winged white-ants, moths, taking them gingerly out of our hands. At last I thought I really had a prize for the Zoo, something worth sending. Alas the last day I was in the Eastern Hills, about the middle of the night, the huts in which my servants were, and in which was also my poor Pheasant, suddenly caught fire. How, we do not know, but made of dry palm and cane leaves, they were like tinder, and went off almost like gunpowder. The men tumbled out somehow, without shoes, clothes and bedding and all more or less singed, but everything was destroyed, and amongst the rest our poor pet. It was under a heavy wooden trestle which was only slightly charred, and the bird itself was not burnt but had only had its feathers somewhat singed, and had apparently died from suffocation.

According to the accounts of my savages these birds live in dense hill forests at elevations of from 2,500 feet (the height

of the lower end of the Manipur plain, or, as it is miscalled, valley) to fully 5,000 feet. They prefer the neighbourhood of streams and are neither rare nor shy. They extend right through the Kamhow territory into Eastern Looshai and North-West Independent Burmah.

That they occasionally stray up the Jhiri Valley well into Manipur is probable, and they may occur not only where we procured them in the extreme south of that state, but also probably in the southern portion of its Eastern Hills.

The nearest ally of this beautiful species is *Callophasis elliotti*, but our bird, besides the *much* narrower bars on the central tail feathers (by which I at once recognized the existence of an undescribed species), has the neck all round black, and has the lower parts a rich maroon chestnut instead of white, as in Elliot's Pheasant.

Like its nearest ally, this bird is distinctly an intermediate link between the true Pheasants (*Phasianus*) and the Fowl Pheasants (*Callophasis*), and I think that both may well be separated under the generic title *Callophasis*.

Perdicula manipurensis, Sp. Nov.

DIMENSIONS.—

No.	Sex.	Length.	Expanse.	Tail.	Wing.	Tarsus.	Bill from gape.	Weight.
1	Male	7.7	10.5	2.2	3.3	1.1	0.59	2.58oz.
2	"	7.7	10.3	2.1	3.2	1.06	0.6	2.49 "
3	"	7.4	10.2	2.1	3.15	1.02	0.56	2.36 "
4	"	7.5	10.6	2.1	3.25	1.08	0.55	2.42 "
5	Female	7.3	10.3	2.1	3.15	1.02	0.52	2.37 "
6	Male	7.8	10.6	2.3	3.35	1.11	0.55	2.65 "
7	"	7.55	10.25	2.2	3.15	1.17	0.57	2.28 "
8	Female	7.85	10.6	2.15	3.32	1.1	0.57	2.94 "
9	Female, juv	7.25	10.0	1.9	3.0	1.06	0.56	2.11 "

DESCRIPTION.—The legs and feet in both sexes are a rather dull orange, paler and yellower in some, rather darker and redder in others; claws very pale horny drab; upper mandible and tip of lower mandible dark horny dusky; cere a little lighter; gape greenish white; base of lower mandible beyond gape, pale bluish horny; irides brownish red, or orange brown, or hazel (they vary in different specimens); edges of eyelids dusky; lower lid bare, pale leaden blue; soles pale yellow.

Male.—Forehead, a band above the eye, chin, cheeks and throat deep maroon; lores, a patch behind the eye, over, and another smaller one *below*, the ear-coverts, white; sometimes these two patches are united by a narrow white band behind the ear-coverts; ear-coverts stiff, with disunited webs, closely

set over the orifice, forming a noticeable patch, greyish brown; the crown, occiput, nape, neck all round, the entire mantle, including lesser and median primary and secondary wing-coverts, tertiaries and all their coverts, scapulars and upper tail-coverts, grey, with an olive tinge; the feathers of the front and sides of the neck, which are the purest grey, and the lowest of which begin to show a tinge of the buff of the breast, with black shaft stripes beginning in the lowest to acquire a diamond shape; the whole of the feathers of the upper parts fringed at the tips with black, and all but those of the crown, occiput and nape, lesser wing-coverts and tail, closely and narrowly barred, except on the terminal quarter of an inch or so, with black, which barring has a great tendency to become confluent on the inner webs and form large blotches or patches, especially on the scapulars; the extent and frequency of this blotching varies in different individuals. In one or two specimens I have found the olive grey of the tertiaries partly replaced by buff. The tail may be said to be black, narrowly, but not closely, barred with olive grey, varying in different specimens to grey brown, or this with a faint buffy tinge. The winglet, primaries and secondaries hair brown; all but the first primary, which has a narrow marginal band of this color, narrowly barred on more or less of the outer webs with buffy brown. The breast, sides and flanks, very like the same parts in *Francolinus pictus*, buff, with a black shaft stripe and a black cross bar a quarter of an inch from the end, the two expanding where they cross into a sort of diamond; these black markings narrower on the breast, broader on the sides and flanks. Abdomen, vent and tibial plumes, all very soft fluffy feathers, grey at the base, pale dull fulvous, obscurely barred with dusky, on the terminal portions; lower tail-coverts black, tipped with white, and most of the feathers with a pair of white spots one on each web, about quarter of an inch above the white tipping, forming together a more or less imperfect transverse bar. The wing lining is a brownish grey.

The *female* wants the maroon head markings; the forehead, superciliary region and cheeks being unicolorous with the crown or nearly so, and the chin and throat being dull albescent greyish. The buff of the breast and sides is paler and duller, and the transverse black bars wanting on many of the feathers; the white of the lower tail-coverts is to a great extent replaced by dingy buff; the black tipplings to the feathers of the head are less conspicuous, and the black markings of the upper parts are perhaps more often confluent, and show much less of the close regular barring than in the male. Otherwise the sexes do not appear to differ much.

Once, and once only, did I meet with this species, and that was near the bases of the hills in the south-eastern portion of the Manipur Plain.

There were two coveys—one of six and the other of five—feeding in the very early morning in a tiny patch of ground a few yards square, thickly covered with large tufts of freshly springing elephant grass. This patch had recently been burnt; probably it had been fired by design, but the fire had not spread, and all around for many hundreds of yards stretched a dense unbroken thicket of elephant grass, 15 feet high, and so thickly set that it was next to impossible to force one's way through it. I did not see the birds myself as I was a few yards to the right, but two of my people, on whom I could rely, saw them distinctly as they ran into the high grass, and described them to me as small blackish Partridges of an *unknown* kind.

There were about two square miles of high grass covering very uneven and broken ground, and it seemed hopeless to beat it, as we had no elephants and no dogs. So sending every one away quietly, I ensconced myself in the high grass on the opposite side of the little opening to the place at which the birds had disappeared, and stood patiently waiting for about two hours. When it became too late to hope for their re-appearance (this kind of bird rarely feeds in the open after 9 A.M.), I recalled my men and set to work to try and burn the grass, as a good breeze was blowing; but after an hour thus wasted, we had to abandon the attempt. The fire would not spread, the grass was nearly dry, it had lost I mean all greenness, and nearly all natural moisture, but it had rained incessantly for the previous three days and nights and was still drizzling, and everything was too sodden to take fire. Naturally, I was not going to move until I did get a specimen, so my whole camp, soldiers and sailors (we had a lot of boatmen), camp followers, and all the inhabitants of the village were turned out. First we tried cutting, but it soon became obvious that this would be too long a job. So we set to work to divide off the expanse into a number of irregularly sized patches, and this the configuration of the ground with its several ridges, along the crests of which the grass grew comparatively thinly, greatly facilitated. Although we had fully one hundred men working with their heavy hatchet-swords, (*dahs* as the Burmese call them), and working, as only these Easterns can, at trace cutting, it was some hours before we had got the ground into shape, and fully 3 o'clock before beating commenced. At dusk, by dint of our united efforts, I had knocked over six, of which we had failed to retrieve one. The first bird had convinced me that the species was new to me, and what still more surprised me was that the villagers one and all

denied having ever previously seen the bird. We were one and all exhausted with pushing through and through the thicket, and were so cut and scratched by the grass and bruised with stumbles in the broken ground that we were scarcely able to get back to our huts. But I had been very lucky. I had dropped every bird that rose, some of them very difficult shots. They had risen singly and at long intervals.

Next day I let every one have a long sleep, a good breakfast and a good smoke, and by 10 A.M. we were again in the grass. By 3 o'clock I had knocked down five more, of which however we failed to find one. After that we saw no more, and I fully believe that there *were* only the two coveys of six and five respectively seen and counted by my people. I have had many hard days shooting in my life, but never any harder than these two.

But what can we think of the bird? Can it really have been a purely accidental straggler from further east? Not only did the villagers of the place declare that they had never previously seen it, but the same was said in many other villages where I showed skins of it. Moreover, though I beat numbers of other seemingly suitable spots, I never saw another. On the other hand I never again had one-tenth of the number of men beating any patch of grass that I had on those two days, and no bird ever rose on that occasion until it chanced to get so hemmed in between half a dozen beaters that no other alternative remained to it, and about ten days after I shot my nine birds, one of my men saw and shot one in the early dawn just as it was retreating into a patch of grass, also at the foot of the eastern hills, but about 50 miles further north.

On the whole I conclude that, like the not very dissimilar *Ophrysia superciliosa*, Gray, it is very, very seldom seen, because it sticks, except just about daybreak, to practically impenetrable grass jungle, and trusting wisely to its legs for escape, never takes wing unless pressed to a degree that can only happen in very exceptional cases. Even in the grey of the dawn, it apparently only straggles into the lower grass at the edges of the high grass, and when scuttling away looks, my people said, much like a rat, so that under these circumstances, if sparsely distributed, it is not perhaps surprising that it should never have been noticed or recognized by the villagers, though these, I must confess, are not unfrequently pretty close observers alike of birds and beasts.

Probably with good dogs to assist one, this species would be found to occur, here and there, everywhere along the bases of the eastern hills, just where they abut on the Manipur plain. On the western side of this, which I have much more thoroughly worked, they do *not*, I think, occur.

I have classed this bird as a *Perdicula*, to which structurally it is very close, but so far as the lower plumage goes it recalls the Southern Francolin, while in its upper plumage it reminds one of *Ophrysia*. I am not sure that it ought not to constitute the type of a separate genus, but the game birds are already so sub-generized that on the whole I prefer to retain it as *Perdicula*, with which it agrees sufficiently well.

I never heard it call, though certainly the birds go normally in coveys, and we separated the individuals composing these widely enough.

Those killed had fed on grass seeds, pods of a tiny wild lentil, and ants of various colours. In one there were tiny black fragments that looked like portions of the wing-cases of some coleopterous insect.

A. O. H.

Additional Notes on the Nidification of Birds in British Burmah.

BY CAPT. C. H. T. BINGHAM.

ALTHOUGH during the past season I have taken a good many eggs, accounts of which I have forwarded to the Editor for the next edition of NESTS AND EGGS, I have only succeeded in procuring the eggs of six species of which eggs had not previously been taken, and of these even, one must remain for the present somewhat doubtful.

These six species are as follows :—

73 bis.—*Ketupa javanensis*, Less.

On the 27th February, while wandering about in the neighbourhood of Meeawuddy on the Thoungyeen River, I started a couple of these Owls, of which I shot one, from among the branches of a large Nyoung-bin (*Ficus*, sp. ?), hanging over the bank of a small *choung* or stream. Thinking there might be eggs, I sent a peon up, and soon heard from him that at the place where a large branch forked off, a natural depression existed, where a single large round white egg lay on a few withered twigs and feathers. The egg was quite fresh, dull chalky-white in color and measures 2.21 inches by 1.87 inches.

[This egg is an excessively broad oval, and though somewhat smaller, precisely similar in other respects to eggs of *K. ceylonensis*.—A. O. H.]

122.—*Nyctiornis athertoni*, Jard. and Selb.

I cannot positively vouch for the four eggs said to belong to this species which I have procured. The case stands thus: On the 23rd April a Karen, named Myat-jo, in my employ, brought me four roundish white, very glossy eggs, and the dead body of a bird of this species, which on dissection proved to be a female, evidently breeding. His story was, that he watched the bird go into a hole in the sandy bank of the Meplay stream, and dug it out, catching it alive seated on the four eggs he had brought me. As the place was not more than a mile or so from where I had pitched my camp, I went off at once with him to inspect the spot. Examination of the ruined nest and further questioning of Myat-jo elicited the following:—A tunnel had been dug by the birds into the soft bank to a depth of seven or eight feet, ending in a rounded chamber. The eggs reposed on the bare ground, there being no attempt at a nest. The bird pecked vigorously at Myat-jo's hand, when from time to time he put it in to ascertain how much further he had to dig. The eggs were very hard set, and I had much difficulty in cleaning them out. They measure 1.13×1.05 , 1.16×1.02 , 1.12×1.04 , and 1.17×1.02 .

Myat-jo being an aboriginal Karen, and belonging to a village to which missionaries have not yet penetrated, I myself have little doubt that the eggs are authentic. I have moreover never yet found him trying to impose on me.

[On the whole I also am inclined to accept the eggs. There is no doubt that they are undistinguishable from the eggs of *Halcyon smyrnensis*, but there are nevertheless several reasons for believing that they may really belong to *N. athertoni*. In the first place I have never known *Halcyon smyrnensis* bore anything like so deep a tunnel. In the second place the female specimen of *N. athertoni*, said to have been caught on the eggs, proved to be a female that had been then recently laying. It had been caught and not shot, and if he did not catch it in the hole, it is difficult to understand how the Karen could have got hold of it. In the third place the eggs are precisely what the bird might have been expected to lay.

At the same time it must be admitted that we have hitherto had reason to suppose that this bird bred in holes of trees, and Captain Bingham himself once shot a breeding bird issuing from such a hole, and very few species of birds lay both in holes of trees and in holes in sandy banks.—A. O. H.]

168.—*Mulleripicus pulverulentus*, Tem.

Last year during the rains I found that one of the very largest Kanyin trees (*Dipterocarpus alatus*) had been blown

down and formed a very convenient bridge over the Winsaw choung below the village of Boolooway in the lower Thoungyeen. The road over this part of the Winsaw not being much used, I found that a pair of *Mulleripicus pulverulentus* had bored a hole into the side of the tree. It was $3\frac{1}{2}$ inches in diameter, extended for about a foot inwards, and then for about 8 inches downwards, and contained on the 30th April two fresh, rather glossy white eggs, measuring 1.41×1.11 and 1.41×1.12 respectively. There was no lining to the nest, the eggs resting on the bare wood.

The eggs are very broad ovals but markedly pointed towards the small end.

191 bis.—*Megalæma virens*, Bodd.

On the 12th February, on the bank of the Mekhnay choung in the Thoungyeen Valley, I found my first nest of this bird. It was in a hole in a jungle tree, name unknown, at a height of about 30 feet from the ground. Not made as many Barbets' nests are made on the underside of a branch, but bored into the upright stem for about 3 inches, terminating in a natural hollow, at the bottom of which on the bare wood lay three fresh eggs, broad ovals, dull white, but only here and there with faint traces of a gloss. A second nest on the 3rd March at Meeawuddy contained two young ones.

A third, found on the 26th March on the bank of the Maigla choung, contained one young one, apparently just hatched and one very hard-set egg. This was in a hole in a dead teak tree at about 20 feet from the ground, and was like the first an entrance bored into a natural hollow, which was unlined.

I am glad to say that, though the getting out of the egg necessarily enlarged the entrance hole, the birds did not desert their young one, for I saw them feeding it the next day. The four eggs procured measured 1.35×1.06 , 1.30×1.05 , 1.32×1.05 , and 1.37×1.01 .

344 ter.—*Pitta cyanea*, Bly.

For some reason or another Pittas were excessively plentiful this year at Kaukarit.

Of the above species I found two nests with eggs and four with young ones. Of these I only found one myself, the others were marked down for me, and I went and saw them.

All the nests were of one type, globular masses of earth, leaves, twigs, &c., bound together with vegetable fibre and lined interiorly with roots. One I measured was about 8 inches in diameter and about the same in height. In five the entrance hole was about half way up one side. In one the opening was close on to the

ground. The two nests with eggs were found respectively on the 23rd and 26th May, and contained one four, and one five eggs. These nine eggs are all of one type, ground color glossy white, spotted, scratched, and streaked, especially at the large end with purple, and having also obscure purplish cloudy spots. They measure 1.09×0.85 , 1.07×0.85 , 1.08×0.86 , 1.05×0.82 , 1.05×0.85 , 1.09×0.86 , 1.06×0.83 and 1.05×0.82 .

[The eggs are very close to those of *Pitta cuculata*.—A. O. H.]

346 *ter*.—*Anthocincla phayrii*, Bly.

Right up among high hills and in dense evergreen forest, the Meplay, the largest tributary of the Thoungyeen, takes its rise. Up at its source where it is a mere bubbling rivulet, lies the small Karen hamlet of Hporrlai. On the 21st April this year (1881) I pitched my camp there, and in the evening strolled round with my gun. On the side of a steep bank covered by dense evergreen bushes, I saw something moving, which I at first took to be a rat, but presently made out to be a *Pitta* of some kind scratching among the leaves. Breathlessly waiting with gun at full cock I watched the bird for full ten minutes. At last it came well into sight and I recognized it as a male of the above species. I hastily raised my gun and fired, knocking the bird over, and to my astonishment flushed a second, which, by the hasty glance I got of it, I thought was a female, wanting the black about the head. As I picked up the dead bird it flashed on me that these were a pair, and that there might be a nest, and sure enough a little search showed me a compact little oven-shaped nest, made on the ground at the foot of a tree, of leaves, roots, and grass, and containing four eggs. The entrance to the nest was at the side looking down the steep slope on which it was built, and having a firm little platform of twigs leading up to it. The interior of the nest was lined with fine black roots. The eggs are glossy white, spotted chiefly at the larger end with purplish black. They measure 1.10×0.88 , 1.08×0.85 , 1.09×0.85 , and 1.10×0.86 . I may add that I did not take the eggs, or disturb the nest there and then, but waited till the following morning, hoping to secure the female. I was disappointed however, the eggs were quite cold and the nest had evidently been deserted. Work obliged me to shift camp that day. I tried to remove the nest, but notwithstanding the utmost care, it tumbled to pieces.

[The eggs of this species are most interesting. They entirely confirm the view that I have held from the first, namely, that this bird is one of the *Pittidæ*. No one comparing the eggs with those of *Hydrornis nipalensis*, *Pitta brachyura*, *moluccensis*, *megarhyncha*, *cyanea*, and *cuculata*, could doubt that this bird

belonged to the same sub-group as all of these, and yet they have a distinctive character of their own.

In shape they are broad ovals, but they are rather more pointed towards the small end than are those of any of the species above referred to; and, though they have the same glossy china to creamy white ground and the same purple markings, these latter are rather darker in colour, and as a whole more pronounced and more spotty and speckly than those of any of the species above enumerated. They scarcely show any of the peculiar angular hieroglyphic-like lines and scratches so common in the eggs of *moluccensis*, *megarhyncha*, *cuculata* and *cyanea*; and, though in this respect the markings approach those of *nipalensis* and *brachyura*, they are smaller and blacker than those of the eggs of those two species, and show scarcely any of the reddish purple tint that characterises so many of the spots in both *nipalensis* and *brachyura*.—A. O. H.]

Notes, chiefly Oological, from North-West Ceylon.

BY H. PARKER, C.E.

THE following notes, being supplementary to Captain Legge's *History of the Birds of Ceylon*, his nomenclature has been adhered to, with the ordinary numbers and arrangement. They refer almost entirely to the Mannar district.

25.—*Accipiter virgatus*, Tem.

One nest of this Sparrow Hawk, found in June, was situated in a small tamarind tree overhanging the main road. It was about 35 feet from the ground, in a vertical fork among the small twigs on the top of the tree, and in appearance resembled the ruins of a Crow's nest. It was constructed of small sticks and twigs, without any lining, and was a very thin, ragged structure; all but the centre could be seen through. It was about 18 inches wide exteriorly, and the saucer-shaped egg cavity was nine inches across. It contained one nestling, partly feathered, looking like a miniature young *Spizaetus*, with a dark-grey iris, and a pale or lemon-yellow tarsus and foot. I temporarily left the bird in charge of my horse-keeper, who allowed either a Kite or a *Spizaetus* to carry it off; it seems, therefore, that raptors *do* sometimes "pyke out Hawks e'en."

When the man who climbed up the tree approached the nest, the young Hawk stood erect, extending its wings and opening wide its mouth, and effectually frightening him, although it was too young to make use of its bill. The mother-hawk

circled overhead a few times, and eventually settled on a tree a short distance away. Before the nest was taken she attacked and drove away a Crow (*C. macrorhynchus*.)

35 bis.—*Spizaetus ceylonensis*, Gm.

February, March, April.—Four nests of this Hawk-Eagle were built in large trees in open jungle, in positions from which a good look-out was obtainable. They were at heights above the ground varying from thirty to forty feet, and in upright forks formed by the main branches, or among the smaller branches nearer the top of the tree. They were constructed of substantial sticks and twigs, with a lining of green or dead leaves—green ones in the case of newly-built nests—and were from two feet nine inches to three feet in external diameter, rather flat, and so thin that all but the lined saucer-like egg-cavity could be seen through. Two nests contained one fresh egg a piece, and another (in April) a nestling with the first wing feathers just appearing.

The eggs measure 2.72 by 2.02 inches, and 2.46 by 1.76 inches, and are rough and glossless ovals, slightly pointed at the large end. The colour is a very pale bluish-green, in one all but white, with numerous light reddish-brown specks and scratches, almost entirely confined to the obtuse quarter of the shell.

The larger eggs belonged to a bird agreeing well with Captain Legge's "dark form, three or four years old"; the other to a smaller bird, intermediate between that and the "light form." The birds sit very close, and only left the nests when the men, whom I sent up, were within a few feet of them.

56.—*Milvus govinda*, Sykes.

December, January, February, July (young), November; but chiefly in the first three months.—The building of the nests occupies almost exactly three weeks—the first being devoted to laying the sticks, the second to plastering the interior with mud or clay (which seems to be the universal rule here, to judge by some thirty nests that have been examined for me), the third to collecting the lining of leaves, grass, and especially bits of rag. Palmyra trees near villages, and sometimes overhanging the houses, are the favorite site, but other tall trees in the jungle are also chosen. From one to three eggs are laid.

104.—*Dendrochelidon coronatus*, Tick.

March to October.—The nests resemble those of Indian birds; when feathers are employed they are the bird's own: evidently it considers that Crested Swift's feathers are too valuable to be wasted. I failed to notice that they are used systematically,

or that the nests containing them are stronger than the others. The bird's saliva is the only cementing material. I have often watched the birds tear off the bits of bark used, and carry them straight to the nest. They attach them from the outside, and reverse the usual order, beginning with the inner coating or lining, and afterwards fixing on the larger flakes composing the outer one. The nests vary much in size and position, being from one to two inches in diameter, and high up or low down on any handy tree, big or little, dead or living. The birds often sit on them before the egg is laid, and the nests are easily found when one knows where to look for them, that is, always at an "elbow," or on a horizontal *exposed* branch, from three-quarters of an inch to an inch and a half in diameter. Many nests are destroyed, perhaps, by Crows. The bird does not alight on the nest, and in some cases I believe does not even touch it with her feet. She first settles on the branch, and then shuffles her body forward until her breast rests against the opposite wall. Sometimes one or two flakes of bark are glued on the top of the branch, probably to give her feet a better hold. She sits very close, and when on the nest often answers the calls of her mate, who is always in the immediate neighbourhood. The site is sometimes selected a month or more before the construction of the nest is begun; in that case one of the birds is always to be found perched at it in the early morning, and often during the day also.

Two eggs measure $0.88'' \times 0.64''$, and $0.91'' \times 0.62''$. They are very pale dull creamy grey in colour, and somewhat glossy, almost elliptical, but slightly compressed towards the small end. They appear to be discoloured, but that is not the case; a perfectly fresh egg is of exactly the same tint as a partly incubated one.

When the nestling is partly feathered it is fed at long intervals, the birds ejecting the food from the gullet, like Parrots. When able to fly a little it perches near the nest, or on a higher branch, occasionally preening itself, and watching every movement of the old birds with the greatest interest. On the close approach of one of them, however, it becomes perfectly immovable, or, as one of my men remarked, "when the bird came, without speaking, it simply sat." While in the nest, and even after it is as well feathered as the parents, it has a weak, whistling note, very much like that of a young pigeon, which it mostly utters as the old birds are flying near, apparently as a mild reminder that it would like a few more flies.

111.—*Caprimulgus atripennis*, Jerd.

A solitary egg in my collection measures $1.12'' \times 0.81''$.

119.—*Merops swinhoii*, Hume.

April to June.—In Ceylon this Bee-eater usually breeds in small colonies, numbering from three to ten pairs, and prefers secluded river barks, but will nest in road-cuttings, or even under roads, or in almost level ground. The nest-holes are from 1 foot 9 inches to 4 feet 6 inches long, some level, some sloping upwards—generally the latter. The egg-chamber is commonly 6 inches in diameter and 5 inches high, and in the majority of cases is dug out at one side of the entrance tunnel. The number of eggs varies from four to six; occasionally some are laid outside the nest-hole. Twenty eggs average $0.86'' \times 0.74''$.

133.—*Ceyx tridactyla*, Pall.

It should be noted that the eggs of this bird are quite unlike those of other Kingfishers. They have well-marked small ends, and are also somewhat pointed at the other end. The shells are of very fine texture, and are excessively fragile; they have a decidedly pink appearance before being prepared, and afterwards do not assume the opaque white of other eggs. The bird breeds in dense forest or jungle, far from water, in the banks of dry streamlets, the months being April, July, and August, I believe, and probably also May.

141.—*Anthracoceros coronatus*, Bodd.

A young bird, presumably in nestling plumage, shot in September, had all the feathers that are black in the mature bird, except the primaries, secondaries, and the two central rectrices, (which last were both new), broadly barred transversely with dull brownish white, each feather having a band near the end. The other plumage was like that of the adult.

Intelligent natives, who have taken the eggs and young of this Hornbill in the N.-W., N.-C., and Northern Provinces, fully confirm the statements in Captain Legge's book. In the absence of other information I therefore give what has been learnt:—The birds breed from March to June, the holes being always plastered up. The number of eggs varies from two to four, white when newly laid, but much discoloured when partly incubated. In every case one of the parent-birds was found in the hole; in one instance three young ones were with her, "as large as the old bird," as well as an addled egg; at other times half-grown nestlings have been taken.

148.—*Palæornis torquatus*, Bodd.

There is a large colony of these birds along the coast adjoining Mannár island. How far they extend is uncertain, but for

a length of four miles and a width of a quarter of a mile I found them breeding in great numbers in January, some nest-holes being only three or four feet from the ground. I succeeded in tracing the birds to their feeding-ground in the forest, 20 miles away, but probably they range further.

181 bis.—*Brachypternus intermedius*, Legge.

This Woodpecker is not uncommon in the low open jungle a few miles from the sea. The habitats of this and *B. puncticollis* overlap here for certainly 15 miles.

257 bis.—*Lanius caniceps*, Bly.

February to April.—Twenty eggs average 0.91" $\times$ 0.66". A pair of these Shrikes reared three clutches of young in my compound (two of them out of one nest) from December to May, inclusive, but this must be abnormal breeding.

These birds are particularly fond of frogs, which they impale after the Shrikish fashion, but they are no respecters of "vested interests" in them, and do not hesitate to carry them off as soon as the impaler's back is turned. They have a low but pleasing song, something like the English Robin's, and are good mimics. Those in my compound incorporated the squeaks of a captured frog in their song; knowing their favourite food one can understand their considering this an attractive noise. On very rare occasions they hover above an insect, like a Kestrel.

432 bis.—*Malacocercus striatus*, Swains.

Every one knows the affectionate disposition of these birds. *Audi alteram partem.* When riding along the road one day in October 1880, I heard the voices of many mud-birds engaged in a most violent altercation in a large open bush in the fence. On stopping to ascertain the cause, I found two parties of the birds, each 14 or 15 strong, in a state of the greatest possible excitement, gradually edging towards the centre of the bush from opposite sides. They took no notice of me, though I was but a few feet from them. Suddenly, so quickly that I could hardly make out how it came about, the whole 28 or 30 birds were engaged in a combat, which, for either ludicrousness or ferocity, it would be difficult to equal. The bush was soon abandoned, and the whole party adjourned to the ground, as affording more scope. There the birds at once separated into pairs, and actually *sat down on their hams*, in order to be able to make use of their feet as well as their bills. Those composing each pair seated themselves opposite each other at very close quarters,—the tail being extended behind, and acting as a support,—and while pecking with might and main at the head,

clawed savagely at each other's breasts and abdomens. Occasionally they scuffled, rolling over each other, but never ceasing the fight. The spectacle of these 14 or 15 pairs, more like little demons than birds, all pecking, scratching, screaming, and tumbling about over each other almost at my pony's feet, was a sight not to be forgotten. After several minutes of this they returned to the bush again, and I was obliged to continue my journey, but the fight appeared to be far from over. I imagine that the two hostile parties, when working their way along the fence, met quite accidentally in the bush, as I was riding up, and neither being inclined to give way, some uncomplimentary expressions were bandied about, resulting in this collision. The birds are very excitable, and an ungovernable fit of rage seems to have taken possession of them.

543.—*Drymœca insularis*, Legge (? inornata, Sykes.)

Out of 14 eggs in my collection 12 possess the hair-like streaks, in some cases resembling a dilapidated spider's web at the obtuse end.

544 *ter.*—*Drymœca jerdoni*, Bly.

January, and probably the following months.—This bird breeds in open jungle clearings, or on road sides, and the nest is built in and attached to long grass and weeds, about a foot from the ground. It is globular, with an entrance at one side, and is formed externally of rough blades and stems of grass tied together here and there with bits of spider's web and small silky seed-plumes; the lining is composed of very fine grass worked round the inside—chiefly the seed-stems. It is $3\frac{1}{2}$ inches in diameter, some being a trifle deeper; and the width of the orifice, which is circular, is $1\frac{1}{4}$ inches.

Three eggs are laid—ovals, regular or narrowed, glossy, and slightly pointed at the large end. The colour is white, overlaid with fine stipples, or, in some, merely spots of pale pinkish red, or salmon colour. These markings are confluent and much deeper in tone at the obtuse end, where they form either a well-defined cap or a zone. The mean dimensions of four are $0.66'' \times 0.48''$.

545 *ter.*—*Drymœca valida*, Bly.

January to April, and probably May.—Common in the Mannár district. Very low thorns among a growth of long grass in open spaces in the jungle, or on the road side, are selected as sites, and the well-concealed nests are from six inches to two feet from the ground, and usually like those of *D. jerdoni* in shape, size, and materials, with perhaps rather more of the spider's web on the outside. An exception was formed outwardly of rough blades

of grass and the silky plumes of seeds, tied, like the others, with spider's web, and having the ordinary lining.

Three eggs are laid, glossy ovals, in some cases compressed in the centre, in others towards the large end. The ground colour is white, overspread with faint salmon-coloured, or pale buff, indistinct, longitudinal markings, which are confluent in a much darker cap at the obtuse end, or in some instances in a small zone. In two eggs in my possession the markings might be termed small blotches, and they have a pinkish tinge. Five eggs give an average of $0.67'' \times 0.50''$. As might be expected, the eggs show a very close affinity to those of *D. jerdoni*, but they are more spherical, and the markings are rather bolder and slightly darker. The birds breed only once a year, but continue to frequent the neighbourhood of their nests.

660.—Corone macrorhyncha, Wagl.

During dry weather these Crows are accustomed to store away meat in the hot sandy beds of streams. When I was on a shooting trip in September 1880, some of them spent several days in carrying off and burying the results,—to feast their famine on the fat of bears. Unluckily for the Crows the camping-ground was changed, and the new site proved to be almost over one of their stores. It was amusing to see their anxiety to remove the delicacy before it was stolen; they worked indefatigably under a broiling sun for six hours, until it was deposited in a less disreputable neighbourhood, about 100 yards away. What particularly struck me was never once observing one of them insert its bill in the sand without extracting a piece of meat, although the store covered several square yards. There must have been fully a bushel of meat in it.

777.—Osmotreron pompadoura, Gm.

Eight eggs give an average of $1.15'' \times 0.88''$. This bird deserts its nest on the least possible provocation.

780.—Carpophaga ænea, Lin.

September to July.—Three eggs give an average of $1.73'' \times 1.31''$. They are pure white, smooth, very glossy and somewhat elliptical, but slightly compressed and pointed at one end. Only one egg is usually laid. The nests are abandoned on being examined.

At the close of the breeding season these birds collect in small flocks, numbering from 6 to 30, or more, and appear to have regular roosting places, from which they issue in the morning to their feeding grounds, often several miles away. Their habits while breeding resemble those of other pigeons.

796.—*Turtur risorius*, *Lin.*

January to July.—Ceylon eggs are smaller than Indian ones, the mean dimensions of fourteen being $1.08'' \times 0.86''$.

845.—*Charadrius fulvus*, *Gm.*

In addition to the egg mentioned by Captain Legge, I now possess another which I picked up at a spot where the birds were in breeding plumage very shortly before. It closely resembles the former one. As the eggs are not quite of the same colour as those in England, a description is given:—The shells are rather rough and almost glossless. In shape the eggs are oval; one is obtuse at the large end, the other somewhat contracted transversely, more pointed at the large end and blunter at the small one. They have a pale, creamy, stone-grey ground colour, one being slightly inclined to a greenish buff, over which, and chiefly at the obtuse end, are thinly scattered moderately round spots, blotches, and a few irregular scratches of pale and dark umber-brown and "cold" sepia, with some inferior and often underlying clouds of faint bluish inky-grey. Their dimensions are $1.88'' \times 1.38''$, and $1.83'' \times 1.33''$.

856.—*Lobipluvia malabarica*, *Bodd.*

April to August.—The average size of 20 eggs is $1.45'' \times 1.05''$.

859.—*Edicnemus scolopax*, *S. G. Gm.*

May to October.—The average size of 18 eggs is $1.86'' \times 1.36''$.

860.—*Strepsilas interpres*, *Lin.*

This bird was plentiful on Adam's Bridge in June.

861.—*Dromas ardeola*, *Payk.*

June.—This bird breeds, as Captain Legge supposed, at Adam's Bridge. I examined part of the sand banks myself, unsuccessfully, beyond meeting with a few non-breeding birds, and a partly-excavated nest-hole; and then sent on an overseer, who has had a special training in oology and collecting, and who is particularly observant and accurate, to complete the examination up to Ramesvaram. He reported the discovery of 17 nests, all containing young, in a colony on one bank; but as the particulars noted by him on the spot differ in some respects from other accounts, (*Stray Feathers*, 1877), I reserve them for further verification.

902.—*Porphyrio poliocephalus*, Lath.

January and February.—Ceylon eggs are smaller than Indian ones, the average size of 20 being $1.89'' \times 1.34''$. The almost newly-hatched young conceal themselves by sinking beneath the surface of the water.* In Ceylon the Coots do not breed simultaneously; young birds, eggs in all stages of incubation, and partly built nests are found in the same tank. In some cases the eggs are laid at considerable intervals; I have met with a nestling; partly incubated eggs of different ages, and fresh egg, in the same nest. According to my experience six is the maximum number of eggs laid.

905.—*Gallinula chloropus*, Lin.

January and February.—The Moorhen, hitherto supposed to be one of our rarest birds, is a regular cold season migrant to the Mannár district, and is moderately plentiful in all the tanks. In habits and nidification it differs in some respects from Indian or European birds. It frequents the middle of the tanks, and conceals itself so skilfully that it may easily be overlooked, its favourite haunt being the thickest sedge, out of which it is only to be flushed with difficulty.

The nest is always placed in a low, partly submerged, thorny tree or bush, at heights above the water varying from one foot to eight feet. As a rule, it is close to the stem, but occasionally it is situated at some distance from the trunk, on the lateral branches, and one was found among the leaves at the edge of a thick bush. Few of the nests are within 150 yards of the margin of the tank, and I have examined some a quarter of a mile from the shore. The bird deserts the nest for almost no reason; even to look at one without touching it was quite enough to ensure its abandonment. The male takes part in the incubation, one being shot off the nest for me. The eggs are of the usual number and colouration, and are slightly narrower than English specimens, the average size of 20 being $1.62'' \times 1.15''$.

The birds seem to be identical with Indian ones; but the casque extends back to a line joining the centres of the eyes. I did not observe when the birds first arrived; I was unable to find any after the beginning of March, when the sedge was left almost dry by the lowering of the water.

916.—*Leptoptilus javanicus*, Horsf.

February to April.—At length I can give some trustworthy information regarding the breeding of the Hair-crested Stork in Ceylon. A nest was found by three native hunters in

* This is noteworthy; it is not a habit of the adults, so far as I know.

February, in very dense forest, several miles from anywhere,* and the eggs, two in number, were brought to me. Both birds were on the tree, one being on the nest. Subsequently one was shot for me, still frequenting the tree. The nest was a large structure of sticks high up in the tree, and that is all I know of it. The men stated that, as the eggs were being taken, the birds circled overhead, making a noise like that caused by the vibration of telegraph wires in a wind.

The shape of the eggs is a somewhat narrowed oval, slightly pointed at the large end. They are white, and closely pitted or granulated, glossless, of a rough, chalky, absorbent texture, and would apparently be soon discoloured; although they were newly laid, one is already considerably soiled by the feet of the bird. Their dimensions are $2.82'' \times 2.11''$, and $2.86'' \times 2.07''$.

Later in the same month, I met with another egg which I doubtfully identify as belonging to this bird. It was lying on the sand in the almost dried-up bed of the Aruvi Aru, the small river entering the sea at Mannár, dropped, as was evident from the clearly-defined foot-prints, by a large wader, as the bird was stalking leisurely along. The stride was 25 inches, too big, I fancy, for *Dissura episcopa*, the stride of which is from 18 to 21 inches. The egg exactly resembles the others in colour, shape, and texture, but is much smaller, being only $2.58'' \times 1.85''$. The White-necked Stork was the only other large wader frequenting the spot.

Afterwards, Mr. Hawkes, P. W. D., informed me that he received a nestling from the Eastern Province forest in February 1879, and still has it quite tame. Subsequently he wrote that at the beginning of last April, Captain Walker, of the Forest Department, came upon a large colony "dozens of nests" at Rukam tank, in the Eastern Province. The nests contained young, some of which are now being reared.

In the Mannár district, the "Adjutants" do not breed in colonies, but pairs are scattered throughout the forest tract. During the breeding season I often saw single birds coming from it, at a great elevation, to the low lands nearer the sea, and returning, presumably, with food.

917.—*Xenorhynchus asiaticus*, Lath.

This Stork probably breeds in Ceylon during the north-east monsoon. I found one nest in a tall tree on the sea coast, then occupied by a pair of Fish Eagles (*H. leucogaster*). The boatmen, who constantly pass the spot, informed me that it was built in 1880 by a large wader, and their description

* This reminds one of the American, who lived "at the back of nowhere!"—ED.

of the bird left little doubt as to its being the Black-necked Stork, which is not very uncommon in the neighbourhood, and well known by all the villagers. The eggs were taken by another boatman and eaten.

919.—*Ciconia alba*, Bechst.

December to February.—Captain Legge was quite justified in thinking there must be a mistake in my identification of this bird at Nikaweratiya, N. W. P., but nevertheless there *certainly* was a colony of 15 or 20 pairs of White Storks breeding at the tank in December 1878. *Tantalus leucocephalus* has not been observed at the spot, and I am not aware that it ever visits the neighbourhood.

The nests were in two or three partly-submerged, dead, thorny trees, standing in the upper part of the tank, and several Cormorants (*P. pygmaeus*) and Egrets (*H. intermedia*) were breeding in the same trees, but, as a rule, at a less height. Some of the Storks' nests were on the tops of the trees, others near the ends of the higher branches, the highest being not more than 18 feet above the water. They were constructed of sticks and twigs, with a slight lining of twigs and stems of weeds, and were larger and more substantial than those of *Ibis melanocephala*; the dimensions were not recorded. The egg-cavity was slightly cup-shaped, so much so that the young birds could not be seen from below unless their heads were raised. In all the nests examined there were either three well-incubated eggs, or three young birds, miniatures of the adults, the bright red of their bills and legs being very striking. While I was near the nests the old birds perched on the tops of closely-adjointing trees.

In shape the eggs resemble some of those of *Ibis melanocephala*, being elongated ovals, but they are only compressed towards the small end, and not really pointed at it; the angle is more acute at the large end. The shells are rough and glossless, minutely pitted throughout, and in colour dull white. Four eggs average $2.55'' \times 1.68''$.

The Storks have since wholly deserted the tank, but in the following season I discovered a small party breeding about 20 miles away, with a flock of *Dissura episcopa*, in a clump of tall, leafy trees standing in another tank. During the day they fed gregariously in neighbouring paddy-fields,* stragglers returning occasionally to the breeding quarters. About half an hour before dusk the whole party came in, and settled

* Ibises would have fed in the tanks. Even supposing my identification of the adults was wrong, which, however, I do not admit, what Ibis (or other Stork) has young with snow-white plumage, black quills, and legs, feet and a straight, sharp-pointed bill of a red colour?

on the tops of trees near their nests, gradually disappearing as darkness approached. These tanks and the whole Mannar district have been repeatedly examined for me during the last breeding season, but not one White Stork has been found. I imagine that the second colony consisted of birds formerly at the first one, and that the protracted drought of 1880 has temporarily driven them away, *Dissura episcopa* having also left the same breeding station. The number of other waders has also greatly diminished.

? 921.—*Ardea goliath*, Rüpp.

In September 1880, during the drought, I met with a gigantic Heron, much larger than *A. cinerea*, and resembling the Giant Herons in the Colombo Museum, feeding in a miserable little puddle, a few inches deep, in the bed of the Aruvi Aru, in company with a party of Black-headed Ibises and shell-eaters. It frequented the river for some time, and was not very shy. I expect it will be found to be a resident in Ceylon.

950.—*Sarcidiornis melanonotus*, Forst.

January, and probably February and March.—Dimensions of non-breeding Ceylon specimens shot in February out of a flock of about 50, are—

	l.	w.	t f.v.	tars.	b.f.g.	mid-toe	claw.
Giant's Tank, male	28 00	13 30	5 90	2 80	2 50	2 90	0 50
Ditto female (four)	21 40	10 90	5 25	2 00	2 00	2 20	0 42
	to	to	to	to	to	to	to
	22 70	11 80	5 60	2 20	2 20	2 60	

Iris dark brown, nearly black; bill black; legs and feet dark leaden; toes horny; nostril in an elevated membrane. The females possess a rudimentary comb, in the form of a black, soft, wrinkled protuberance, .02-inches high, extending longitudinally over the part of the bill occupied by the comb in the male. In the females the colour of the back varied from plain grey to grey, with darker brownish spots, or with slight transverse bars in the lower part.

952.—*Dendrocygna javanica*, Horsf.

There is a small race, which may perhaps prove to require specific separation, of the Whistling Teal, in the Mannar district. Its colours resemble those of the common bird, but the higher side feathers are elongated, tawny, with a buff white mesial stripe, chiefly on the upper web, the outermost upper tail-coverts being pale buff-yellow on the outer web. The dimensions of one procured in February are:—*Giant's Tank*, Female—Length, 15.12; wing, 7.15; expanse, 27.86; tail from vent, 2.65; (extreme tips of feathers worn off); tarsus, 1.70; mid toe, 2.35;

claw, 0.38; tibia unfeathered, 0.75; bill at front, 1.45, at gape, 1.64. Iris deep brown; orbits bright yellow; bill bright leaden at the base, darker at the tip and culmen; legs and feet leaden, lightest at the tibia; claws black; weight, 14 ozs. Another specimen, shot by one of my men, had a length of 15 inches; it was eaten before I obtained its other dimensions.

The former bird was captured on its eggs, which were deposited in a hole in a tree standing in a tank, without any nest. There were ten eggs, their dimensions, including two others, procured, being mean $1.68'' \times 1.33''$; maximum length, $1.76''$, breadth $1.36''$; minimum length, $1.59''$; breadth, $1.30''$. In texture and colour they resemble the eggs of the larger bird, but are slightly narrower ovals.

These birds are well known by the villagers of the district, and frequent the same tanks as the ordinary Whistling Teal, but do not associate with it, and usually keep in small flocks of 10 or 15 birds. Their habits and note are the same as those of the larger race. I have seen several flocks, but failed to procure other birds. They can be distinguished, when on the wing, by their small size.

953.—*Dendrocygna fulva*, Gm.

This is new to our Avifauna. In December 1880, nine specimens of this bird were killed at one shot in Mannár island. They came under the notice of Mr. G. Simpson, of the Telegraph Department, who, with the aid of "Jerdon," identified them as the large Whistling Teal. They were consigned to that limbo of many another rare bird, the "pot," and no dimensions were recorded; but Mr. Simpson possesses such an intimate acquaintance with the Ducks and Teal of Ceylon that it is very improbable he was mistaken. I have since learnt that these birds not unfrequently visit Mannár in the cold season, and have several times been shot by native sportsmen.

982.—*Sterna caspia*, Pall.

June.—Considerable numbers of these birds, mostly non-breeders I believe, frequent the sand banks near Mannár throughout the year. When examining the banks at Adam's Bridge, I came upon a colony of six nests of these fine Terns, containing nine eggs. They were shallow hollows scratched in the sand, from five to seven inches wide, and one to one half inches deep. Two had a partial lining of twigs and a few shells, but the others were without any. The number of eggs was one or two. The nests were on the highest ridge of the bank, all near together, from one foot to about six feet apart, and not more than a few inches above high-water level. The average size of the eggs is $2.43'' \times 1.70''$.

The birds at first circled round for a short time, and afterwards joined a large party of other Terns at a small neighbouring bank, from which some of them made frequent sallies, flying over my head a few times and then returning. Their cry was a hoarse croak, or a scream.

Later in the day I found a pair evidently breeding at another bank beyond that at which my expedition ended, but I could not spare time to visit it. They came out boldly to attack my men, and made very determined swoops, often coming within three feet of my head. They then rose vertically above me for 50 or 60 feet, and after flying back towards the nest returned to renew the assaults. The more timid of the birds, which I presumed was the female, occasionally settled on the nest for a short time, while the male was engaged in bullying me; as I told him at the time, it was nothing else; I had not attempted to molest him, and the nest was certainly quite half mile away.

985 bis.—*Sterna dougalli*, Mont.

June.—(*Adam's Bridge*).—On a small low bank there was a colony of some 200 pairs of this beautiful Tern, *all breeding*! The birds were extremely tame, settling on the nests when I was only 30 yards distant. At short intervals the whole flock rose in a cloud, screaming loudly, and after flying about half-way towards me, returned to the eggs. Many, however, came on, and made persistent swoops within two or three feet of my head, some of them almost alighting on it, uttering a loud scream at the time, with occasional hoarse notes. A bird noosed on the nest proved to be a male. Some twenty pairs of *S. sinensis* were breeding in this colony; as a rule, their nests were not mixed up with the others, and were much more scattered. Some nests of *S. bergii* were in the midst of those of the Roseate Tern.

The nests were from a foot to six feet, or a little more, apart, extending in a broad semi-circle along the highest ridge of the sand, which was in no part more than two feet above the water mark, and generally not more than six inches above it. At high tide some of the nests were evidently surrounded by water. All were small hollows scratched in the sand, from 4 to 6 inches wide, and from $\frac{1}{2}$ to $1\frac{1}{2}$ inches deep; some few contained a partial lining of shells, and in one instance a ridge of them was raised round the nest. The sand taken out of the cavity was usually deposited in a small mound round the nest.

The number of eggs laid was either one or two—two in the greater number of nests. Their ordinary shape is a regular oval, occasionally slightly pointed; but many elongated and stumpy eggs are also met with. Every intermediate gradation is

found between a warm umber or sepia ground and a very pale grey stone colour, in the latter case with a faint permanent greenish tinge. The eggs are spotted and boldly blotched, and clouded with dark umber-brown or warm sepia, in some instances so dark as to be almost black; the deep tone often overlying a lighter one. All have inferior clouds and spots of light brownish purple, or faint inky-grey. Generally, the markings exhibit a tendency to gyrate, but many exceptions occur. In a considerable number of cases they are chiefly clustered in a zone round the obtuse end, in these eggs being sometimes confluent, particularly in the browner specimens, and a few eggs have also scattered broken scratches of the same colour as the other upper markings. Some have no blotches, and spots are spread almost equally over their whole surface.

When fresh, the ground colour of nearly all but the brown eggs is permeated by a pale, delicate, very rich green, which converts the tint of the markings into a beautiful brownish purple. A somewhat similar effect, on a smaller scale, is seen in the eggs of *Drymæca insularis*. The eggs are then lovely; but in a few weeks the green disappears, and leaves them more or less dull and faded looking. When this green is present the shells seem to be of a fine, rich, vellum-like texture; after it has gone they acquire a much coarser appearance. It remains to be added that all taken were of about the same date of laying; the greatest variation in age could not be more than four days. The dimensions of 20 eggs are, mean, 1.58" $\times$ 1.12"; maximum length, 1.74," breadth, 1.20"; minimum length; 1.48," breadth 1.05."

Out of the large flock of Terns there were excellent opportunities of observing many birds closely, as they flew round my head. Their bills varied greatly in colour, so much, indeed, as to lead me to suppose at first that there must be two species. Some were almost as bright and red as the feet, with little, if any, black at the tip; others paler at the base; others nearly black throughout; some appeared to be *quite* black. The majority were bright orange-red at the base, and black for two-thirds of the bill from the tip. The breasts had very little rose colour; it was not perceptible when the birds were flying past at a short distance.

The captured bird measured:—*Adam's Bridge* ♂ (June)—Length, 15.20; wing, 9.20; tail from vent, 6.75, 1.70 beyond tips of wings; fork 3.80 deep; tarsus, 0.80; bill from gape, 1.20. The bill was dull, dirty, reddish-orange at the base, the rest being black; legs and feet orange-red; claws dark brown, orange-red at base; mid-claw slightly pectinated on the inner side.

Subsequently, my overseer found another flock breeding on a bank, and bought me a few eggs, and a bird shot off the nest. Fishermen from Pamban and Ramesvaram had eaten most of the eggs. The birds procured by Captain Legge at Trincomalie, in abraded plumage, were probably Terns that had left Adam's Bridge after the fishermen had destroyed their eggs.

988 bis.—*Sterna sinensis*, Gm.

June (Adam's Bridge).—There were several nests of this Tern on various banks. They were barely above high-water mark; one was below it. Two of the birds settled on the nests while I was near. The mean dimensions of 20 eggs are $1.21" \times 0.94"$. I observed all the birds carefully, but saw no *S. saundersi*.

989.—*Sterna bergii*, Licht.

June (Adam's Bridge).—Four nests of this Tern were among those of the Roseate Tern. They were depressions in the sand from 5 to 6 inches in diameter, and 1 to $1\frac{1}{2}$ inches deep, without any lining. One contained a partly incubated egg, off which I shot the bird; the eggs of the others were turned out of the nests, and more or less broken. In two nests two eggs appeared to have been laid. The mean dimensions of three eggs are $2.39" \times 1.64"$.

The Terns were wilder than any others seen, and flew high, occasionally leaving the bank and again returning. They cawed at times like Crows (*C. macrorhyncha*), but commonly their cry was a hoarse croak.

***Sterna* ? species.**

Adam's Bridge.—When I had reached the end of my tether, and was about to return, a pair of Terns came over from a bank fully a mile away, and attacked me quite as savagely as *S. caspia*. I think, therefore, it may safely be concluded that they had a nest on their bank. Through a stupid blunder of my servants my stock of cartridges ran out, and I was unable to procure a specimen; but I paid particular attention to the birds as they came near my head. So far as I could observe, they closely resemble *S. dougalli* in colour, shape, size, and mode of flight, the rosy tint being absent, or at any rate imperceptible, with the exception that the forehead and lores were white. The legs and feet were bright orange red, and the bill appeared to be much the same, but not prominently so. On sending my overseer to the other banks a few days later, I gave him special instructions to carefully examine the bank from

which the birds came, and, if possible, to obtain a specimen, but the never-to-be-adequately-anathematised fishermen had been round, and had cleared away everything. The birds, too, had gone.

In addition I identified on the wing, *S. anaetheta* and *S. media*—a large flock of the former, and a few birds of the latter species. Most probably both species nest on the banks, but those I saw were not breeding.

The destruction caused at these banks by the fishermen—*savages* would be a more appropriate term—is abominable. They had not only satisfied their own gluttonous cravings by devouring nearly all the fresh eggs on the banks, but had then proceeded to gratify their destructive instincts by breaking, through mere wantonness, all those containing young birds. Large heaps of egg-shells and crab-shells were found by my overseer at their camping-grounds, some, he states, more than 20 feet long, and the banks were littered with the fragments of many thousands of eggs,—the shells all discoloured by fire. That such a reckless extermination of these graceful and charming birds should be thus permitted is not creditable to those who have the power to stop it. According to my information, the destruction is almost altogether due to the men from Pamban and Ramesvaram.

The Birds of the Lucknow Civil Division.

BY GEO. REID.

IN accordance with the practice usually followed by contributors to "STRAY FEATHERS," I propose to preface my observations on the birds enumerated in the following list with a brief description of the physical features and general characteristics of their temporary or permanent home—the Lucknow Civil Division.

The accompanying map* shows the division, its boundaries, rivers, roads and rail-roads, and the districts into which it is divided. The patches colored red indicate the areas visited in the course of my collecting rambles.

Lucknow itself is so well known that I might rely on its historical associations to recall to most minds the whereabouts of the Division. Nevertheless, it may be as well to state that it is situated between 26° 6' and 27° 19' North Latitude, and between 80° 6' and 81° 30' East Longitude, and averages throughout little more than 400 feet above sea-level. The

* Will appear in the next number with the rest of the paper.

entire length of its south-western frontier is washed by the waters of the sacred Ganges; its north-eastern by the waters of the Gogra, beyond which lie the districts of Gonda and Baraith; on the north and north-west it is bounded, respectively, by the districts of Sitapur and Hardoi; while its eastern limits impinge upon the districts of Fyzabad and Sultanpur.

The Division comprises three districts—Lucknow, Unao and Barabanki, and covers an area of 4,480 square miles, with, according to the “preliminary statement” of the census taken in February last, a population of 2,618,020, or 584 to the square mile. The cultivated area, stated to be 2,520 square miles, or 56·25 per cent. of the whole, has therefore to support a population of 1,038 inhabitants to the square mile—an astonishing number to clothe and feed. As a matter of fact, however, the rural population, mostly Hindus, is not quite so great; the Urban, principally Mussalman, swells the number, Lucknow itself contributing about 300,000 inhabitants to the general average. Nevertheless, the Division is densely populated, and, as a consequence, its fauna is limited, and the distribution of this latter more or less artificially restricted.

The cultivated area, being 2,520 square miles, the uncultivated amounts to 1,960, of which a large percentage is due to usar plains and dhak jungle, while village sites, groves, jhils, marshes, &c., occupy the remainder.

There is not much diversity in the soil. The natives themselves generally divide it into four kinds—goind, domat, matyar and bhur. Of the area under cultivation 20 per cent. may be put down as goind (highly manured land), 55 as domat (mixed sand and clay), 20 as matiyar (heavy clay), and 15 as bhur (sand). These figures, though estimates, are fairly accurate; but taking the Division as a whole, it may be considered a vast alluvial plain, uninteresting in a geological point of view, unless in the entire absence of indigenous stones there is anything very remarkable. Nodules of kunker, an impure concretionary carbonate of lime, abound, occurring often in layers or blocks at no great depth, and especially in the vicinity of jhils and nullahs often seen on the surface. In sinking the wells of the Ganges bridge at Cawnpore, kunker was, however, met with at a depth of over 60 feet.

The soil is fertile and productive, forming, as it is does, part of the “Garden of India.” The main products are wheat, barley, jowar, Indian corn, gram, sugarcane, tobacco, opium, pulses and oil-seeds. Rice may also be specified, as it is grown here and there in suitable localities, and the cultivation of the singhara plant, or water nut, has of late years wonderfully increased.

The climate of the Division is generally considered healthy, and, except in the moist and well-wooded tracts in the vicinity of the Ganges and Gogra, where malarious fever is common during, and for a while after the rains, differs but little from that of Lucknow itself. That being so, the meteorological and thermometrical observations recorded at that station, situated as it is in the centre of the Division, may be taken to represent the climatic peculiarities of the latter fairly well. Commencing then with the rainfall, the following is the record for ten successive years :—

Years.	Inches.	Years.	Inches.
1870	... 64.60	1875	... 43.53
1871	... 65.08	1876	... 23.67
1872	... 44.44	1877	... 11.66
1873	... 35.11	1878	... 33.96
1874	... 51.46	1879	... 38.32

The monthly mean temperature of these years was as follows :—

	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.
January ...	61.6	60.4	58.9	60.	58.	59.5	59.8	60.8	57.1	60.7
February ...	67.5	67.7	63.2	68.3	64.2	64.8	65.4	60.4	66.	66.3
March ...	76.5	76.2	78.	75.9	73.5	78.5	74.7	74.	75.6	76.2
April ...	84.8	85.6	84.7	87.	88.3	89.4	83.9	81.9	84.2	88.8
May ...	93.8	88.1	92.	91.5	95.7	91.6	92.4	89.7	86.6	95.9
June ...	93.4	88.6	93.	95.6	88.1	93.9	95.1	93.4	96.1	91.7
July ...	85.8	84.5	86.6	88.5	86.5	89.4	88.2	90.9	88.6	83.9
August ...	85.4	85.4	85.8	86.5	85.4	84.7	84.9	91.7	85.5	83.9
September ...	83.8	82.9	83.7	85.1	84.6	84.8	82.9	90.7	84.6	84.
October ...	81.2	80.7	78.6	77.3	79.	78.1	75.2	78.6	80.6	77.4
November ...	68.5	72.7	70.	68.	67.4	68.7	67.4	73.	69.5	63.8
December ...	61.6	60.1	62.7	60.7	60.9	62.4	59.8	61.5	60.6	58.4

In 1876, 1877 and 1878 the rainfall, it will be seen, was much below the average—remarkably so in 1877,* and the mean temperature was also higher—facts that should be particularly noted, because, in another part of this paper, I shall have to refer to some consequent changes in the aspect of particular localities and to the influence these years of drought had on the distribution of the avifauna.

But to form an accurate idea of the climate and rainfall, it is necessary to give in detail the recorded observations of

* On looking over the Meteorological Records, &c., of Lucknow for the figures embodied in the above tables, I noticed that a deficient rainfall for three years was indicated as a possibility by Dr. Bonavia as far back as 1873. Referring to Mr. Meldrum's sun-spot theory, and its connection with the rainfall, Dr. Bonavia went on to say in his Annual Report for 1872-73 that, "if this law be true, in Lucknow we have lately passed the period of maximum rainfall, and are descending towards the period of minimum rainfall, so that during the years 1877-78 and 1879 there would be a scarcity of rain, and in one of those years the minimum rainfall of the cycle would occur." How remarkably accurate has this forecast proved to be.—G. R.

an average year. The following table supplies, I think, all the information required :—

YEAR.	RAIN- FALL.	THERMOMETER.				BARO- METER.	HUMI- DITY MEAN.
1879.	Inches.	Highest in sun's rays.	Highest in shade.	Lowest in shade.	Lowest on grass.	Mean.	Satura- tion =100.
							per cent.
January ...	0·17	141·2	83·2	38·3	26·	29·66	40
February ...	0·02	158·5	90·4	42·3	34·	29·59	43
March ...		164·7	102·8	48·2	35·2	29·49	29
April ...		174·5	111·8	66·1	52·	29·34	32
May ...	0·05	174·9	114·8	69·9	55·	29·22	35
June ...	3·70	170·9	111·8	76·8	69·	29·14	43
July ...	18·12	163·6	95·8	75·3	65·	29·16	80
August ...	8·47	165·9	95·3	75·	71·	29·20	80
September ...	5·17	163·9	96·3	71·8	64·	29·29	73
October ...	2·46	160·6	97·8	53·2	39·	29·49	59
November ...		145·7	85·7	36·4	20·8	29·62	37
December ...	0·16	139·9	78·2	37·8	20·	29·66	42

The temperature, it will be seen, is subject to wide extremes, rising in the sun's rays to as much as 174·9° and sinking to as low as 20°. From the 15th March to the 15th June the weather is hot and dry, the period being popularly designated the "hot season." The early part of it is sometimes characterized by violent storms, accompanied frequently by rain and occasionally by hail. By the middle of April, the hot westerly winds are in full force, raising sand to a great height, where it drifts along and completely obscures the sky, giving the atmosphere a lurid appearance. Blinding dust storms, of a local and more terrestrial character, are then also of frequent occurrence; but on calm days the heat is intense and oppressive, and animated nature suffers. Though the trees have put forth new leaves they are covered with dust; grassy tracts soon assume the color of straw; the landscape appears barren and bare as the crops have been garnered and agricultural operations suspended; while the nullahs and tanks and jhils, alike, are dry or nearly so. Our feathered friends, panting and depressed, seek the shelter of friendly trees and sequestered nooks. The ground itself is almost as hard as iron, and except some village gardens where irrigation from wells is carried on, there is not an oasis to be seen in the wide wilderness of dust and glare.

But the rainy season, which usually commences about the middle of June and ends with September, soon alters the scorched appearance of the land. With the first general fall of rain the atmosphere loses its dryness, becoming saturated

with moisture—a condition eminently favorable to insect and vegetable life; and, when once the crops are up, the pervading hue is everywhere a pleasant green. The rains are occasionally ushered in by violent thunderstorms causing considerable atmospheric disturbance, the phenomena occurring at intervals throughout the season. When, as is often the case, sultry, sunny days intervene between showers, cholera usually puts in an appearance, and fevers of all kinds prevail. Yet with all its ills, its steamy heat and insect plagues, the season is far preferable to the hot, and its advent is welcomed by Europeans and Natives alike.

The cold season follows the rains and extends to the 15th March. From the 15th November to the 15th February the climate is delightfully cool, and at nights even cold, sufficiently so to admit of pit-ice operations being carried on. Hoar-frost is not uncommon in January, and frequently does considerable damage to the crops, whole dhall fields being often destroyed in a single night. To the sporting community it is, of course, the "season of the year." The jhils are then covered with wild fowl, the marshes teem with snipe, while the woods and meadows swarm with thousands of migratory birds, many of them strikingly beautiful compared with the resident species.

The general aspect of the Division is uninteresting, and—

"To those who have rovd o'er the mountains afar,"

extremely "tame and domestic." There is not a hill to relieve the monotonous level of the landscape, nor a forest to diversify the eternal sameness of cultivated fields and mango groves, alternating with villages, jhils, usar wastes and dhak jungle. The absence of forest is, I think, noteworthy in a region where the soil is deep and fertile, and is, of course, due to the density of the population.

Nevertheless the country, practically level throughout, is well if not beautifully wooded. Solitary pipal (*Ficus religiosa*) and other *Fici* characterize the more open tracts, while large areas of dhak (*Butea frondosa*) jungle, strikingly beautiful when in bloom—intermixed in some places with thick thorny shrubs—afford excellent shelter for game, and are usually well inhabited by hares, partridges, &c., when the crops are off the ground. Jhils and marshes abound in certain localities, but nowhere is the country characterized by any prominent physical features, while it is to its mango topos alone that it owes its well-wooded appearance. These groves, usually planted to commemorate an event or to perpetuate a name, are especially numerous, and blending in the distance might well be mistaken for gigantic forests. They are usually—almost invariably—free from brushwood and grass, and consequently harbour no

game; but they afford luxuriant retreats to the villagers and their cattle during the hot months of the year. They also afford evidence of what may be accomplished by the introduction and acclimation of a useful fruit or fodder-producing flora, for the mangoe (*Mangifera indica*), notwithstanding its specific name, is not, I believe, found in a wild state in India, certainly not in Oudh.

Another and special feature of the Division is its usar plains. Whether these arid wastes, more or less covered during the cold and dry season with a saline efflorescence, can ever be brought under the plough, is a question that agricultural chemists might spend some of their superabundant energies in solving. Their reclamation would certainly be a blessing to the people whether it took the form of converting them into culturable or timber producing tracts. The Arabian date palm would probably grow on them, and would be an invaluable tree in famine times, as its fruit would not then be, as it usually is, destroyed, when ripening, by excessive rain. It would require some little attention at first, until its long, straight root got deep into the soil: after that, no tree is more capable of taking care of itself.

These saline plains extend far and wide, particularly in the Lucknow and Unao districts, and are said to encroach insidiously on the cultivated lands in their vicinity. During the rains they are covered with a stunted growth of grass upon which the village cattle are turned out to feed, and upon them, at all seasons, antelope (*Antelope bezoartica*) delight to roam.

The Division I have said is practically level, but towards the Gogra on the north, and the Ganges on the south, there is a gentle, but perceptible, slope before the bed of either river is reached. These "silent highways" have much in common. Both are more or less fringed with tamarisk and grass jungles, resorted to by numerous nilgai (*Protax pictus*) and pig (*Sus indicus*); the Gangetic porpoise (*P. gangetica*) is common to both; tortoises and crocodiles (*C. palustris* and *G. gangeticus*) both abound in either, and excepting the black partridge, (*F. vulgaris*), which is not that I know of found within our limits in the vicinity of the Gogra, the avifauna of the one is common to both rivers.

Intermediately, that is between the Ganges and the Gogra, the Goomti, about equidistant from both, is the only other river of importance. It passes through the Division in a south-easterly direction, and is navigable to country craft of moderate burden, its waters for the most part being confined to a well defined channel. The Sail is next in importance and is, in fact, the only other that has any pretensions to be called a river.

The minor streams are the Kalyani, Jamuriha, Reth, Bumria, Bahonia and Nurbia (Barabanki district); the Baita, Loni, the

Nagwa and Bank nadis (Lucknow district); and the Kalyani, Tinai and Loni (Unao district). The insignificance of these streams for purposes of irrigation may be estimated by the fact that in the drought of 1877-78 none of them contained water—the fate of many of them ever since. During the rains, however, some of them have considerable flood discharges and are formidable enough in appearance. The Kalyani, for instance, in the rains of 1872 was 269 feet broad, where it is crossed by the railway in the Barabanki district, and 33 feet deep, with a velocity of 5.74 miles per hour and a discharge of 51,540 cubic feet per second. The mean velocity of the others ranged from three to eight miles per hour, with discharges of from 2,000 to 8,000 cubic feet per second; but during the dry weather they are mere drains, characterized by tortuous and rugged banks, broken into innumerable fissures and ravines. Hitherto the majority of them have been classed as perennial streams, but their title to even that distinction has been disposed of by the deficient rainfall of recent years.

Unfortunately the cost of irrigating with the waters of any but the most insignificant of these rivers is, or is generally supposed to be, prohibitory. The water in them is usually much below the level of the surrounding fields, necessitating expensive lifts, and partly from prejudice (as in the case of the Ganges) and other causes, they practically count for nothing in the agricultural economy of the Division.

It is to their wells and to the numerous jhils and marshes that the cultivator looks for a supply of water, and upon which, in years of average rainfall, he can always depend. It is therefore fortunate for him, and equally so for sportsmen, that jhils are abundant, some of them being fine expanses of water. They are particularly numerous about Mohunlalgunj, Sehsindi, Bijnor and Rahimabad in the Lucknow district; about Ajgaen in the Unao district; and in the tahsils of Daryabad, Ram Sanehi Ghat and Nawabgunj in the Barabanki district. As is usual throughout Upper India these localities are also those where usar waste and stunted scrub jungle most abound; but nowhere has one to go far before meeting with either a jhil or marsh. In ordinary seasons the larger ones contain water throughout the year, but in 1877 their supplies failed owing to the scanty rainfall of that and the previous year, and the consequent heavy demands made upon them for irrigation. The rainfall of 1878 was barely equal to the task of re-filling them, and by the end of the year most were again dry.

Remarkable as it may seem, these jhils have ever since been metamorphosed in character. Formerly many of them were fine expanses of water; some of them used to be covered with the lotus and other aquatic plants; others again being entirely

free from such vegetation, while all literally swarmed with wild fowl in the cold weather. Now they are circumscribed in area with a supply of water barely sufficient for irrigation purposes, and their former characteristics have entirely changed. Indeed that result might be looked for, seeing that the beds of many were actually cultivated in 1877 and since. During that year it should be remembered only $4\frac{1}{2}$ inches of rain fell in the rainy season proper, while the total fall for the year amounted to only 11.66 inches. In the following year only 33.96 inches fell; in the preceding, only 23.67. It cannot, therefore, be a matter of wonder that a great many jhils have never recovered from the effects of the deficient rainfall of these years, and that all that was special in their flora vanished and has since failed to re-established itself except in sporadic instances.

But the destruction of the flora would not much matter were it not that the singhara plant has taken its place. The famine of 1877-78 gave an immense impetus to its cultivation, and in an economic sense the change is a matter for congratulation. But it has had a terrible effect on the distribution of the millions of wild fowl and water-birds that annually visit the Division, due not so much to the cultivation of the plant as to the presence of the people who rear it. At all hours of the day they may be seen wading, or piloting themselves about on primitive rafts, while they make night hideous in thwarting the threatened depredatory raids of geese. The consequence is that on jhils where birds were formerly abundant, they are rarely, if ever, met with now.

The change, great as it is, is of course unnoticed by those who have never seen or shot over these jhils in their palmy days. There are still, fortunately, many of these natural reservoirs where birds are plentiful in the season; but if the cultivation of the singhara nut becomes as general as it now is in certain localities, a diminution in the number and variety of their aquatic tenants will assuredly follow.

But if years of deficient rainfall have thus partially obliterated the leading characteristics of these "watery wastes," it should also be remembered that the climate, for a portion of each year, was comparatively dry and tenantless, when it should have been saturated with moisture and teeming with insect life. This naturally affected the avifauna, though in a way that can only be conjectured; but the probability is that some species from the humid tracts and swamps of Bengal might have paid the Division a visit had the climate been favorable, and these we may hope for in future years. On the other hand, it is equally as probable that we had some visitors that nothing short of a drought will bring us again.

The railway, too, has already had a baneful effect in diminishing the number of birds, by bringing jhils within the reach of sportsmen that were formerly rarely, if ever, disturbed by the sound of a gun. Native fowlers in the ante-railway days used to net thousands, many of them rare ducks—on jhils where they find it profitless to catch them now, birds being scarce on account of the “potting” continually going on.

The result is interesting and instructive as showing how the avifauna of particular tracts may be affected, if not entirely changed, in the course of a few years. Indeed, with every altered circumstance, with every change in the flora and physical features of any region, whether due to drought or not, we may look for corresponding changes in the avifauna.

For instance, during the cold weather of 1877-78 when, as we have seen, all the marshes and minor streams and almost all the jhils were dry, Snipe, Geese, Ducks, Coots, Cormorants, Flamingoes, Pelicans, Spoonbills, Ibises, Gulls, Herons, Cranes, the Crested Grebe, the Smew and all the waders and shore-birds were absent, or were only to be found (many of them not at all) on the larger rivers. The absence, too, of the Peregrine Falcon (*F. peregrinus*) was conspicuous.

Again, in the cold weather of 1878-79, when the jhils and marshes were only partially filled, and were almost all again empty before the hot season of 1879 commenced, I noticed that, while the commoner kinds of ducks and shore-birds were poorly represented, the Widgeon was more numerous than I had ever known it to be in previous years. The Crested Grebe was remarkably scarce, while Flamingoes, Pelicans, Cranes, (the Sarus excepted) and Gulls were still absent.

In the cold season of 1879-80, after a season of average rainfall, and when the jhils were fuller than they had been for years, wild fowl and water-birds were still poorly represented. The Barred-headed Goose was remarkably scarce considering its abundance in former years, while the Grey Lag was perhaps more abundant than ever. But the Crested Grebe, Flamingoes, Pelicans, Cranes and Gulls, so plentiful in bygone days, were still either absent or remarkably rare. The cultivation of the singhara plant had doubtless something to do with the scarcity, but the great majority of the birds probably remained further north where water was abundant.

Considering, however, the habit that many migratory birds have of visiting the same spot annually, it occurs to me that disappointment in previous years may have had something to do with the marked falling-off in their numbers. Finding little or no water in the Division for three successive years, they must have sought for and found it in other localities, and

to these the majority will probably ^{also} annually return until drought or a scarcity of water ^{now} ^{are} drives them back to their old haunts.

Apart, however, from the effects produced by the deficient rainfall of recent years, there can, I think, be no doubt that the avifauna of the Division has undergone many changes within the last fifty years, and that, as time rolls on, it will undergo many more.

With the gradual destruction of all forest tracts certain species, it may be safely asserted, disappeared, retiring, like the tiger and leopard and many other animals, to the jungles and forests of the Terai. We may, therefore, assume that in future the exigencies of an increasing population will materially influence the distribution of species. That influence will, most likely, be exercised through the medium of the flora, either by the destruction of its present specialities, or by the gradual introduction of new plants and trees. The destruction of the banian or other *Fici*, for example, would probably altogether banish the Green Pigeons and Barbets, and result in diminishing the numbers of other strictly frugivorous birds.

Had we, for instance, any means of ascertaining the changes which the universal propagation of the mangoe has alone gradually effected, the result would probably surprise us. Unfortunately we have no record—certainly no reliable one—of the avifauna as it existed fifty years ago, and it is useless to speculate now on the changes it has undergone. But an "old shikaree" recently told me that as a boy, he used to catch the beautiful Emerald Ground Dove, (*Chalcophaps indica*) about Lucknow, a region that it never visits now, and that many other birds have disappeared in his time, with, I suppose, the forests.

From the same cause—forest destruction—the Mammalian fauna of the Division, to which I must now briefly refer, is necessarily restricted to harmless animals, so far as man is concerned; but it is perhaps more to their depredations, than to biped foes, that many resident game and other birds are rapidly becoming exceedingly scarce. Indeed in a country where the destructive efforts of animals (even the common squirrel destroys nests to get material for its own) are so ably seconded by innumerable birds of prey, the wonder is that some species have not long ago become extinct. Sportsmen and others, therefore, who of late years have been clamouring for the introduction of Game Laws, would do well to remember, first, that they have no game to preserve; and, secondly, that until they manage to rid the country of vermin, the preservation of game practically rests with themselves. Instead of agitating for impracticable Game Laws, or in other words, a law to oppress the actual owners of

game, they might endeavour, with more effect, to induce native gentlemen to keep shikarees to destroy vermin, making their pay depend upon the "heads" or "tails" produced. This would harm nobody and do immense good; but if, while game goes on decreasing, vermin and other enemies are allowed to multiply and increase at their "own sweet will," as they do at present, we shall soon have a rather curious example of the "survival of the fittest."

But enough of this; it is time that the birds, the special subject of this paper, were dealt with. The following list, though possibly less exhaustive* than I believe it to be, contains at least every species at all common in the Division. The number, to follow Dr. Jerdon's somewhat obsolete classification, belonging to each order, is as follows:—

RAPTORES—

<i>Diurnal</i>	...	...	38	
<i>Nocturnal</i>	...	...	12	
			—	50

INSESSORES—

<i>Fissirostres</i>	...	...	16	
<i>Scansores</i>	...	...	16	
<i>Tenuirostres</i>	...	...	5	
<i>Dentirostres</i>	...	...	65	
<i>Conirostres</i>	...	...	28	
			—	130

GEMITORES	...	...	...	8
RASORES	...	...	...	11
GRALLATOIRES	...	...	...	70
NATATOIRES	...	...	...	44
			Total	313

of which seventeen are not described in that naturalist's "Birds of India."

At the outside some forty or fifty species may have to be added; but as these for the most part will prove to be exceedingly rare permanent residents, seasonal visitors, birds of passage, or stragglers far from the confines of their geographical distribution, some time must necessarily elapse before their enumeration, based on unmistakable identification, can be completed.

* [NOTE.—No doubt the preparation of an absolutely exhaustive list would be much facilitated if sportsmen and others in a position to assist would only interest themselves in the matter. Many birds annually shot out of mere curiosity and left to perish in the fields if sent to me would be useful in various ways, besides the chance there would always be of their turning out rare and valuable specimens. To facilitate any assistance in this way, which those who take no interest in ornithology may be inclined to give, I have purposely given the "trivial" in addition to the scientific name of almost every species in the list, and in many instances the native name as well.—G. R.]

In the meantime it may be well to indicate what birds, not already included in the list, are likely, in my opinion, to be found, sooner or later, within the limits of the Division.

Raptores.

Though "birds of prey" are well represented, (perhaps no similar area of Indian territory can boast of more) the following species will probably have to be added to the list before it is complete :—

- | | |
|-----------------------------------|---------------------------------------|
| 3 bis.— <i>Gyps fulvescens</i> | ... (The Bay Vulture.) |
| 4 bis.— <i>Gyps pallescens</i> | ... (The Pale Indian Vulture.) |
| 4 ter.— <i>Gyps tenuirostris</i> | ... (The Thin-billed Indian Vulture.) |
| 12 bis.— <i>Falco barbarus</i> | ... (The Barbary Falcon.) |
| 28 bis.— <i>Aquila fulvescens</i> | ... (The Buff Eagle.) |
| 30.— <i>Aquila hastata</i> | ... (The Long-legged Eagle.) |
| 31.— <i>Hieraëtus pennatus</i> | ... (The Dwarf Eagle.) |
| 45.— <i>Buteo ferox</i> | ... (The Long-legged Buzzard.) |
| 56 bis.— <i>Milvus melanotis</i> | ... (The Greater Indian Kite.) |

Of these 3 bis, 28 bis, 30 and 31 are almost certain to be found; indeed their occurrence is more or less authenticated. As regards the rest, 12 bis, like *Falco babylonicus*, may possibly be met with occasionally; but the occurrence of 4 bis, 4 ter, 45 and 56 bis, is less certain—improbable, I should think—in the case of the first two.

The little Scops Owls are possibly represented by more than the two species included in the list—*sunia* and *bakkamuna*, probably by *pennatus* if it is distinct from *sunia*; while it is equally possible that the genus *Limnaëtus* (Crested Hawk Eagles) is represented by one or more species, though I have not been able to secure any.

Insessores.

To this order most of the following species will probably have to be added :—

- | | |
|---------------------------------------|--------------------------------|
| 90.— <i>Ptyonoprogne concolor</i> | ... (The Dusky Crag Martin.) |
| 144.— <i>Caprimulgus monticolus</i> | ... (Franklin's Night Jar.) |
| 147 ter.— <i>Palæornis nipalensis</i> | ... (The Nipal Paroquet.) |
| 476.— <i>Cercotrichas macrura</i> | ... (The Shama.) |
| 488.— <i>Saxicola opistholeucus</i> | ... (White-tailed Stonechat.) |
| 489.— <i>Saxicola picatus</i> | ... Pied Stonechat.) |
| 515.— <i>Acrocephalus stentorius</i> | ... (Large Reed Warbler.) |
| 546.— <i>Drymæca neglecta</i> | ... (Allied Wren Warbler.) |
| 553.— <i>Hypolais rama</i> | ... (Sykes' Warbler.) |
| 558.— <i>Phylloscopus lugubris</i> | ... (Dull-green Tree Warbler.) |
| 561.— <i>Phylloscopus affinis</i> | ... (Tickell's Tree Warbler.) |
| 593.— <i>Budytes cinerocapilla</i> | ... (Grey-cap Field Wagtail.) |

- 593 *ter.*—*Budytes flava* ... (Yellow Field Wagtail.)
 594 *bis.*—*Budytes citreola* ... (Grey-backed Yellow Wagtail.)
 601.—*Corydalla striolata* ... (Large Tit Lark.)
 602.—*Agrodroma campestris* ... (The Stone Pipit.)
 719.—*Emberiza fucata* ... (The Grey-headed Bunting.)
 757.—*Mirafra cantillans* ... (The Singing Bush Lark.)

But for a scrupulous regard to include none but properly identified species, some of the above might well have been entered in the list. The three Wagtails—393, 393 *ter.*, and 394 *bis.*, for instance, are almost certain to occur, though I have hitherto failed to discriminate them—a difficult task to my unsophisticated mind, considering the trifling distinctions upon which the different species are at present founded. Then, there is 147 *ter.*, as likely a visitor as *indo burmanicus*, which comes to Lucknow regularly in August and September; while in 757 we not improbably have a permanent resident that has hitherto escaped notice.

Gemitores and Rasores.

In respect to these orders, before the list is as complete as it should be, the following species will, I feel sure, have to be added :—

- 772.—*Crocopus phænicopterus* ... (The Bengal Green Pigeon.)
 827.—*Perdicula argoondah* ... (The Rock Bush Quail.)
 832.—*Turnix taihoor* ... (Black-breasted Bustard Quail.)

Grallatores.

Though this order is well represented, some of the following species will, no doubt, eventually have to be included :—

- 844.—*Squatarola helvetica* ... (The Grey Plover.)
 886.—*Limicola platyrhyncha* ... (Broad-billed Stint.)
 908.—*Porzana akool* ... (The Brown and Ashy Crake.)
 911.—*Porzana fusca* ... (The Ruddy Crake.)
 912.—*Rallina eurizonoides* ... (The Banded Crake.)
 913.—*Hypotaenidia striata* ... (The Blue-breasted Banded Rail.)
 914.—*Rallus indicus* ... (The Indian Water Rail.)
 918.—*Ciconia nigra* ... (The Black Stork.)
 931.—*Butorides javanica* ... (The Little Green Bittern.)

Indeed some of these—886, 911, 918 and 931—are virtually known to occur, though I refrain from entering them until their occurrence has been proved by an examination of specimens. The chances are that all the others also occur, though the likelihood of finding some of the rarest may be remote.

Natatores.

This order is also well represented, but the following additional species will probably hereafter have to be added :—

- 966.—*Querquedula formosa* ... (The Clucking Teal.)
 979.—*Larus ichthyæetus* ... (The Great Black-headed Gull.)
 ? 981 *bis*.—*Larus minutus* ... (The Little Gull.)
 988 *bis*.—*Sterna sinensis* ... (The Eastern Lesser Tern.)
 988 *ter*.—*Sterna saundersi* ... (Hume's Lesser Tern.)
 988 *quat*.—*Sterna gouldi* ... (Gould's Lesser Tern.)
 1001.—*Pelecanus onocrotalus* ... (The European Pelican.)
 1006.—*Phalacrocorax fuscicollis*... (The Lesser Cormorant.)

Of these 981 *bis* is very doubtful, but one or two of the Terns and the Pelican (? is it *onocrotalus*?) are almost certain to be found. Captain Irby, indeed, mentions that he observed 981 *bis* in Oude in its winter dress, but while he was probably mistaken, I am pretty certain that I have seen 1001, or at least the species so designated in India. It is extremely doubtful whether the Lesser Cormorant (1006) occurs.

From the foregoing it may safely be inferred that my estimate of 50 will more than cover all the species that future research is ever likely to add to the list. In a level region, such as this is, absolutely devoid of forest and ramified by extensive tracts of usar, notwithstanding the redeeming features of well wooded and highly cultivated areas, the avifauna is necessarily restricted both in number and variety, as well as somewhat artificially distributed, and cannot be expected to include more than about 350 species, of which 313 are accounted for in the list that follows.

It seems only necessary to explain that the number prefixed to each name in the list is that under which the species is entered in Jerdon's "BIRDS OF INDIA," and Mr. Hume's List, *vide* S. F., Vol. VIII. Nevertheless, I cannot conclude without acknowledging my indebtedness to Mr. Hume, without whose aid in the identification line—the Lucknow Museum being lamentably deficient in birds could afford me little or none—I am sure I should not have got on at all. I only wish that my paper had been more complete, that I had been able, for instance, to give more measurements of individual species, including their native names, than I have given; but, "errors and omissions excepted," I feel I have done fairly well considering how little of my time is my own, and that, unlike more favored individuals, I hold no "roving commission" from Her Majesty to ramble about during the cold months of the year.

(To be continued.)

Notes.

IN EXAMINING a small collection of birds belonging to my friend Mr. J. C. Parker, I found amongst them a fine specimen of *Pratincola insignis*, which he had obtained from near Gondah in Oudh. The bird is so rare and its range, *so far as has yet been ascertained*, so restricted that it is important to note every occurrence. Except the single specimen obtained by the Marshalls near Cawnpur, this species has hitherto only been observed in the submontane tracts lying at the base of the Himalayas between the 82nd and 90th degrees E. Longitude. It was procured in the Bhutan Doars by Mandelli; near Segowli in the north of the Chumparun district (Behar) by Hodgson; in the north of the Gorakpur and Basti districts by Cleveland; and now in the north of the Gonda district (Oudh.)

LOOKING THROUGH a small collection of birds brought down by my friend Mr. Inglis, unfortunately now leaving India for some time, I have met with the following species, procured in North-east Cachar, and not included in either of our lists (Vol. V, 1; IX, 241):—

- 295.—*CULICICAPA CEYLONENSIS*, Sws. Common.
- 468.—*IORA TIPHIA*, Lin. Excessively common.
- 530.—*ORTHOTOMUS SUTORIUS*, Penn. Common.
- 590.—*MOTACILLA LEUCOPSIS*, Gould. Very common.
- 591 *quat.*—*MOTACILLA OCULARIS*, Swinh. A single specimen.
- 594.—*BUDYTES CALCARATUS*, Hodgs. Two specimens in nearly full breeding plumage.
- 597.—*ANTHUS TRIVIALIS*, Lin. A single specimen.
- 600.—*CORYDALLA RUFULA*, Vieill. Common.
- 605.—*ANTHUS ROSACEUS*, Hodgs. One specimen.
- 631.—*ZOSTEROPS PALPEBROSA*, Tem.
- 699 *bis.*—*AMADINA SUBUNDULATA*, G. Aust. Excessively common.

There were thirty odd specimens in the collection of this species, but not one of *A. inglisi*, Nobis; it seems just possible, as we never get any more of them now, that the types of this latter species may be mere abnormal varieties, and may not represent a really distinct species.

These eleven species make the total number of species obtained by Mr. Inglis in North-east Cachar up to 268. Probably the real total does not fall short of 450 species.

MR. BLANFORD is of opinion that the variety of *Trochilopteryx fairbanki*, described by me S. F., VII., p. 37, is

entitled to specific separation, and he has accordingly bestowed on it a distinct appellation. He says (J. A. S. B., XLIX., pt. II., 142):—

“TROCHALOPTERUM MERIDIONALE, Sp. Nov.

“7. Trochaloptero fairbanki peraffine, sed dorso grisescente, abdomine medio albo, supercilio albo haud post oculum producto, regione postoculari grisea nec fusca, rostroque robustiore distinguendum : pileo brunneo, dorso griseo-olivaceo, postice olivaceo, coloribus transeuntibus; supercilio brevi albo, loris brunneis, cum pileo concoloribus; capitis lateribus cum regione parotica pallide rufescenti-griseis, colli lateribus cinereis; rectricibus remigibusque brunneis, illis remigibusque secundariis ultimis subobscolete transfasciatis; mento, gula, atque pectore albescenti-griseis, conspicue fusco-striatis, media gula fere alba; abdomine medio albido, lateribus cum pennis subcaudalibus tectricibusque inferioribus alarum ferrugineis, tibiis olivaceis; rostro nigro, pedibus fuscis, iridibus saturate rufis.

“Long tota exempli masculini, 9; alæ, 3·5; caudæ, 3·6; tarsi, 1·45; rostri a fronte, 0·8; ejusdem a rictu, 1; culminis, 0·9 poll. Angl.

“HAB. In summis montibus provinciæ Travancore, ad extremitatem meridionalem peninsulæ Indicæ.

“Head above hair-brown; the feathers rather pale-shafted, the colour passing gradually into that of the back, which is greyish olive, becoming greener on the rump; a very short white supercilium, only extending from the base of the bill to above the middle of the eye; lores the same colour as the crown; sides of head, including the ear-coverts, grey, with a slight rufescent tinge; sides of neck purer grey; wing and tail-feathers brown with olivaceous margins; all the tail-feathers and the last (proximal) secondary quill-feathers with faintly marked narrow transverse bars on the upper surface; chin, throat, and breast pale grey, with conspicuous dusky striæ, the central portion of each feather being much darker than the edges; the middle of the throat is very pale, almost white, middle of abdomen white, lateral portion and flanks with the under tail-coverts and under wing-coverts ferruginous; thigh-coverts olivaceous. Irides dark red; * bill black; legs dusky.

“The three specimens were all shot at an elevation of 4,000 feet. Two are from Mynall, one from the Travancore and Tinnevely boundary. Two are males; of the third, the sex has not been ascertained. The differences in measurement are trifling: the wing is 3·4 to 3·55 inches; tail, 3·4 to 3·65;

* Noted by Mr. Bourdillon, as also are the dimensions taken in the flesh. The length above quoted is from these measurements.

tarsus, 1.4 to 1.45; culmen, 0.9 to 0.95. The length is given by Mr. Bourdillon from $8\frac{1}{2}$ to $9\frac{1}{2}$ inches in different specimens.

"*T. meridionale* is distinguished from *T. fairbanki* by (1) the much shorter white superciliary stripe terminating above the eye, whereas in *T. fairbanki* it extends back above the ear-coverts; (2) by there being no brown band behind the eye, the feathers immediately behind the eye being rufescent grey like the cheeks in *T. meridionale*, whilst they are brown like the lores and the crown in *T. fairbanki*; (3) by the back and upper parts generally being much greyer, and by the brown colour of the crown passing gradually into the olivaceous tinge of the back, and not being separated by a distinct margin; (4) by the tail-feathers being browner and more distinctly transversely barred above; (5) by the striation on the throat and breast being more strongly marked; (6) by the middle of the abdomen being white instead of ferruginous*; and (7) by the rather stouter bill. I consider the differences marked 1, 2, and 3 characteristic; the others taken alone would scarcely justify the separation of the two forms.

"From *T. jerdoni* the present species may be known by the absence of a black chin†, by the flanks and under tail-coverts being rufous instead of olivaceous, and the middle of the abdomen white instead of rufous. It is greatly to be regretted that *T. jerdoni* has never been collected again, so far as can be judged by published accounts, since Jerdon first procured it."

I am inclined to agree with Mr. Blanford, and coincide specific rank to this form, and I have only to add that both it and *fairbanki* are quite distinct from *jerdoni*, of which we have procured recently numerous specimens.

Letters to the Editor.

SIR,

I have lately had an opportunity of examining an albinoid Goose Teal (*Nettopus coromandelianus*), and in the hope it may not be without interest to some of your readers, I append a brief description of the bird:—

Forepart of head, neck, and a line from bill to eye, dark brown, mixed with dirty white; breast white, with transverse

* This may not be constant; I have an indistinct recollection of having seen a specimen of *T. fairbanki* with the middle of the abdomen whitish, but I am not sure.

† With reference to this distinction between *T. jerdoni* and the two Southern forms, *T. fairbanki* and *T. meridionale*, it is as well to note that the presence of a black chin in the former is mentioned by Blyth in his original description J. A. S. B., 1851, XX, p. 522. I call attention to this distinction, as Mr. Hume has overlooked it in his note on the species (*Stray Feathers*, VII, p. 36.)

bars of brown; whole back dark ashy brown; quills lighter and tipped white; rest of the body dirty white; upper mandible of bill dark brown, lower horny; legs yellowish green; irides reddish brown. The bird was unfortunately gutted when purchased, hence the sex could not be ascertained, but I am inclined to believe it is a female, from the transverse bars on the breast. In size it agrees with Jerdon's measurements.

While on this subject I may mention that there are in this Museum perfect albinos of *Malacocercus griseus* and *Corvus splendens*; also an albinoid *Crocopus phaeicopterus*, and I have heard of an albinoid *Querquedula crecca*. I had in my possession a *Coturnix coromandeliana* with the whole of the primaries pure white and patches of the same colour dispersed irregularly all over the body.

In addition to these I have the pleasure to record the capture, quite recently, of an albinoid *Coccyzus jacobinus*, Bodd. The whole upper portion of the body is mingled black and white, the former colour predominating; the lower parts are pure white.

W. F. DIQUE.

MADRAS,
22nd January 1881.

SIR,

When shooting with a friend over some paddy stubble a few miles from here, on the 24th of last month (January,) two Painted Snipe were flushed and shot; one of them proved to be a young bird, barely fledged; in fact the tail feathers and the under wing-coverts were only partly developed.

Many painters are seen in this neighbourhood, but it seemed to us to be such an unusual thing to come across a nestling at this season of the year that it deserves record.

A. TOMES.

Poorulia.

INDEX.

ABBOTTI, <i>Bly.</i> <i>Trichastoma</i>	108,	<i>Ægialitis dubia, Scop.</i>	81, 196, 426
	178, 250		458
<i>Abrornis jerdoni, Brooks.</i>	229	—, — <i>geoffroyi, Wagl.</i>	81, 426
—, — <i>superciliaris, Tick.</i>	188	—, — <i>hiaticula, Lin.</i>	359
<i>Accentor altaicus, Brandt.</i>	338	—, — <i>jerdoni, Legge.</i>	426
—, — <i>atroregularis, Brandt.</i>	339	—, — <i>mongola, Pall.</i>	81, 426
—, — <i>fulvescens, Severtz.</i>	339	—, — <i>philippensis, Scop.</i>	359
—, — <i>jerdoni, Brooks.</i>	339	—, — <i>placida, G. R. Gr.</i>	258
—, — <i>montanellus, Pall.</i>	340	<i>Ægithaliscus leucogenys,</i>	
—, — <i>nipalensis, Hodgs.</i>	338	<i>Moore</i>	336
—, — <i>temmincki, Brandt.</i>	340	<i>ægocephala, Lin.</i> <i>Limosa</i>	361
<i>Accipiter gularis, Tem. &</i>		<i>senea, Lin.</i> <i>Carpophaga</i>	194, 481
<i>Schl.</i>	109, 231	—, — <i>Vieill.</i> <i>Chaptia</i>	59, 172,
<i>Accipiter melaschistus,</i>			249, 394
<i>Hume.</i>	306	<i>æuginosus, Lin.</i> <i>Circus</i>	34, 308,
<i>Accipiter nisus, Lin.</i>	306, 371, 451		374, 452
—, — <i>stevensoni, Gurn.</i>	109, 231	<i>Æsaacus recurvirostris, Cuv.</i>	299, 427
—, — <i>virgatus, Tem.</i>	109, 231,	<i>æsalon, Tunst.</i> <i>Falco</i>	305
	451, 475	<i>Æthopyga cara, Hume.</i>	170
<i>accipitrinus, Pall.</i> <i>Asio</i>	310, 376	—, — <i>vigorsii, Sykes.</i>	56, 390
<i>Acridotheres fuscus, Wagl.</i>	70, 107,	<i>affinis, Bly.</i> <i>Alcippe</i>	109, 130
	121, 192	—, — <i>Bly.</i> <i>Batrochosto-</i>	
—, — <i>mahrattensis,</i>		<i>mus</i>	149
<i>Sykes</i>	121, 414	<i>affinis, McClell.</i> <i>Coracias</i>	153
<i>Acridotheres melanosternus, Legge.</i>	295	—, — <i>J. E. Gr.</i> <i>Cypselus</i>	44, 379
<i>Acridotheres siamensis,</i>		—, — <i>Hodgs.</i> <i>Dumeticola</i>	241
<i>Swinh.</i>	285	—, — <i>Reinh.</i> <i>Larus</i>	94, 365, 439
<i>Acridotheres tristis, Lin.</i>	70,	—, — <i>Bly.</i> <i>Malacopterus</i>	127
	192, 413	—, — <i>Gould.</i> <i>Milvus</i>	120, 145
<i>Acrocephalus agricola,</i>		—, — <i>Hay.</i> <i>Muscipeta</i>	249
<i>Jerd.</i>	406	—, — <i>Tick.</i> <i>Phylloscopus</i>	331, 408
<i>Acrocephalus bistrigiceps,</i>		—, — <i>Bly.</i> <i>Sylvia</i>	332, 409,
<i>Swinh.</i>	221		455
<i>Acrocephalus dumetorum,</i>		—, — <i>Hodgs.</i> <i>Tribura</i>	445
<i>Bly.</i>	67, 339, 405	<i>agile, Tick.</i> <i>Piprisoma</i>	57, 248,
<i>Acrocephalus stentorius,</i>			391
<i>Hemp. & Ehr.</i>	67, 279, 405	<i>agricola, Jerd.</i> <i>Acrocephalus</i>	406
<i>Actitis glareola, Lin.</i>	361, 362	<i>Agrodroma campestris, Lin.</i>	412
—, — <i>ochropus, Lin.</i>	361, 362	—, — <i>similis, Jerd.</i>	412
<i>acuta, Lin.</i> <i>Dafila</i>	92, 364, 438	—, — <i>sordida, Rüpp.</i>	412, 456
<i>acuticauda, Hodgs.</i> <i>Ama-</i>		<i>akahige, Tem.</i> <i>Rubecula</i>	234
<i>dina</i>	257	<i>akool, Sykes.</i> <i>Porzana</i>	431
<i>adamsi, Hume.</i> <i>Alaudula</i>	354	<i>Alauda arvensis, Lin.</i>	355
—, — <i>Gould.</i> <i>Montifringilla</i>	353n	—, — <i>australis, Brooks.</i>	355n
<i>adamsi, Jerd.</i> <i>Prinia</i>	406	—, — <i>dulceivox, Hodgs.</i>	354
<i>Adelura cæruleocephala, Vig.</i>	329	—, — <i>gulgula, Frankl.</i>	73, 355n,
<i>ædon, Pall.</i> <i>Arundinax</i>	184		419
<i>Ægialitis asiatica, Pall.</i>	79, 426	—, — <i>guttata, Brooks.</i>	355
—, — <i>cantiana, Lath.</i>	81, 118,	—, — <i>leiopus, Hodgs.</i>	355n
	359, 426	—, — <i>triborbynchus, Hodgs.</i>	355n
		<i>Alaudula adamsi, Hume.</i>	354
		—, — <i>heinei, v. Hom.</i>	354n

- Alaudula pispoletta*, *Pall.* 354
alba, *Bechst.* *Ciconia* ... 433, 485
 —, — *Lin.* *Motacilla* ... 333, 455
albicilla, *Pall.* *Erythro-*
terna ... 176, 249
albicollis, *Vieill.* *Leucocer-*
ca ... 174, 249, 395
albicollis, *Horsf.* *Pomator-*
hinus ... 253
albicollis, *Swains.* *Rhyn-*
chops ... 441
albigena, *Licht.* *Sterna* ... 94, 440
albirostris, *Shaw.* *Hydro-*
cissa ... 158
albogularis, *Bly.* *Alcippe* ... 130
 —, — *Bly.* *Dumetia* 63, 400
 —, — *Bly.* *Geocichla* ... 99
 —, — *Hume.* *Suya*... 227
alboniger, *Hume.* *Saxicola* ... 323
albo-olivaceus, *Hume.*
Cyornis ... 125
Alcedo beavani, *Wald.* ... 247, 383
 —, — *bengalensis*, *Gm.*... 50, 155, 383
 —, — *meningting*, *Horsf.* 247
 —, — *nigricans*, *Bly.* ... 141, 156
alchata, *Lin.* *Pterocles* ... 458
Alcippe affinis, *Bly.* ... 109, 130
 —, — *albogularis*, *Bly.*... 130
 —, — *atriceps*, *Jerd.* ... 399
 —, — *bourdilloni*, *Hume.* 300
 —, — *cantori*, *Moore.* ... 130
 —, — *cinerea*, *Bly.* ... 127
 —, — *phayrii*, *Bly.* ... 179
 —, — *poiocephala*, *Jerd.* 63, 399
Alcurus striatus, *Bly.* ... 182
alpinus, *Koch.* *Pyrrho-*
corax ... 342
Alseonax cinereo-alba, *Schl.* 225
 —, — *ferrugineus*,
Hodgs. ... 175
Alseonax latirostris, *Raffl.* 60, 225, 396
 —, — *terricolor*, *Hodgs.* 225
Alsocomus hodgsoni, *Vig.* 356
 —, — *puniceus*, *Tick.* 258
altaicus, *Brandt.* *Accentor* 338
althæa, *Hume.* *Sylvia* ... 332
Amadina acuticauda, *Hodgs.* 257
 —, — *inglisi*, *Hume.*... 505
 —, — *malabarica*, *Lin.* 72, 416
 —, — *malacca*, *Lin.* ... 71, 415
 —, — *pectoralis*, *Jerd.* 415
 —, — *punctulata*, *Lin.* 71, 415
 —, — *rubronigra*,
Hodgs. ... 71, 415
Amadina striata, *Lin.* ... 72, 416
 —, — *subundulata*, *G.*
Aust. ... 505
amandava, *Lin.* *Estrela* ... 118, 416
anieta, *Tem.* *Nyctioruie* ... 141, 153
Ammomanes phœnicura,
Frankl. ... 72, 418
Ammoperdix bonhami, *Gr.* 219, 458
Ampeliceps coronatus, *Bly.* 256
amurensis, *Radde.* *Cerch-*
neis ... 243, 371
anaetheta, *Scop.* *Sterna* ... 96, 121
 —, — 441, 491
Anas boscas, *Lin.* ... 364, 437
 —, — *pœcilorhyncha*, *Forst.* 437
Anastomus oscitans, *Bodd.* 91, 435
andamanensis,
Geocichla ... 99
anglica, *Mont.* *Sterna* ... 94, 336
 —, — 440
Anser indicus, *Lath.* ... 364
Anthocincla phayrii, *Bly.* ... 177, 474
Anthracoceros coronatus,
Bodd. ... 478
Anthreptes rhodolæma,
Shell. ... 125
Anthreptes simplex, *S.*
Müll. ... 120
Anthropoides virgo, *Lin.* ... 860, 427
Anthus blakinstoni, *Swinh.* 335
 —, — *campestris*, *Lin.*... 335
 —, — *cervinus*, *Pall.* ... 190, 335
 —, — *maculatus*, *Hodgs.* 256, 411
 —, — *rosaceus*, *Hodgs.* 335, 505
 —, — *spinoletta*, *Lin.*... 335
 —, — *trivialis*, *Lin.* ... 69, 335, 412, 455, 505
apiaster, *Lin.* *Merops* ... 215, 313
 —, — 453
aplnotus, *Bly.* *Mach-*
lolophus ... 413
apus, *Lin.* *Cypsellus* ... 313, 453
aquaticus, *Lin.* *Rallus* ... 363
Aquila bifasciata, *Gr.* ... 372
 —, — *chrysaëtus*, *Lin.* ... 306, 371
 —, — *clarga*, *Pall.* ... 372
 —, — *mogilnik*, *S. G. Gm.* 372
 —, — *nipalensis*, *Hodgs.* ... 372
 —, — *vindhiana*, *Frankl.* 372
Arachnothera longirostra,
Lath. ... 170, 248, 389
Arachnothera magna,
Hodgs. ... 169
Arboricola brunneopectus,
Tick. ... 195
Arboricola chloropus, *Tick.* 195
Ardea cinerea, *Lin.* ... 88, 363
 —, — 433
 —, — *goliath*, *Rüpp.* ... 486
 —, — *purpurea*, *Lin.* ... 88, 433
 —, — *sumatrana*, *Raffl.* ... 235
 —, — 482
ardeola, *Payk.* *Dromas* ... 90, 197,
Ardeola grayi, *Sykes.* ... 434, 460
Ardetta cinnamomea, *Gm.* 91, 198,
 —, — 434

- Ardetta flavicollis*, *Lath.*... 198
 —, —, — *minuta*, *Lin.* ... 363
 —, —, — *sinensis*, *Gm.* ... 259, 434
arenaria, *Lin.* *Calidris* ... 85, 429
arenarius, *Pall.* *Pterocles*... 200, 219, 458
argalus, *Lath.* *Leptoptilus* 197, 432
argentatus, *Brünn.* *Larus*... 366
argoondah, *Sykes.* *Perdicula* ... 77, 423
Argya malcolmi, *Sykes.* ... 401
Artamus fuscus, *Vieill.* ... 60, 395
Arundinax ædon, *Pall.* ... 185
arvensis, *Lin.* *Alauda* ... 355
asiatica, *Pall.* *Ægialitis* ... 79, 426
 —, —, — *Lath.* *Cinnyris* ... 56, 170, 390
 —, —, — *Lath.* *Perdicula*... 77, 422
asiaticus, *Lath.* *Caprimulgus* ... 48, 150, 380
asiaticus, *Sws.* *Cinclus* ... 317
 —, —, — *Lath.* *Xenorhynchus* ... 235, 432, 434
Asio accipitrinus, *Pall.* ... 310, 376
 —, —, — *otus*, *Lin.* ... 310
assamica, *McClell.* *Mirafra* 257
assimilis, *Wald.* *Stachyris* 117
Astur badius, *Gm.* ... 30, 306, 371
 —, —, — *cenchroides*, *Severt.* 306
 —, —, — *oculoides*, *Tem.* ... 109
 —, —, — *palumbarius*, *Lin.*... 305
 —, —, — *poliopsis*, *Hume.* ... 143
 —, —, — *soloensis*, *Horsf.* ... 120, 143
 —, —, — *trivirgatus*, *Tem.* ... 299
athertoni, *J. and S.* *Nyctiorhis* ... 153, 382, 472
atra, *Herm.* *Buchanga* ... 59, 173, 217, 394, 454
 —, —, — *Lin.* *Fulica* ... 86, 362, 431, 459
atricapilla, *Müll.* *Napothera* ... 127
atricapillus, *Vieill.* *Molopastes* ... 183
atriceps, *Jerd.* *Alcippe*... 399
atripennis, *Jerd.* *Caprimulgus* ... 380, 477
atrogularis, *Brandt.* *Accentor* ... 339
atrogularis, *Tem.* *Turdus* 319, 454
atromuchalis, *Bly.* *Lobivanellus* ... 196
aurantiaca, *Gould.* *Pyrrhula* ... 347
aurantius, *Lin.* *Brachypternus* ... 386
aureola, *Pall.* *Euspiza* ... 193
 —, —, — *Vieill.* *Leucocerca* 174, 396
aurifrons, *Tem.* *Phyllornis* 183
aurita, *Lath.* *Turtur* ... 357
aurita, *G. R. Gr.* *Sypheotides* ... 77, 424
aurorea, *Pall.* *Ruticilla* ... 255
australis, *Brooks.* *Alauda* 355n
azurea, *Bodd.* *Hypothymis* ... 60, 174, 395
BACTRIANA, *Hutt.* *Carine* ... 215, 452
bactriana, *Bp.* *Pica* ... 342
badius, *Gm.* *Astur* 30, 245, 306, 371
bailloni, *Vieill.* *Porzana* ... 37, 259, 432, 460
bakhamona, *Penn.* *Scops*... 37, 452
barbatus, *Lin.* *Gypæstus* ... 214, 304, 451
batassiensis, *Gr.* *Cypsellus* 44, 379
batcha, *Daud.* *Spilornis* ... 107
Batrochostomus affinis, *Bly.* ... 149
baya, *Bly.* *Ploceus* ... 257
Baza lophotes, *Cuv.* ... 141, 145
beavani, *Wald.* *Alcedo* ... 247, 383
 —, —, — *Wald.* *Prinia* ... 186
beema, *Sykes.* *Budytes* ... 334n, 411
belangeri, *Less.* *Garrulax*... 141, 181, 292
bengalensis, *Gm.* *Alcedo* ... 50, 155, 383
 —, —, — *Frankl.* *Bubo*... 35, 376
 —, —, — *Gm.* *Centrocoryx* ... 169
bengalensis, *Jerd.* *Graminicola* ... 255
bengalensis, *Lin.* *Ploceus*... 257
 —, —, — *Gm.* *Pseudogyps* ... 29, 142, 369
bengalensis, *Lin.* *Rhynchæa* 84, 197
 —, —, — *P. L. S.* *Müll.* *Sypheotis* ... 199
bengalensis, *G. Aust.* *Timalia* ... 250
bergii, *Licht.* *Sterna* ... 95, 119, 441, 490
Bhringa remifer, *Tem.* ... 173
bicincta, *Jerd.* *Osmotreron* ... 257
bicolor, *Bly.* *Cyanoderma* 129
bifasciata, *Gr.* *Aquila* .. 372
bimaculata, *Ménétr.* *Me-lanocorypha* ... 354
birostris, *Scop.* *Ocyroceros* 384
bistrigiceps, *Swinh.* *Acrocephalus* ... 221
blakinstoni, *Swinh.* *Anthus* 335
blythi, *Jerd.* *Sturnia* ... 228, 237, 267, 414
bocagii, *Salvad.* *Stachyris* 117
bonhami, *Gr.* *Ammoperdix* ... 219, 458
boscas, *Lin.* *Anas* ... 364, 437

- Botaurus stellaris*, *Lin.* ... 434
bottanensis, *Deless. Pica* ... 293
bourdilloni, *Hume. Alcippe* ... 300
brachydactyla, *Leisl.*
Calandrella ... 98, 354, 418
Brachypodius cinereiventris, *Bly.* ... 254
Brachypodius melanocephalus, *Gm.* ... 183
Brachypodius poiocephalus, *Jerd.* ... 402
Brachypternus aurantius, *Lin.* ... 386
Brachypternus intermedius, *Legge.* ... 479
Brachypternus puncticollis, *Malk.* ... 53, 386
brachypterus, *Bly. Perdis* ... 122, 446
brachyura, *Lin. Pitta* ... 61, 398
brama, *Tem. Carine* ... 38, 377
brandti, *Severt. Leucosticte* 303, 353
brevicaudatus, *Bly. Turdinus* ... 179
brevirostris, *McClell.*
Collocalia ... 290
brevirostris, *Gould. Linnaria* ... 352
brevirostris, *Vig. Pericrocotus* ... 316, 393
brodiei, *Burt. Glaucidium* 37, 148
brunneicephalus, *Jerd.*
Larus ... 94, 439
brunneipectus, *Tick. Arboricola* ... 195
brunneipectus, *Bly. Tribura* ... 241, 445
brucii, *Hume. Scops* ... 36, 312, 376, 452
Bubo bengalensis, *Frankl.* 35, 376
—, — ignavus, *Forst.* ... 311n
—, — turcomanus, *Eversm.* 310
Bubulcus coromandus, *Bodd.* ... 89, 119, 434
Buchanga atra, *Herm.* ... 59, 173, 217, 394, 454
—, — caerulescens, *Lin.* 59, 394
—, — longicaudata, *Hay...* 59, 303, 316, 394
Buchanga pyrrhops, *Hodgs.* 173
buchanani, *Bly. Emberiza* 218, 345, 416
—, — Bly. Franklinia 407
Budytes beema, *Sykes.* ... 334n, 411
—, — calcaratus, *Hodgs.* 334, 411, 505
—, — cinereocapillus, *Savi.* 69, 189, 256, 333, 410
Budytes citreolus, *Pall.* ... 334, 411, 455
Budytes dubius, *Hodgs.* ... 334n, 411
—, — flavus, *Lin.* 130, 256, 411
—, — melanocephalus, *Licht.* ... 334, 410, 455
Budytes rayi, *Bp.* ... 455
—, — taivanus, *Swinh.* ... 130
Buphus coromandus, *Bodd.* 197
burmanica, *Hume. Leucocerca* ... 175n
burmanica, *Hume. Ninox* 148, 245
—, — Sharpe. Pelargopsis ... 154
burmanicus, *Brooks. Phylloscopus* ... 272
Burnesia gracilis, *Licht.* ... 228
—, — lepidota, *Bly.* ... 228
Butalis grisola, *Lin.* ... 317, 454
Butastur teesa, *Frankl.* ... 33, 374
Buteo ferox, *S. G. Gm.* ... 307, 374, 452
—, — plumipes, *Hodgs.* ... 307
Butorides javanica, *Horsf.* 90, 191, 434

CACCABIS CHUKAR, *G. R. Gr.* 219, 306, 358, 458
cachinnans, *Pall. Larus* ... 366
Cacomantis passerinus, *Vahl.* ... 55, 388
Cacomantis threnodes, *Cab.* 167, 248
caerneocephala, *Vig. Adelura* ... 329
caerulescens, *Lin. Buchanga* 59, 394
—, — Lin. Microhierax ... 142
caeruleus, *Desf. Elanus* ... 375
Calandrella brachydactyla, *Leisl.* ... 98, 354, 418
Calandrella heinii, *v. Hom.* 97
—, — minor, *Cab.* ... 98
—, — pispoletta, *Pall.* 97
—, — tibetana, *Brooks.* 97
calcaratus, *Hodgs. Budytes* 334, 411, 505
Chalcoparia singalensis, *Gm.* 170
Calidris arenaria, *Lin.* ... 85, 429
calidris, *Lin. Totanus* ... 86, 259, 362, 430
caligata, *Licht. Hypolais* 68, 331, 407
caligatus, *Raff. Limnaetus* 143, 373
Calliope camtschatkensis, *Gm.* ... 255, 405
Calliope pectoralis, *Gould.* 329
Callophapsis elliotti, *Swinh.* 467
—, — humæ, *Hume.* 461
Calobates melanope, *Pall.* 69, 189, 333, 410, 455, 121
Caloperdix ocellus, *Tem.* 121
Calornis chalybæus, *Horsf.* 192

INDEX.

V

<i>Calornis tytleri</i> , <i>Hume</i>	298	<i>cashmeriensis</i> , <i>Gould</i> . <i>Cin-</i>	
<i>calvus</i> , <i>Scop</i> . <i>Otogyps</i> ...	29, 142, 369	clus ...	317
<i>cambayensis</i> , <i>Gm</i> . <i>Turtur</i>	358	<i>casiotis</i> , <i>Bp</i> . <i>Falumbus</i> ...	218, 237, 298, 356, 457
<i>campestris</i> , <i>Lin</i> . <i>Agrodroma</i>	412	<i>caspia</i> , <i>Pall</i> . <i>Sterna</i> ...	439, 487
—, — <i>Lin</i> . <i>Anthus</i> ...	335	<i>castor</i> , <i>Lin</i> . <i>Mergus</i> ...	365
<i>cantschatkensis</i> , <i>Gm</i> . <i>Cal-</i>		<i>caudacuta</i> , <i>Lath</i> . <i>Chætura</i>	230
<i>liope</i> ...	225, 405	<i>caudata</i> , <i>Dum</i> . <i>Chatarrhæa</i>	401
<i>candida</i> , <i>Tick</i> . <i>Strix</i> ...	375	<i>cavatus</i> , <i>Shaw</i> . <i>Dichoceros</i>	50, 158, 383
<i>candidus</i> , <i>Bonn</i> . <i>Himanto-</i>		<i>celebensis</i> , <i>Schl</i> . <i>Pernis</i> ...	122, 448
<i>pus</i> ...	86, 362, 430	<i>cenchroides</i> , <i>Severt</i> . <i>Astur</i>	306
<i>canente</i> , <i>Less</i> . <i>Hemicercus</i>	112, 161	<i>Centrocoecyx bengalensis</i> ,	
<i>canicapillus</i> , <i>Bly</i> . <i>Yungi-</i>		<i>Gm</i>	169
<i>picus</i> ...	141, 161	<i>Centrocoecyx intermedius</i> ,	
<i>caniceps</i> , <i>Vig</i> . <i>Carduelis</i> ...	351, 457	<i>Hume</i>	169
—, — <i>Bly</i> . <i>Lanius</i> ...	479	<i>Centrocoecyx rufipennis</i> ,	
<i>cannabina</i> , <i>Lin</i> . <i>Linaria</i> ...	352	<i>Ill</i>	56, 389
<i>canorus</i> , <i>Lin</i> . <i>Cuculus</i> ...	314, 387, 453	<i>Cephalopyrus flammiceps</i> ,	
<i>cantiana</i> , <i>Lath</i> . <i>Ægialitis</i> ...	81, 118, 359, 426	<i>Burt</i>	335
<i>cantori</i> , <i>Moore</i> . <i>Alcippe</i> ...	130	<i>Cerchneis amurensis</i> ,	
<i>capensis</i> , <i>Lin</i> . <i>Rhynchæa</i>	286, 428	<i>Radde</i>	243, 371
<i>capistrata</i> , <i>Gould</i> . <i>Saxicola</i>	323	<i>Cerchneis inglisi</i> , <i>Hume</i>	243
<i>capratus</i> , <i>Lin</i> . <i>Pratincola</i> ...	66, 185, 254, 404, 454	—, — <i>naumanni</i> ,	
<i>Caprimulgus asiaticus</i> ,		<i>Fleisch</i>	236, 371
<i>Lath</i>	48, 150, 380	<i>Cerchneis pekinensis</i> ,	
<i>Caprimulgus atripennis</i> ,		<i>Swinh</i>	242, 371
<i>Jerd</i>	380, 477	<i>Cerchneis tinnunculus</i> , <i>Lin</i> . 29, 214,	
<i>Caprimulgus indicus</i> , <i>Lath</i> .	48, 380	305, 370, 451	
—, — <i>kelaarti</i> , <i>Bly</i> .	380	—, — <i>vespertina</i> , <i>Lin</i> .	371
—, — <i>macrurus</i> ,		<i>Cercotrichas macrura</i> , <i>Gm</i> .	66, 184, 404
<i>Horsf</i>	150	<i>Cerionis temmincki</i> , <i>J. E.</i>	
<i>Caprimulgus maharattensis</i> ,		<i>Gr</i>	205
<i>Sykes</i>	381	<i>Certhia himalayana</i> , <i>Vig</i> .	315
<i>Caprimulgus monticolus</i> ,		—, — <i>hodgsoni</i> , <i>Brooks</i> .	315
<i>Frankl</i>	48, 151, 381	<i>Certhilauda desertorum</i> ,	
<i>Caprimulgus unwini</i> , <i>Hume</i>	215, 313, 453	<i>Stanl</i>	281
<i>onra</i> , <i>Hume</i> . <i>Æthopyga</i> ...	170	<i>cerviniceps</i> , <i>Gould</i> . <i>Lyn-</i>	
<i>carbo</i> , <i>Lin</i> . <i>Phalacrocorax</i>	366	<i>cornis</i> ...	120, 151
<i>Carcineutes pulchellus</i> ,		<i>cervinus</i> , <i>Pall</i> . <i>Anthus</i> ...	190, 335
<i>Horsf</i>	154	<i>Ceryle guttata</i> , <i>Vig</i>	156
<i>Carduelis caniceps</i> , <i>Vig</i>	351, 457	—, — <i>rudis</i> , <i>Lin</i> .	50, 156, 383
<i>Carine bactriana</i> , <i>Hutt</i>	215, 452	<i>ceylonensis</i> , <i>Sws</i> . <i>Culici-</i>	
—, — <i>brama</i> , <i>Tem</i>	38, 377	<i>capa</i> ...	175, 396, 505
<i>carnipes</i> , <i>Hodgs</i> . <i>Mycero-</i>		<i>ceylonensis</i> , <i>Gm</i> . <i>Ketupa</i>	36, 376, 471
<i>bas</i> ...	346	—, — <i>Bp</i> . <i>Oriolus</i>	65, 403
<i>Carpodacus erythrinus</i> , <i>Pall</i> .	72, 257, 348, 417, 457	—, — <i>Gm</i> . <i>Spizaetus</i>	476
—, — <i>pallidus</i> , <i>Severt</i> .	348	—, — <i>Reich</i> . <i>Upupa</i>	57, 391
—, — <i>rubicillus</i>		<i>Ceyx tridactyla</i> , <i>Pall</i> .	141, 155, 383, 478
<i>Guld</i>	347	<i>Chætura caudacuta</i> , <i>Lath</i> .	230
<i>Carpophaga ænea</i> , <i>Lin</i>	194, 481	—, — <i>ciris</i> , <i>Pall</i>	230
—, — <i>cuprea</i> , <i>Jerd</i> .	300	—, — <i>nudipes</i> , <i>Hodgs</i> .	230, 286
<i>caryophyllacea</i> , <i>Lath</i> . <i>Rho-</i>		<i>Chalcophaps indica</i> , <i>Lin</i> .	75, 195, 421, 500
<i>donessa</i> ...	437	<i>chalybaeus</i> , <i>Horsf</i> . <i>Calor-</i>	
<i>Casarca rutilla</i> , <i>Pall</i>	364, 437	<i>nis</i> ...	192
<i>cashmerensis</i> , <i>Gould</i> . <i>Che-</i>		<i>Chaptia ænea</i> , <i>Vieill</i>	59, 173, 249, 394
<i>lidon</i> ...	313		

- Chaptia malayensis*, Hay. 173
Charadrius fulvus, Gm. ... 79, 196, 359, 425, 482
Chatarrhæa caudata, Dum. 401
Chaulelasmus streperus, Lin. ... 92, 304, 438
cheela, Lath. *Spilornis* 31, 373
Chelidon cashmerensis, Gould. ... 313
Chelidon urbana, Lin. ... 378
Chettusia gregaria, Pall. ... 82, 360, 426, 459
Chibia hottentotta, Lin. ... 59, 174, 249, 395
Chimarrhornis leucocephalus, Vig. ... 329
chinensis, Bodd. *Cissa* ... 141, 191
 —, —, — Lin. *Excalfac-toria* ... 196, 208, 258, 421
chinensis, Scop. *Garrulax* 181
chiquera, Daud. *Falco* ... 29, 242, 370
chirurgus, Scop. *Hydro-phasianus* ... 86, 431
chlorigaster, Jerd. *Chrysophlegma* ... 386
chlorigaster, Bly. *Crocopus* ... 73, 419
chloris, Bodd. *Halcyon* ... 50, 383
chlorocephalus, Wald. *Phyllornis* ... 183
chlorolophus, Vieill. *Chrysophlegma* ... 164
chloropus, Tick. *Arboricola* ... 195
chloropus, Lin. *Gallinula* 87, 362, 431, 459, 483
chlororhynchus, Less. *Puffinus* ... 264
chrysaëtus, Lin. *Aquila* 306, 371
chrysæus, Hodgs. *Stachyris* 117
Chrysococcyx limborgi, Wald. ... 168
Chrysococcyx maculatus, Gm. ... 167, 248
Chrysococcyx xanthorhynchus, Horsf. ... 248
Chrysocolaptes delesserti, Malh. ... 238, 385
Chrysocolaptes festivus, Bodd. ... 52, 385
Chrysocolaptes strictus, Horsf. ... 52, 107, 238, 385
Chrysocolaptes sultaneus, Hodgs. ... 52, 107, 162
Chrysophlegma chlorigaster, Jerd. ... 386
Chrysophlegma chlorolophus, Vieill. ... 164
Chrysophlegma flavinucha, Gould. ... 164
chrysorrhæum, Tem. *Dicæum* ... 170, 248
chukar, G. E. Gr. *Cac-cabis* ... 219, 306, 358, 458
Ciconia alba, Bechst. ... 433, 485
 —, —, — *nigra*, Lin. ... 363, 433
cinclorhyncha, Vig. *Petrophila* ... 61, 398
cinclorhynchus, Vig. *Orocetes* ... 303, 318
Cinclus asiaticus, Sws. ... 317
 —, —, — *cashmeriensis*, Gould. ... 317
cinereus, Mont. *Circus* 308, 374
cinerea, Bly. *Alcippe* ... 127
 —, —, — Lin. *Ardea* ... 88, 363, 433
 —, —, — Lath. *Sylvia* ... 332
cinereiventris, Bly. *Brachypodius* ... 254
cinereoalba, Schl. *Alseonax* 225
cinereocapilla, Hodgs. *Prinia* ... 286
cinereocapillus, Savi. *Budytes* 69, 189, 256, 333, 410
cinereum, Eyt. *Malacopteryx* ... 127
cinereus, Gm. *Gallix* 121
cinnamomea, Gm. *Ardeetta* 91, 198, 434
Cinnyris asiatica, Lath. ... 56, 170, 390
 —, —, — *flammarillaris*, Bly. ... 170
Cinnyris lotenia, Lin. ... 57, 390
 —, —, — *minima*, Sykes. ... 56, 390
 —, —, — *zeylonica*, Lin. ... 56, 390
Circæus gallicus, Gm. ... 373
circus, Lin. *Querquedula* 93, 198, 365, 438
Circus æruginosus, Lin. ... 34, 304, 374, 452
 —, — *cinereus*, Mont. ... 308, 374
 —, — *cyaneus*, Lin. ... 308, 374
 —, — *macrurus*, S. G. Gm. 33, 308, 374, 452
 —, — *melanoleucus*, Forst. 145
ciris, Pall. *Chætura* ... 230
cirrhatas, Gm. *Limnæus* 30, 373
Cissa chinensis, Bodd. ... 141, 191
Cisticola cursitans, Frankl. 67, 186, 407
citreolus, Pall. *Budytes* ... 334, 411
citrina, Lath. *Geocichla* 62, 99, 178, 398
clanga, Pall. *Aquila* ... 372
clypeata, Lin. *Spatula* ... 92, 364, 437
Coccytes coromandus, Lin. 35, 389
 —, —, — *jacobinus*, Bodd. 55, 303, 315, 388

- Coccothraustes vulgaris*,
Pall. ... 456
coelestis, *Frenzl.* *Gallinago* 360, 459
collaris, *Drum.* *Corvus* ... 342
Collocalia brevirostris,
McClell. ... 290
Collocalia innominata,
Hume ... 112
Collocalia spodiopygia,
Peale. ... 45
Collocalia unicolor, *Jerd.* 44, 289,
380
Columba casiotis, *Bp.* ... 356
---,--- *intermedia*,
Strickl. ... 74, 357, 419, 457
Columba leuconota, *Vig.* ... 357
---,--- *livia*, *Bp.* ... 298, 357,
457
---,--- *rupestris*, *Pall.* ... 357
columboides, *Vig.* *Palæ-*
ornis ... 52, 384
colluroides, *Less.* *Lanius* ... 171
communis, *Bonn.* *Cotur-*
nix 76, 258, 359, 423, 458
communis, *Bechst.* *Grus* ... 427
concolor, *Jerd.* *Dicæum* ... 57, 391
---,--- *Bly.* *Hypsipetes* 181
---,--- *Sykes.* *Ptyono-*
progne ... 43, 378
Copsychus saularis, *Lin.* ... 66, 184,
404
Coracias affinis, *McClell.* ... 153
---,--- *garrula*, *Lin.* ... 313, 453
---,--- *indica*, *Lin.* ... 49, 382
cordatus, *Jerd.* *Hemicercus* 385
cornix, *Lin.* *Corvus* ... 340
coromandelianus, *Gm.*
Nettopus ... 92, 198, 436, 507
coromandelica, *Gm.*
Coturnix ... 76, 423
coromandelicus, *Gm.*
Cursorius ... 77, 425
coromandus, *Bodd.*
Bubuleus ... 89, 119, 434
coromandus, *Bodd.*
Buphus ... 197
coromandus, *Lin.* *Coccyzus* 55, 389
coronata, *Tick.* *Dendro-*
chelidon ... 48, 149, 380, 476
coronata, *Bodd.* *Hydrochelidon* 51, 383
coronatus, *Bly.* *Ampeliceps* 256
---,--- *Bodd.* *Anthra-*
coceros ... 478
coronatus, *Licht.* *Pterocles* 200, 219,
296, 458
corone, *Lin.* *Corvus* ... 340
Corvus collaris, *Drum.* ... 342
---,--- *cornix*, *Lin.* ... 340
---,--- *corone*, *Lin.* ... 340
---,--- *culminatus*, *Sykes.* 341
---,--- *frugilegus*, *Lin.* ... 341
Corvus insolens, *Hume.* ... 190
---,--- *laurencii*, *Hume.* ... 456
---,--- *levaillantii*, *Less.* ... 341
---,--- *macrorhynchus*,
Wagl. ... 70, 190,
256, 341n, 413, 481
Corvus monedula, *Lin.* ... 342
---,--- *splendens*, *Vieill.* 70, 413
---,--- *umbrinus*, *Hedenb.* 341
Corydalla richardi, *Vieill.* 117, 190,
256
---,--- *rufula*, *Vieill.* ... 69, 190,
412, 505
---,--- *striolata*, *Bly.* ... 412
Corydon sumatranus, *Raffl.* 157
Cotile riparia, *Lin.* ... 149, 246,
378
---,--- *rupestris*, *Scop.* ... 312
---,--- *sinensis*, *J. E. Gr.* ... 149, 378
Coturnix communis, *Bonn.* 76, 258,
359, 423, 458
---,--- *coromandelica*,
Gm. ... 76, 423
crecca, *Lin.* *Querquedula* 93, 365,
438, 460
Crex pratensis, *Bechst.* ... 363
Criniger griseiceps, *Hume.* 182
---,--- *gutturalis*, *S. Müll.* 182
Criniger ictericus, *Strickl.* 64, 402
crispifrons, *Bly.* *Turdinus* 179
cristata, *Lin.* *Fuligula* ... 93, 365,
439
---,--- *Lin.* *Galerita* ... 356, 419,
457
cristatus, *Lin.* *Lanius* ... 107, 172,
316, 392
---,--- *Lin.* *Pavo* ... 75, 202,
421
---,--- *Koch.* *Regulus* 332
Crocopus chlorogaster, *Bly.* 73, 419
---,--- *viridifrons*, *Bly.* 194, 257
cruentatum, *Lin.* *Dicæum* 170, 243
Crypsirina varians, *Lath.* 192
Cryptolopha tephro-
cephala, *Anders.* ... 188
cuculata, *Hartl.* *Pitta* ... 177, 250,
474
cuculoides, *Tem.* *Astur* ... 109
---,--- *Vig.* *Glauci-*
dium ... 148
Cuculus canorus, *Lin.* ... 314, 387,
453
---,--- *himalayanus*, *Bly.* 315
---,--- *micropterus*, *Gould.* 55, 167,
248, 388
---,--- *poliocephalus*,
Lath. ... 54, 388
Cuculus sonnerati, *Lath.* ... 54, 388
---,--- *striatus*, *Drap.* ... 315n
Culicicapa ceylonensis,
Sws. ... 175, 396, 505

- culminatus, *Sykes*. *Corvus* 341
 cuprea, *Jerd.* *Carpophaga* 300
 cursitans, *Frankl.* *Cisticola* 67, 186, 407
 Cursorius coromandelicus, *Gm.* ... 77, 425
 Cursorius gallicus, *Gm.* ... 458
 cyane, *Pall.* *Larvivora* ... 185
 cyanea, *Bly.* *Pitta* ... 176, 473
 Cyanecula leucocyanea, *Brehm.* ... 330
 Cyanecula suecica, *Lin.* ... 67, 255, 330, 405, 455
 cyaneus, *Lin.* *Circus* ... 308, 374
 cyanocephalus, *Lin.* *Falco* ... 160
 Cyanocinclus cyanus, *Lin.* 61, 178, 250, 317, 398
 —, —, — solitarius, *P. L. S. Mull.* ... 116
 Cyanoderma bicolor, *Bly.* 129
 —, —, — erythropterum, *Bly.* ... 129
 cyanotis, *J. & S.* *Geocichla* ... 62, 100, 398
 cyanotis, *Bly.* *Megalæma* 166
 cyanura, *Pall.* *Nemura* ... 329
 cyanus, *Lin.* *Cyanocinclus* 61, 178, 250, 317, 398
 Cymborhynchus macrorhynchus, *Gm.* ... 141, 157
 Cyornis albo-olivaceus, *Hume* ... 125
 Cyornis frenatus, *Hume* ... 114
 —, —, — magnirostris, *Bly.* 249
 —, —, — pallipes, *Jerd.* ... 397
 —, —, — poliogenys, *Brooks* 96, 295
 —, —, — rubeculoides, *Vig.* 96, 114, 175, 397
 —, —, — ruficaudus, *Swains* 317, 397
 —, —, — tickelli, *Bly.* ... 61, 397
 Cypsellus affinis, *J. E. Gr.* 44, 379
 —, —, — apus, *Lin.* ... 313, 453
 —, —, — batassiensis, *J. E. Gr.* ... 44, 379
 Cypsellus infumatus, *Sclat.* 149
 —, —, — leuconyx, *Bly.* ... 379
 —, —, — melba, *Lin.* ... 43, 379
 —, —, — pacificus, *Lath.* ... 246
 DAFILA ACUTA, *Lin.* 92, 364, 438
 dalhousiæ, *Jam.* *Pearisomus* ... 156
 dauma, *Lath.* *Oreocincla* 178
 davisoni, *Hume.* *Graptoccephalus* ... 300
 davisoni, *Hume.* *Hemixus* 182
 —, —, — *Hume.* *Megalæma* 165
 delesserti, *Malh.* *Chrysocolaptes* ... 238, 385
 Demi-egretta gularis, *Bosc.* 89, 434
 Dendrochelidon coronata, *Tick.* ... 48, 149, 380, 476
 Dendrocitta rufa, *Scop.* ... 70, 191, 413
 Dendrocygna fulva, *Gm.* ... 437, 487
 —, —, — javanica, *Horsf.* ... 92, 198, 436, 486
 Dendrophila frontalis, *Horsf.* ... 37, 171, 391
 deserti, *Rüpp.* *Saxicola* 327, 405, 454
 desertorum, *Stanl.* *Certhia* ... 281
 deva, *Sykes.* *Spizalauda* ... 418
 diardi, *Less.* *Garrulax* ... 293
 Dicæum chrysorrhæum, *Tem.* ... 170, 248
 Dicæum concolor, *Jerd.* ... 57, 391
 —, —, — cruentatum, *Lin.* 170, 248
 —, —, — erythrorhynchus, *Lath.* ... 57, 390
 Dicæum olivaceum, *Wald.* 171
 —, —, — trigonostigma, *Scop.* ... 170
 Dichoceros cavatus, *Shaw.* 50, 158, 383
 Dissemurus paradisens, *Lin.* ... 59, 174, 395
 dissimilis, *Bly.* *Geocichla*, 100, 103, 107
 Dissura episcopa, *Bodd.* 88, 433, 485
 domesticus, *Lin.* *Passer* 72, 218, 416, 456
 dougalli, *Mont.* *Sterna* ... 488
 Dromas ardeola, *Payk.* ... 482
 Drymæca extensicauda, *Swinh.* ... 186
 Drymæca inornata, *Sykes.* 67, 407, 480
 —, —, — insignis, *Hume.* 407
 —, —, — insularis, *Legge.* 480
 —, —, — jerdoni, *Bly.* ... 480
 —, —, — neglecta, *Jerd.* 68, 407
 —, —, — rufescens, *Hume* 68, 407
 —, —, — sylvatica, *Jerd.* 407
 —, —, — valida, *Bly.* ... 480
 dubia, *Scop.* *Ægialitis*, 81, 196, 426, 459
 dubius, *Hodgs.* *Budytes* 334n, 411
 dukhunensis, *Sykes.* *Motacilla* ... 69, 255, 410
 dulcivox, *Hodgs.* *Alauda* 354
 Dumetia albogularis, *Bly.* ... 63, 408
 —, —, — hyperythra, *Frankl.* ... 399
 Dumeticola affinis, *Hodgs.* 241
 —, —, — brunneipectus, *Bly.* ... 241
 Dumeticola intermedia, *Oates.* ... 220
 Dumeticola major, *Brooks.* 330

- dumetorum, *Bly.* *Acrocephalus* ... 67, 330, 405
 dussumieri, *Tem.* *Turnix* ... 77, 424
- EDWARDSI, J. E. Gr.** *Eupo-*
dotis ... 424
edwardsi, Elliot. *Porphy-*
rio ... 121
Elanus caeruleus, Desf. ... 375
elegans, Less. Pastor ... 118
 —, — *McClell.* *Pericro-*
cotus ... 173
elliotti, Swinh. *Callophasis* ... 467
elphinstonii, Sykes. *Pa-*
lumbus ... 74, 419
Emberiza buchanani, Bly. 218, 345,
 416
 —, — *hortulana, Lin.* 303, 345
 —, — *leucocephala, Gm.* 344
 —, — *schœniclus, Lin.* 345
 —, — *shah, Bp.* ... 345
 —, — *spodocephala,*
Pall. ... 257
Emberiza stewarti, Bly. 345, 456
 —, — *stracheyi, Moore.* 344
episcopa, Bodd. *Dissura* ... 88, 433,
 485
epops, Lin. *Upupa* ... 57, 216,
 316, 391, 454
Eristatura leucocephala,
Scop. ... 296
Erythra phœnicura, Penn. 87, 197,
 431
erythrurus, Pall. *Carpoda-*
cus ... 72, 257, 348, 417, 457
erythrocephalus, Gould.
Harpactes ... 152, 246
erythrogastra, Gûld. *Ruti-*
cilla ... 328
erythronota, Eversm. *Ruti-*
cilla ... 327, 455
erythronotus, Vig. *Lanius* 57, 316,
 392
erythroprocta, Gould. *Ruti-*
cilla ... 327
erythroptera, Jerd. *Mirafra* ... 418
erythropterus, Bly. *Cyano-*
derma ... 129
erythropygia, Sykes. *Hi-*
rundo ... 43, 148, 312, 377
erythropygius, Jerd. *Peri-*
cræotus ... 394
erythrorhynchus, Lath.
Dicæum ... 57, 300
erythrorhynchus, Sykes.
Microperdix ... 423
Erythrospiza githaginea,
Licht. ... 457
Erythrospiza incarnata,
Sev. ... 347
- Erythrospiza mongolica,*
Swinh. ... 347, 457
Erythrosteria albicilla,
Pall. ... 176, 249
Erythrosteria maculata,
Tick. ... 176
Erythrosteria parva,
Bechst. ... 61, 397, 454
Erythrura prasina,
Sparrm. ... 121
Estrela amandava, Lin. ... 48, 416
 —, — *flavidiventris,*
Wall. ... 118
Estrela formosa, Lath. ... 416
Eudynamis honorata, Lin. 55, 389
 —, — *malayana, Cab.* 168 243
eugenii, Hume. *Myiopho-*
neus ... 141, 176
Eulabes javanensis,
Osbeck. ... 192
Eulabes religiosa, Lin. ... 300, 414
Euplocamus horsfieldi,
G. R. Gr. ... 203, 205
Euplocamus lineatus, Vig. 195
Eupodotis edwardsi,
J. E. Gr. ... 424
Eurylæmus javanicus,
Horsf. ... 141, 157
Eurystomus orientalis, Lin. 153
Euspiza aureola, Pall. ... 193
 —, — *luteola, Sparrm.* 346, 417,
 456
 —, — *melanocephala,*
Scop. ... 72, 346, 417, 456
Excalfactoria chinensis,
Lin. ... 196, 208, 258, 423
extensicauda, Swinh. *Dry-*
mæca ... 186
exustus, Tem. *Pterocles* ... 421
- FAIRBANKI, Blanf.** *Trocha-*
lopterum ... 505
Falcinellus igneus,
S. G. Gm. ... 91, 259, 436
Falco tæsalon, Tunst. ... 305
 —, — *chiquera, Daud.* ... 29, 242,
 370
 —, — *jugger, J. E. Gr.* ... 242, 370,
 451
 —, — *peregrinator, Sund.* 370
 —, — *peregrinus, Gm.* ... 29, 242,
 304, 370
 —, — *subbuteo, Lin.* ... 282, 305,
 370
fasciatus, Forst. *Harpactes* 48, 381
 —, — *Visill.* *Nisus* ... 372
 —, — *P. L. S. Müll.*
Palmornis ... 160
fasciatus, Scop. *Pterocles* ... 201, 421
feddeni, Blanf. *Thripomax* 162

- ferreus, Hodgs. Pratincola* ... 185
 —, — *Hodgs. Oreicola* ... 255
ferina, Lin. Fuligula ... 438
ferox, S. G. Gm. Buteo ... 307, 374, 452
ferrugineus, Hodgs. Alseonax ... 175
ferrugineus, Gm. Gallus ... 195, 205
festivus, Bodd. Chrysocolaptes ... 52, 385
filifera, Steph. Hirundo ... 43, 148, 377
finlaysoni, Strickl. Ixus ... 182
finchi, Hume. Falco ... 160
flamaxillaris, Bly. Cinnyris ... 170
flammeus, Forst. Pericrocotus ... 58, 393
flammiceps, Burt. Cephalopyrus ... 335
flavicolis, Lath. Ardetta ... 198
 —, — *Frankl. Gymnoris* ... 72, 416
flavidiventris, Wall. Estrela ... 118
flavinucha, Gould. Chrysophlegina ... 164
flavirostris, Brandt. Phaeton ... 259
flaviventris, Tick. Rubigula ... 182
flavo-olivaceus, Hume. Reguloides ... 291
flavus, Lin. Budytes ... 130, 256, 411
fluviatilis, Naum. Sterna ... 366
fluvicola, Jerd. Hirundo ... 43, 378
formosa, Lath. Estrela ... 416
Francolinus pictus, J. & S. 208, 422
Franklinia buchanani, Bly. 407
Fregata minor, Gm. ... 119
frenatus, Hume. Cyornis ... 114
Fringilla montifringilla, Lin. ... 302, 353
Fringilla sordida, Stoll. 353
 —, — *nemoricola, Hodgs.* ... 354
frontalis, Horsf. Dendrophila ... 57, 171, 391
frontalis, Bly. Propasser ... 349
 —, — *Vig. Ruticilla* ... 329
frugilegus, Lin. Corvus ... 341
Fulica atra, Lin. ... 86, 362, 431, 459
fulcata, Lin. Thamnobia ... 66, 404, 441
fuliginosa, Gm. Sterna ... 441
Fuligula cristata, Leach. ... 93, 365, 439
 —, — *ferina, Lin.* ... 438
 —, — *nyroca, Guld.* ... 93, 259, 365, 439
Fuligula rufina, Pall. ... 365, 438
fulva, Gm. Dendrocygna ... 437, 487
fulvescens, Severtz. Accentor ... 339
fulvescens, Hume. Gyps ... 304, 369, 450
fulvus, Gm. Charadrius ... 79, 196, 359, 425, 482
fusca, Lin. Porzana ... 87, 118, 432
fuscicaudata, Gould. Otocompsa ... 64, 402
fuscicollis, Steph. Phalacrocorax ... 442
fuscus, Wagl. Acridotheres ... 70, 107, 121, 193
fuscus, Vieill. Artamus ... 60, 395
 —, — *Lin. Totanus* ... 362
GALERITA CRISTATA, Lin. ... 356, 419, 457
Gallicrex cinereus, Gm. ... 121
gallicus, Gm. Circus ... 373
 —, — *Gm. Cursorius* ... 458
Gallinago caelestis, Frenzl. 360, 459
 —, — *gallinaria, Gm.* 84, 196, 428
 —, — *gallinula, Lin.* 84, 428
 —, — *heterocerca, Cab.* ... 283
Gallinago heteroeaca, Cab. 283
 —, — *megala, Swinh.* 283
 —, — *hyemalis, Eversm.* ... 233
Gallinago nemoricola, Hodgs. ... 428
Gallinago solitaria, Hodgs. 233, 360
 —, — *sthenura, Kuhl.* 83, 196, 283, 428
gallinaria, Gm. Gallinago 84, 196, 428
Gallinula chloropus, Lin. 87, 362, 431, 459, 483
gallinula, Lin. Gallinago ... 84, 428
Galloperdix lunulatus, Valenc. ... 206, 422
Galloperdix spadiceus, Gm. 76, 422
Gallus ferrugineus, Gm. ... 195, 205
 —, — *sonnerati, Tem.* ... 76, 205, 421
Gampsorhynchus torquatus, Hume. ... 178
ganeesa, Sykes. Hypsipetes ... 64, 401
garrula, Lin. Coracias ... 313, 453
Garrulax belangeri, Less. ... 141, 181, 293
 —, — *chinensis, Scop.* ... 181
 —, — *diardi, Less.* ... 293

- Garrulax leucogaster, *Wald.* ... 292
 Garrulax leucolophus, *Hardw.* ... 292
 Garrulax moniliger, *Hodgs.* 141, 181
 —, — pectoralis, *Gould.* ... 181
 Garrulus leucotis, *Hume.* ... 191
 garzetta, *Lin.* Herodias... 88, 433
 Gecinulus viridis, *Bly.* ... 112, 164
 Gecinulus nigrigenis, *Hume.* 141, 163
 —, — occipitalis, *Vig.* ... 164
 —, — squamatus, *Vig.* ... 314
 —, — striolatus, *Bly.* ... 386
 —, — vittatus, *Vieill.* ... 163
 Gelochelidon anglica, *Mont.* ... 366
 Geocichla albugularis, *Bly.* 99
 —, — andamanensis, *Wald.* ... 99
 Geocichla citrina, *Lath.* ... 62, 99, 178, 398
 —, — cyanotis, *J. & S.* 62, 100, 398
 —, — dissimilis, *Bly.* 100, 103, 107
 —, — innotata, *Bly.* ... 99, 108
 —, — layardi, *Wald.* ... 100
 —, — rubecula, *Gould.* 100
 —, — tricolor, *Hume.* 100, 105
 —, — unicolor, *Tick.* ... 399
 geoffroyi, *Wagl.* Ægialitis 81, 426
 ginginianus, *Lath.* Neophron ... 29, 369
 githinginea, *Licht.* Erythrozopiza ... 457
 giu, *Scop.* Scops ... 452
 glareola, *Lin.* Actitis ... 361, 362
 Glareola lactea, *Tem.* ... 425
 —, — orientalis, *Leach.* 78, 196, 425
 —, — pratincola, *Lin.* ... 78, 425
 glareola, *Lin.* Rhynacophila 86, 197, 429, 459
 Glaucidium brodiei, *Burt.* 37, 148
 —, — cuculoides, *Vig.* ... 148
 Glaucidium malabaricum, *Bly.* ... 38, 377
 Glaucidium radiatum, *Tick.* ... 39, 377
 glottis, *Lin.* Totanus ... 86, 362, 430
 Goisakius melanolophus, *Raffl.* 230, 259, 455
 goliath, *Rüpp.* Ardea ... 486
 gouldi, *Hume.* Sterna ... 131
 govinda, *Sykes.* Milvus... 34, 309, 374, 476
 gracilis, *Licht.* Burnesia... 228
 —, — *Frankl.* Frinia... 406
 graculus, *Lin.* Pyrrhocorax 342
 Gracupica nigricollis, *Payk.* ... 268
 Graminicola bengalensis, *Jerd.* ... 255
 Graptocephalus davisoni, *Hume.* ... 300
 Graucalus macii, *Less.* ... 58, 172, 393
 grayi, *Sykes.* Ardeola ... 90, 197, 434, 460
 gregaria, *Pall.* Chettusia... 82, 360, 426, 459
 grisea, *Scop.* Pyrrhulanda 73, 418
 griseiceps, *Hume.* Criniger 182
 griseus, *Lath.* Malacocercus ... 400
 griseus, *Lin.* Nycticorax... 91, 364, 435
 —, — *Lath.* Tockus ... 51, 384
 grisola, *Lin.* Butalis ... 317, 454
 Grus communis, *Bechst.* ... 427
 gularis, *Tem. & Schl.* Accipiter ... 109, 231
 gularis, *Bosc.* Demi-egretta 89, 434
 —, — *Jerd.* Micropternus ... 53, 386
 gularis, *Tem.* Ortygornis... 258
 —, — *Swinh.* Petrophila 116
 —, — *Gould.* Rubigula... 402
 gulgula, *Frankl.* Alauda ... 73, 355n, 419
 gural, *Pears.* Pelargopsis 49, 382
 guttata, *Brooks.* Alauda ... 355
 —, — *Vig.* Ceryle ... 156
 guttatus, *Tick.* Turdinus... 179
 gutturalis, *S. Müll.* Criniger ... 182
 gutturalis, *Scop.* Hirundo 148, 245
 Gymnoris flavicollis, *Frankl.* ... 72, 416
 Gypaëtus barbatus, *Lin.* ... 214, 304, 451
 Gyps fulvescens, *Hume.* ... 304, 369, 450
 —, — himalayensis, *Hume.* 304
 —, — indicus, *Lath.* ... 29, 369
 —, — pallescens, *Hume.* ... 369
 HÆMACEPHALA, *Müll.* Xantholæma ... 54, 166, 247, 387
 Hæmatopus ostralegus, *Lin.* ... 83, 427
 hæmatopygia, *Gould.* Leucosticte ... 353
 hæmorrhous, *Gm.* Molpastes ... 64, 402
 Halcyon chloris, *Bodd.* ... 50, 383

- Haleyon pileata*, *Bodd.* ... 49, 154, 382
 —, — *smyrnensis*, *Lin.* ... 49, 154, 382, 472
Haliaetus leucogaster, *Gm.* 32, 120, 373
 —, — *leucoryphus*, *Pall.* ... 214, 244
haliaetus, *Lin.* *Pandion* ... 32, 307, 373
Haliastur indus, *Bodd.* ... 34, 120, 145, 374
 —, — *leucosternus*, *Gould.* ... 120
Harpactes erythrocephalus, *Gould.* ... 152, 246
Harpactes fasciatus, *Forst.* 43, 381
 —, — *orescius*, *Tem.* 152
heinii, *v. Hom.* *Alaudula* 354n
 —, — *v. Hom.* *Calendrella* 97
helvetica, *Lin.* *Squatarola* 79, 118, 425
Hemicercus canente, *Less.* 112, 161
 —, — *cordatus*, *Jerd.* 385
Hemichelidon sibericus, *Gm.* 317
Hemipus picatus, *Sykes.* ... 58, 172, 393
Hemixus davisoni, *Hume.* 182
hemprichi, *Bp.* *Larus* ... 439
 —, — *Ehr.* *Pratincola* ... 320
hendersoni, *Cass.* *Locus-tella* ... 406
hendersoni, *Hume.* *Saxicola* ... 326
Henicurus schistaceus, *Hodgs.* ... 141, 189
Henicurus scouleri, *Fig.* ... 332
Herodius garzetta, *Lin.* ... 88, 433
 —, — *intermedia*, *Hass.* 433
 —, — *torra*, *B. Ham.* ... 88, 433
Herpornis xantholeucus, *Hodgs.* ... 190, 256
heterocerca, *Cab.* *Gallinago* 283
heteroenca, *Cab.* *Gallinago* 283
hiaticula, *Lin.* *Ægialitis* ... 359
Hieraetus pennatus, *Gm.* 30, 372
Hierococcyx sparveroides, *Fig.* ... 167, 248
Hierococcyx varius, *Fahl.* 55, 388
himalayana, *Fig.* *Certhia* 315
 —, — *Bly.* *Cuculus* 315
himalayensis, *Hume.* *Gyps* 304
 —, — *Jard. & Selb.* *Picus* ... 313
himalayensis, *G. R. Gr.* *Tetraogallus* ... 207, 358
Himantopus candidus, *Bonn.* ... 86, 362, 430
Hirundo erythropygia, *Sykes.* ... 43, 148, 312n, 377
Hirundo flifera, *Steph.* ... 43, 148, 377
 —, — *fluvicola*, *Jerd.* ... 43, 378
 —, — *gutturialis*, *Scop.* 148, 245
 —, — *javanica*, *Sparrm.* 120
 —, — *nipalensis*, *Hodgs.* 148, 246, 312
 —, — *rustica*, *Lin.* ... 43, 215, 312, 377, 453
 —, — *substriolata*, *Hume* 246
 —, — *tytleri*, *Jerd.* ... 245
hispaniolensis, *Tem.* *Passer* 343
hodgsoni, *Fig.* *Alsocomus* 356
 —, — *Brooks.* *Certhia* 315
 —, — *Bp.* *Megalæma* ... 165
 —, — *Gr.* *Motacilla* ... 332
 —, — *Bly.* *Prinia* ... 67, 406
 —, — *Moore.* *Ruticilla* 327
 —, — *Jerd.* *Thriponax* 386
homeyeri, *Cab.* *Lanius* ... 316
honorata, *Lin.* *Eudynamis* 55, 389
Hoplopterus ventralis, *Cuv.* 196
horsfieldi, *G. R. Gr.* *Euplocamus* ... 203, 205
horsfieldi, *Fig.* *Myiophobus* ... 61, 398
horsfieldi, *Sykes.* *Pomatorhinus* ... 63, 400
hortulana, *Lin.* *Emberiza* 303, 345
hortulanus, *Sclat.* *Turdus* 100
hottentotta, *Lin.* *Chibia* ... 59, 174, 249, 395
Houbara macqueeni, *J. E. Gr.* ... 281, 458
humæ, *Hume.* *Callophasis* 461
humii, *Brooks.* *Reguloides* 331, 409
humilis, *S. Müll.* *Polioætus* ... 244
humilis, *Tem.* *Turtur* ... 194, 258
hybrida, *Pall.* *Hydrochelidon* ... 366, 440
Hydrochelidon hybrida, *Pall.* ... 366, 440
Hydrochelidon leucoptera, *M. & S.* ... 366
Hydrochelidon nigra, *Lin.* 366
Hydrocissa albirostris, *Shaw.* ... 158
Hydrocissa coronata, *Bodd.* 51, 383
 —, — *migratorius*, *Maing.* ... 107
Hydrophasianus chirurgus, *Scop.* ... 86, 431
Hydromis nipalensis, *Hodgs.* ... 249
Hydromis ontesi, *Hume.* ... 176
hyemalis, *Eversm.* *Gallinago* ... 283
hyperboreus, *Lin.* *Lobipes* 459
hyperythra, *Frankl.* *Dumetia* ... 399

- Hypolais caligata*, Licht ... 68, 331, 407
 —, — pallida, *Hemp.* ... 231
Hypolais rama, Sykes. ... 232, 279, 407, 455
hypoleucus, Bly. Orthorhinus ... 253
hypoleucus, Lin. Totanus ... 197
 —, — Lin. Tringoides 86, 282, 362, 430, 459
Hypotænidia striata, Lin. 87, 197, 259, 432
Hypothymis azurea, Bodd. 60, 174, 395
Hypsipetes concolor, Bly... 181
 —, — ganeesa, Sykes. 64, 401
 —, — psaroides, Vig. 253
- IBIS MELANOCEPHALA**, Lath. 91, 435, 485
ichthyæstus, Pall. Larus... 94, 439
 —, — Horsf. Polioæstus ... 120, 144
ictericus, Strickl. Criniger 64, 402
ignavus, Forst. Bubo ... 311n
igneus, S. G. Gm. Falci-nellus ... 91, 259, 436
immodestus, Hume. Pericrocotus ... 173
impeyanus, Lath. Lophophorus ... 203
incarnata, Sev. Erythropsiza ... 347
inciï, Gould. Muscipeta 125
incognita, Hume. Megalæma ... 166
incognita, Hume. Sturnia 295
indica, Lin. Chalcophaps 75, 195, 421, 500
 —, — Lin. Coracias ... 49, 382
 —, — Lath. Parra ... 197, 430
indicus, Lath. Anser ... 364
 —, — Lath. Caprimulgus 48, 380
 —, — Lath. Gyps ... 369
 —, — Scop. Gyps ... 29
 —, — Gm. Limonidromus ... 69, 189, 256, 411
indicus, Bodd. Lobivanel-lus ... 82, 220, 360, 427, 459
indicus, Jerd. Oriolus ... 65, 403
 —, — Jard. & Selb. Passer ... 302, 343
indicus, Jerd. Phylloscopus ... 331, 408
indicus, Bly. Pratincola ... 66, 126, 185, 319
indo-burmanicus, Hume. Palæornis ... 159, 247
- indranee*, Sykes. Syrniun 35, 375
indus, Bodd. Haliastur ... 34, 120, 145, 374
infumatus, Selat. Cypsellus 149
inglisi, Hume. Amadina ... 505
 —, — Hume. Cerchneis ... 243
 —, — Hume. Orthorhinus 253
innominata, Hume. Collocalia ... 112
innotata, Burt. Vivia ... 165, 247
 —, — Bly. Geocichla ... 99, 108
Inocotis papillosus, Tem... 91, 435
inornata, Sykes. Drymæca 54, 67, 91, 407, 480
 —, — Wald. Megalæma 387
inquieta, Rüpp. Scotocerca 217, 455
insignis, Hume. Drymæca 407
 —, — Wald. Poliohierax 42
 —, — Hodgs. Pratincola 134, 505
insolens, Hume. Corvus ... 190
insularis, Legge. Drymæca 480
intermedia, Strickl. Columba ... 74, 357, 419, 457
intermedia, Oates. Dumeticola ... 220
intermedia, Hass. Herodias ... 433
intermedia, Oates. Tribuna 445
 —, — Hume. Volucivora ... 172
intermedius, Legge. Brachypternus ... 479
intermedius, Hume. Centrococcyx ... 169
intermedius, Hume. Philentoma ... 113
interpres, Lin. Strepsilas 82, 427, 482
Iole viridescens, Bly. ... 184, 254
Iora lafresnayi, Lath. ... 184
 —, — tiphia, Lin. ... 65, 183, 403, 505
Irena puella, Lath. ... 65, 184, 403
isabellinus, Rüpp. Saxicola 218, 325, 404, 454
Ixus finlaysoni, Strickl. ... 182
 —, — luteolus, Less. ... 64, 402
Lynx torquilla, Lin. ... 314 386
- JACOBINUS**, Bodd. Coccyzus 55, 303, 315, 388
javanensis, Osbeck. Eulabes 192
 —, — Less. Ketupa ... 146, 471
 —, — Ljungh. Tiga ... 164
javanica, Horsf. Butorides 90, 197, 434
 —, — Horsf. Dondrocygna ... 92, 198, 436, 486

- javanica, *Sparrm.* Hirundo 120
 —, — *Sparrm.* Leuco-
 cerca ... 175n
 javanica, *Gm.* Strix ... 34, 146,
 375
 javanicus, *Horsf.* Eury-
 lœmus ... 141, 157
 javanicus, *Horsf.* Leptop-
 tilus ... 235, 432, 483
 javanicus, *Horsf.* Pelecanus 119
 —, — *Horsf.* Turdus ... 106
 jerdoni, *Brooks.* Abornis 228
 —, — *Brooks.* Accentor 339
 —, — *Legge.* Ægialitis... 426
 —, — *Bly.* Drymœca ... 480
 —, — *Bly.* Oreicola ... 254
 —, — *Bly.* Phyllornis ... 65, 403
 —, — *Bly.* Sylvia ... 409, 455
 —, — *Bly.* Trochalop-
 terum ... 507
 joudera, *Hodgs.* Turnix ... 424
 jugger, *J. E. Grey.* Falco 242, 370,
 451
 jugularis, *Bly.* Miglyptes... 161

 KELAARTI, *Bly.* Caprimulgus 380
 Ketupa ceylonensis, *Gm.* ... 36, 376,
 471
 —, — javanensis, *Less.*... 146, 471
 kieneri, *Gerv.* Lophotrior-
 chis ... 273
 kundoo, *Sykes.* Oriolus ... 65, 319,
 403

 LACTEA, *Tem.* Glareola ... 425
 lafresnayii, *Lath.* Iora ... 184
 lahtora, *Sykes.* Lanius ... 216, 391,
 454
 lanceolata, *Tem.* Locustella 221
 Lanius caniceps, *Bly.* ... 479
 —, — collaroides, *Less.*... 171
 —, — cristatus, *Lin.* ... 107, 172,
 316, 392
 —, — erythronotus, *Vig.* 57, 316,
 392
 —, — homeyeri, *Cab.* ... 316
 —, — lahtora, *Sykes.* ... 216, 391,
 454
 —, — superciliosus, *Lath.* 107
 —, — vittatus, *Valenc.* ... 58, 392,
 454
 lapponica, *Lin.* Limosa ... 118
 Larus affinis, *Reinh.* ... 94, 366,
 439
 —, — argentatus, *Brünn.*... 366
 —, — brunneicephalus, *Jerd.* 94, 439
 —, — cachinnans, *Pall.* ... 365
 —, — hemprichii, *Bp.* ... 439
 —, — ichthyaetus, *Pall.* ... 94, 439

 Larus leucophaëus, *Licht.* 365
 —, — ridibundus, *Lin.* ... 91, 439
 Larvivora cyane, *Pall.* ... 185
 —, — supercilialis,
Jerd. ... 66, 405
 latirostris, *Raffl.* Alseonax 60, 225,
 396
 laurencii, *Hume.* Corvus ... 456
 Layardia subrufa, *Jerd.* ... 401
 layardi, *Wald.* Geocichla 100
 leipus, *Hodgs.* Alauda ... 355n
 lempigi, *Horsf.* Scops ... 147
 lepida, *Bly.* Burnesia ... 228
 Leptocœcile sophia, *Severt.* 303, 336
 Leptoptilus argalus, *Lath.* 197, 432
 —, — javanicus, *Horsf.* 235, 432
 483
 leschenaulti, *Less.* Taccocua 56, 389
 leucocephala, *Vig.* Chi-
 marrhornis... 329
 leucocephala, *Gm.* Em-
 beriza ... 344
 leucocephala, *Scop.* Eris-
 matura ... 296
 leucocephalus, *Penn.* Tan-
 talus ... 91, 435, 485
 Leucocerca albicollis,
Vieill. ... 174, 249, 395
 Leucocerca aureola, *Vieill.* 174, 396
 —, — burnanica,
Hume ... 175n
 Leucocerca javanica,
Sparrm. ... 175n
 Leucocerca leucogaster,
Cuv. ... 60, 175n, 396
 Leucocerca perlata, *Müll.* 175n
 leucocyanea, *Brehm.* Cya-
 necula ... 330
 leucogaster, *Wald.* Garru-
 lax ... 292
 leucogaster, *Gm.* Halimæ-
 tus ... 32, 120, 373
 leucogaster, *Cuv.* Leuco-
 cerca ... 60, 175n, 396
 leucogaster, *Gould.* Poma-
 torhinus ... 180, 251
 leucogenys, *Moore.* Ægi-
 thaliscus ... 336
 leucolophus, *Hardw.* Gar-
 rulax ... 292
 leuconota, *Vig.* Columba 357
 leuconyx, *Bly.* Cypsellus 379
 leucophaëus, *Licht.* Larus 365
 leucopsis, *Gould.* Mota-
 cilla ... 189, 505,
 leucopsis, *Gould.* Sitta ... 315
 leucoptera, *M. and S.* Hy-
 drochelidon ... 366
 leucorodia, *Lin.* Platalea 91, 435
 leucoryphus, *Pall.* Halimæ-
 tus ... 214, 244

- leucosternus, *Gould.* Hali-
 astur ... 120
 Leucosticte brandti, *Severt.* 303, 353
 —, — haematopygia,
Gould. ... 353
 leucotis, *Hume.* Garrulus 191
 —, — Strickl. Timalia... 117
 leucura, *Hodgs.* Myiomela 254
 levillanti, *Less.* Corvus 341
 lichtensteini, *Tem.* Ptero-
 cles ... 202
 limborgi, *Wald.* Chrys-
 coccyx ... 168
 Limnaetus caligatus, *Raffl.* 143, 373
 —, — cirrhatus, *Gm.* 30, 373
 Limonidromus indicus, *Gm.* 69, 189,
 256, 411
 Limosa mgocephala, *Lin.*... 361
 —, — lapponica, *Lin.* ... 118
 —, — novæ-zelandiæ, *Gr.* 118
 Linaria brevis, *Gould.* 352
 —, — cannabina, *Lin.* ... 352
 lineatum, *Fig.* Trochalop-
 terum ... 319
 lineatus, *Fig.* Euplocamus 195
 —, — Cuv. Numenius... 84, 118,
 429
 livia, *Rp.* Columba ... 298, 357,
 457
 Lobipes hyperboreus, *Lin.*
 459
 Lobipluvia malabarica,
Bodd. ... 82, 427, 482
 Lobivanellus indicus,
Bodd. 82, 196, 220, 360, 427, 459
 Locustella hendersoni,
Cass. ... 406
 Locustella lanceolata, *Tem.* 221
 longicaudata, *Hay.* Buch-
 anga ... 59, 303, 316, 394
 longirostra, *Lath.* Arach-
 nothera ... 170, 248, 389
 longirostris, *Moore.* Oto-
 corys ... 354
 longirostris, *Hodgs.* Pyc-
 torhis ... 250
 longirostris, *Jerd.* Upupa 171
 Lophophorus impeyanus,
Lath. ... 203
 Lophophorus sclateri,
Jerd. ... 203
 lophotes, *Cuv.* Baza ... 141, 145
 Lophotriorchis kieneri,
Gerv. ... 273
 Loriculus vernalis,
Sparrm. ... 54, 161, 384
 lotenia, *Lin.* Cinnerys ... 57, 390
 lugubris, *Tick.* Ninox ... 42, 377
 —, — Bly. Phyllosco-
 pus ... 255, 273, 331, 408
 lugubris, *Horsf.* Sumi-
 culus ... 248
 Innatus, *Gould.* Serilophus 157
 lunulatus, *Valenc.* Gallo-
 perdix ... 205, 422
 luteola, *Sparrm.* Euspiza 346, 417,
 456
 luteolus, *Less.* Ixus ... 64, 402
 luteiventris, *Hodgs.* Tri-
 bura ... 240, 445
 Lyncornis cerviniceps,
Gould. ... 120, 151
 MACHETES PUGNAX, *Lin.* ... 85, 361,
 429
 Machlolophus aplonotus,
Bly. ... 413
 macii, *Less.* Graucalus ... 58, 172,
 393
 —, — Vieill. Picus ... 247
 macqueeni, *J. E. Gr.* Hou-
 bara ... 281, 458
 macrolopha, *Less.* Puerasia 205
 macrorhyncha, *Stol.* Pra-
 tincola ... 320
 macrorhynchus, *Wagl.*
 Corvus 70, 190, 256, 341n, 413, 481
 macrorhynchus, *Gm.* Cym-
 borhynchus ... 141, 157
 macrura, *Gm.* Cercotrichas 66, 184,
 404
 macrurus, *Horsf.* Capri-
 mulgus ... 150
 macrurus, *S. G. Gm.* Cir-
 cus 33, 308, 374, 452
 maculata, *Tick.* Erythros-
 terna ... 176
 maculatus, *Hodgs.* Anthus 190, 256,
 411
 —, — Gm. Chrysococ-
 cyx ... 167, 248
 maculosa, *Tem.* Turnix ... 196, 203
 maderaspatensis, *Gm.* Mo-
 tacilla ... 68, 410
 magna, *Hodgs.* Arachno-
 thera ... 169
 magnirostris, *Bly.* Cyornis 249
 —, — Bly. Phyllos-
 copus ... 408
 magnirostris, *Bly.* Urocissa 191
 mahrattensis, *Sykes.* Acri-
 dotheres ... 121, 414
 mahrattensis, *Sykes.* Capri-
 mulgus ... 381
 mahrattensis, *Lath.* Picus 52, 385
 major, *Brooks.* Dumeticola 330
 —, — Hume. Milvus ... 309n
 malabarica, *Lin.* Amadina 72, 416
 —, — Bodd. Lobi-
 pluvia ... 82, 427, 482
 malabarica, *Bly.* Mega-
 loma ... 54

- malabarica, *Jerd.* Osmotreron ... 74, 419
malabarica, *Scop.* Spizalauda ... 73, 418
malabarica, *Gm.* Sturnia... 71, 228, 267, 414
—, — *Bly.* Xantholæma ... 387
malabaricum, *Bly.* Glaucidium ... 38, 377
malabaricus, *Jerd.* Malacocercus ... 400
malabaricus, *Gm.* Phyllornis ... 403
malabariensis, *Jerd.* Scops... 36, 377
malacca, *Lin.* Amadina ... 71, 415
Malacocercus griseus, *Lath.* 400
—, — malabaricus, *Jerd.* ... 400
Malacocercus somervillii, *Sykes.* ... 64, 400
Malacocercus striatus, *Sws.* 479
Malacocincla rufiventris, *Salvad.* ... 109
Malacopteryx affinis, *Bly.* 127
—, — cinereum, *Eyt.* ... 127
malayana, *Cab.* Eudynamis 168, 248
malayensis, *Hay.* Chaptia ... 173
—, — *Reinw.* Neopus 372
malcolmi, *Sykes.* Argya ... 401
mandellii, *Blanf.* Pellorneum ... 250
mandellii, *Brooks.* Tribura 240, 445
manipurensis, *Hume.* Perdicula ... 467
mantis, *Tem. & Schl.* Scops 124
manyar, *Horsf.* Ploceus... 415
Mareca penelope, *Lin.* ... 92, 364, 438
marginata, *Bly.* Zoothera 177
maruetta, *Leach.* Porzana 363, 432
maurus, *Pall.* Pratincola... 319n, 404
media, *Horsf.* Sterna ... 95, 121, 441, 491
meena, *Sykes.* Turtur ... 74, 420, 457
megala, *Swinh.* Gallinago 283
Megalæma cyanotis, *Bly.* 166
—, — davisoni, *Hume.* 165
—, — hodgsoni, *Bp.* 165
—, — incognita, *Hume.* 166
—, — inornata, *Wald.* 54, 387
—, — malabarica, *Bly.* 54
—, — sykesi, *Lloyd.* 387n
—, — virens, *Bodd.* ... 165, 473
—, — viridis, *Bodd.*... 54, 387
Megalurys palustris, *Horsf.* 253
melanauchen, *Cab.* Pyrrhulauda ... 381
melanicterus, *Gm.* Melophus 411
melanocephala, *Scop.* Euspiza ... 72, 346, 417, 456
melanocephala, *Lath.* Ibis 91, 435, 485
melanocephalus, *Gcs.* Brachypodius ... 183
melanocephalus, *Licht.* Budytes ... 334, 410, 455
melanocephalus, *Lin.* Oriolus ... 65, 184, 403
Melanochlora sultanea, *Hodgs.* ... 190, 256
Melanocorypha bimaculata, *Menetr.* ... 354
melanogaster, *Penn.* Plotus 96, 442
melanogastra, *Tem.* Sterna. 440, 460
melanoleucus, *Forst.* Circus 145
melanolophus, *Rafl.* Goisakius ... 230, 259, 435
melanolophus, *Vig.* Parus 337
melanonotus, *Penn.* Sarcidiornis ... 436, 486
melanope, *Pall.* Calobates 69, 189, 333, 410, 455
melanops, *Vig.* Stoporala 60, 114, 175, 249, 396
melanosternus, *Legge.* Acridotheres 295
melanotis, *T. & S.* Milvus 245, 309n, 375
—, — *Jerd.* Spilornis 32, 373
melaschista, *Hodgs.* Volvocivora ... 58, 393
melaschistus, *Hume.* Accipiter ... 306
melba, *Lin.* Cypsellus ... 43, 379
Melophus melanicterus, *Gm.* ... 417
meningting, *Horsf.* Alcedo 247
Mergus castor, *Lin.* ... 365
—, — serrator, *Lin.* ... 268
meridionale, *Blanf.* Trochaloxypterus ... 506
Merops apiaster, *Lin.* ... 215, 313, 453
—, — persicus, *Pall.* ... 313, 382
—, — philippinus, *Lin.* 49, 152, 381
—, — swinhoii, *Hume.* 49, 153, 382, 478
—, — viridis, *Lin.* ... 48, 152, 381
Merula nigropile, *Lafr.*... 63, 399
mesoleuca, *Hemp. & Ehr.* Ruticilla ... 327n
Metoponia pusilla, *Pall.* ... 351, 457
Microhierax caeruleus, *Lin.* ... 142

- Microperdix erythrorhynchus, *Sykes*. ... 423
 Micropternus gularis, *Jerd.* 53, 386
 —, — phaeiceps, *Bly.* ... 53, 112, 164
 micropterus, *Gould.* *Cuculus* 55, 167, 248, 388
 Miglyptes jugularis, *Bly.* 161
 migrans, *Bodd.* *Milvus* ... 215, 452
 migratorius, *Maing.* *Hydrocissa* ... 107
Milvus affinis, *Gould.* ... 120, 145
 —, — govinda, *Sykes.* ... 34, 309, 374, 476
 —, — major, *Hume.* ... 309n
 —, — melanotis, *T. & S.* 245, 309n, 375
 —, — migrans, *Bodd.* ... 215, 452
 minima, *Sykes.* *Cinnyris*... 56, 390
 minor, *Cab.* *Calandrella* ... 98
 —, — *Gm.* *Fregata* ... 119
 —, — *G.* *St.* *Hill.* *Phaenicopterus* ... 436
 minor, *Gm.* *Podiceps* ... 365, 439, 460
 minus, *Hume.* *Trichastoma* 179
 minuta, *Lin.* *Ardetta* ... 363
 —, — *Leisl.* *Tringa* ... 85, 361, 429, 459
 —, — *Lin.* *Sterna* ... 131
 Mirafra assamica, *McClell.* ... 257
 Mirafra erythroptera, *Jerd.* 418
 Mixornis rubricapillus, *Tick.* ... 180, 250
 moabiticus, *Tristr.* *Passer* 444
 modestus, *Hume.* *Priodonchilus* ... 171
 mogilnik, *S. G.* *Gm.* *Aquila* ... 372
 Molpastes atricapillus, *Vieill.* ... 183
 Molpastes hæmorrhous, *Gm.* ... 64, 402
 Molpastes nigropileus, *Bly.* 183
 moluccensis, *P. L. S.* *Müll.* *Pitta* ... 177
 monachus, *Lin.* *Vultur* ... 214, 304, 450
 —, — *Rüpp.* *Saxicola* 454
 monedula, *Lin.* *Corvus* ... 342
 mongola, *Pall.* *Ægialitis* 81, 426
 mongolica, *Swinh.* *Erythrospiza* ... 347n, 437
 moniliger, *Hodgs.* *Garrulax* 141, 181
 montaneilus, *Pall.* *Accentor* 340
 montanus, *Lin.* *Passer* ... 193, 218, 456
 Monticola saxatilis, *Lin.* ... 318
 monticolus, *Frankl.* *Caprimulgus* ... 48, 151, 381
 Montifringilla adamsi, *Gould.* ... 302, 353n
 morio, *Hemp. & Ehr.* *Saxicola* ... 323, 326n
 Motacilla alba, *Lin.* ... 333, 455
 —, — dukhunensis, *Sykes* ... 69, 255, 410
 Motacilla hodgsoni, *Gr.* ... 332
 —, — leucopsis, *Gould.* 189, 505
 —, — maderaspatensis, *Gm.* ... 68, 410
 Motacilla ocularis, *Swinh.* 189, 505
 —, — personata, *Gould.* 333, 410, 455
 Muelleripicus pulverulentus, *Tem.* 141, 162, 472
 multipunctata, *Gould.* *Nucifraga* ... 342
 Munia rubronigra, *Hodgs.* 193
 muraria, *Lin.* *Tichodroma* 315
 murina, *S. Müll.* *Turdinulus* ... 115
 Muscipula supercilialis, *Jerd.* ... 397
 Muscipeta affinis, *Hay.* ... 249
 —, — incii, *Gould.* ... 125
 —, — paradisi, *Lin.*... 60, 316, 395
 —, — princeps, *Tem.* 125
 muticus, *Lin.* *Pavo* ... 195, 202
 Mycerobas carnipes, *Hodgs.* 346
 —, — speculigerus, *Brandt.* ... 346
 Myiomela leucura, *Hodgs.* 254
 Myiophoneus eugenii, *Hume* ... 141, 176
 Myiophoneus horsfieldi, *Vig.* ... 61, 398
 Myiophoneus temminckii, *Vig.* ... 317
 NANA, *Hemp. & Ehr.* *Sylvia* 280
 nanus, *Vig.* *Yungipicus* ... 52, 385
 Napothera atricapilla, *Müll.* ... 127
 naumanni, *Fleisch.* *Cerchneis* ... 236, 371
 neglecta, *Jerd.* *Drymæca* 68, 407
 —, — *Wald.* *Sitta* ... 141, 171
 neglectus, *Hume.* *Phylloscopus* ... 99
 neglectus, *Brooks.* *Troglodytes* ... 317
 nemoricola, *Hodgs.* *Fringillauda* ... 354
 nemoricola, *Hodgs.* *Gallinago* ... 428
 nemoricola, *Jerd.* *Sturnia* 192, 229
 Nemura cyanura, *Pall.* ... 329
 —, — rufilata, *Hodgs.*... 329n
 Neophron ginginianus, *Lath.* 29, 369

- Neophron percnopterus*, *Lin.* 214,
304, 450
Neopus malayensis, *Reinw.* 372
Nettopus coromandelianus,
Gm. ... 92, 198, 436, 507
neumayeri, *Mich.* *Sitta* ... 216, 453
nigra, *Lin.* *Ciconia* ... 363, 433
—, — *Lin.* *Hydrochelidon* 366
nigricans, *Bly.* *Alcedo* ... 141, 156
nigriceps, *Hodgs.* *Stachyris* 250
nigricollis, *Payk.* *Gracupica* 288
nigrigenis, *Hume.* *Gecinus* 141, 163
nigropileus, *Lafr.* *Merula* ... 63, 399
nigropileus, *Bly.* *Molpastes* 183
nigrorufa, *Jerd.* *Ochromela* 299
Niltava sundara, *Hodgs.* ... 234
Ninox burmanica, *Hume.* 148, 245
—, — *lugubris*, *Tick.* ... 42, 377
—, — *scutulata*, *Raffl.* ... 377
nipalensis, *Hodgs.* *Accentor* 338
—, — *Hodgs.* *Aquila* 372
—, — *Hodgs.* *Hirundo* 148, 246,
312
—, — *Hodgs.*
Hydrornis ... 249
nipalensis, *Hodgs.* *Parus* ... 217, 337,
413, 456
—, — *Hodgs.* *Pellor-*
neum ... 250
nipalensis, *Hodgs.* *Treron* 193, 257
Nisaetus fasciatus, *Vieill.* 372
—, — *pennatus*, *Gm.* ... 307
nisus, *Lin.* *Accipiter* ... 306, 371,
451
nitidus, *Bly.* *Phylloscopus* 68, 408
nivicolium, *Hodgs.* *Syrnium* 37, 310
novæ-zelandiæ, *Gr.* *Limosa* 118
nuchalis, *Tweed.* *Pomator-*
hinus ... 251
Nucifraga multipunctata,
Gould. ... 342
nudipes, *Hodgs.* *Chætura* 230, 286
Numenius lineatus, *Cuv.* ... 84, 118,
429
—, — *phæopus*, *Lin.* 85, 118,
429
Nycticorax griseus, *Lin.* ... 91, 364,
435
Nyctiornis amicta, *Tem.* ... 141, 153
—, — *athertoni*, *J. & S.* 153, 382,
472
nyroca, *Güld.* *Fuligula* ... 93, 259,
355, 439
- OATESI**, *Hume.* *Hydrornis* ... 176
occipitalis, *Vig.* *Gecinus* ... 164
—, — *Jerd.* *Regu-*
loides ... 68, 331, 409
oculeus, *Tem.* *Caloperdix* 121
ocellatum, *Less.* *Syrnium* 35, 376
ochracea, *Hodgs.* *Susia* ... 247
- Ochromela nigro-rufa*,
Jerd. ... 299
ochropus, *Lin.* *Totanus* ... 56, 197,
259, 361, 362, 430, 459
ocularis, *Swinh.* *Motacilla* 189, 505
Ocyeros birostris, *Scop.* 384
—, — *tickelli*, *Bly.* ... 158
Oedinemus scolopax, *S. G.*
Gm. ... 82, 427, 482
œnanthe, *Lin.* *Saxicola* ... 325n
olivaceum, *Wald.* *Dicæum* 171
—, — *Strickl.* *Trichas-*
toma ... 108
olivaceus, *Bly.* *Pomator-*
hinus ... 117, 180
Ophrysia superciliosa, *Gray* 471
opistholeucus, *Strickl.*
Saxicola ... 320, 404, 454
Oreicola ferreus, *Hodgs.* ... 255
—, — *jerdoni*, *Bly.* ... 254
Oreocincla dauma, *Lath.* 178
oreskios, *Tem.* *Harpactes* 162
orientalis, *Lin.* *Eurys-*
tomus ... 153
—, — *Leach.* *Glareola* 78, 196,
425
Oriolus ceylonensis, *Bp.* ... 65, 403
—, — *indicus*, *Jerd.* ... 65, 403
—, — *kundoo*, *Sykes.* ... 65, 319,
403
—, — *melanocephalus*,
Lin. ... 65, 184, 403
Oreæetes cinclorhynchus,
Vig. ... 303, 318
Orthorhinus hypoleucus,
Bly. ... 253
Orthorhinus inglisi, *Hume.* 253
—, — *tickelli*, *Hume.* 181, 253
Orthotomus aurtorius, *Penn.* 67, 186,
406, 505
Ortygornis gularis, *Tem.* ... 253
—, — *pondicerianus*,
Gm. ... 208, 422
oscitans, *Bodd.* *Anastomus* 91, 435
Osmotreron bicincta, *Jerd.* 257
—, — *malabarica*,
Jerd. ... 74, 419
Osmotreron phayrii, *Bly.* ... 194, 257
—, — *pompadoura*,
Gm. ... 481
ostralegus, *Lin.* *Hæmatopus* 83, 427
Otis tarda, *Lin.* ... 199
—, — *tetrax*, *Lin.* ... 359
Otocompsa emeria, *Lin.* ... 183
—, — *fuscicaudata*,
Gould. ... 64, 402
Otocorys longirostris,
Moore. ... 354
Otocorys penicillata, *Gould.* 354
Otogyps calvus, *Scop.* ... 29, 142,
369

- otus, *Lin.* Asia ... 310
- PACIFICUS, *Lath.* Cypsellus 246
pagodarum, *Gm.* Sturnia 70, 343, 414
Palæornis columboides, *Vig.* 52, 384
—, —, — cyanocephalus, *Lin.* ... 160
Palæornis fasciatus, *P. L.* ... 160
—, —, — *S. Müll.* ... 160
—, —, — finachi, *Hume.* ... 160
—, —, — indo-burmanicus, *Hume.* ... 159, 247
Palæornis purpureus, *Müll.* 51, 384
—, —, — torquatus, *Bodd.* 51, 384, 478
pallascens, *Hume.* Gyps ... 369
pallida, *Hemp. & Ehr.* Hy-
polais ... 231
pallidus, *Severt.* Carpoda-
cus ... 348
pallipes, *Jerd.* Cyornis ... 397
palpebrosa, *Tem.* Zosterops 69, 413, 505
palumbarius, *Lin.* Astur ... 305
Palumbus casiotis, *Bp.* 218, 237, 298, 457
—, —, — elphinstonii, *Sykes.* ... 74, 419
Palumbus torquatus, *Leach.* ... 237
palustris, *Horsf.* Megalurus 253
Pandion haliaëtus, *Lin.* 32, 307, 373
papillous, *Tem.* Inocotis ... 91, 435
paradiseus, *Lin.* Dissemu-
rus ... 59, 174, 395
paradisi, *Lin.* Muscipeta 60, 316, 395
Parra indica, *Lath.* ... 197, 430
Parus melanolophus, *Vig.* ... 337
—, —, — nipalensis, *Hodgs.* ... 217, 337, 413, 436
—, —, — rufonuchalis, *Bly.* ... 337
parva, *Bechst.* Erythros-
terna ... 61, 397, 454
parva, *Scop.* Porzana ... 363
Passer domesticus, *Lin.* ... 72, 218, 416, 456
—, —, — hispaniolensis, *Tem.* ... 343
—, —, — indicus, *Jard. & Selb.* 302, 343
—, —, — moabiticus, *Tristr.* ... 444
—, —, — montanus, *Lin.* ... 193, 218, 456
—, —, — pyrrhonotus, *Bly.* ... 232, 280, 442
passerinus, *Vahl.* Caco-
mantis ... 55, 388
Pastor elegans, *Less.* ... 118
pastor, *Voigt.* Pratincola ... 133
Pastor roseus, *Lin.* ... 71, 343, 414, 456
- Pavo cristatus, *Lin.* 75, 202, 421
—, —, — muticus, *Lin.* ... 195, 202
pectoralis, *Jerd.* Amadina 415
—, —, — Gould. Calliope 329
—, —, — Gould. Garru-
lax ... 181
pectoralis, *Salvad.* Rhino-
myias ... 126
pekinensis, *Swinh.* Cerch-
neis ... 242, 371
Pelargopsis burmanica, *Sharpe* ... 154
Pelargopsis gural, *Pears.* 49, 382
Pelicanus javanicus, *Horsf.* 119
—, —, — philippensis, *Gm.* 121, 442
pelios, *Bp.* Turdus ... 101
Pellorneum mandellii, *Blanf.* ... 250
Pellorneum nipalensis, *Hodgs.* ... 250
Pellorneum ruficeps, *Swains.* ... 63, 400
Pellorneum subochra-
ceum, *Swinh.* ... 180
pelvius, *Hodgs.* Tephro-
dornis ... 172, 249
pencilata, *Gould.* Otoco-
rys ... 354
penelope, *Lin.* Mareca ... 92, 364, 438
pennatus, *Gm.* Hieraëtus 30, 372
—, —, — *Gm.* Nisaëtus ... 307
—, —, — *Hodgs.* Scops ... 147, 311, 376
- percnopterus, *Lin.* Neo-
phron ... 214, 304, 450
Perdicula asiatica, *Lath.* ... 77, 422
—, —, — argoondah, *Sykes.* 77, 423
—, —, — manipurensis, *Hume.* ... 467
peregrinator, *Sund.* Falco 370
peregrinus, *Gm.* Falco ... 29, 242, 304, 370
—, —, — *Lin.* Pericro-
cotus ... 59, 394
Pericrocotus brevirostris, *Vig.* ... 316, 393
—, —, — elegans, *McClell.* ... 173
Pericrocotus erythropy-
gius, *Jerd.* ... 394
Pericrocotus flammeus, *Forst.* ... 58, 393
Pericrocotus immodestus, *Hume.* ... 173
Pericrocotus peregrinus, *Lin.* ... 59, 394
Pericrocotus roseus, *Vieill.* 173
perlata, *Müll.* Leucocerca 175n
Pernis brachypterus, *Bly.* 122, 446
—, —, — celebensis, *Schl.* ... 122, 448

- Pernis ptilorhynchus*, *Tem.* 122, 245, 375, 446
 —, — *tweedalii*, *Hume.* ... 446
persicus, *Pall.* *Merops* ... 313, 382
personata, *Gould.* *Motacilla* ... 332, 410, 455
Petronia stulta, *Gm.* ... 343 & n
Petrophila cinclorhyncha, *Vig.* ... 61, 398
Petrophila gularis, *Swinh.* 116
phæoceps, *Bly.* *Micropternus* ... 53, 112, 164
phæopus, *Lin.* *Numenius* 85, 118, 429
Phaeton flavirostris, *Brandt.* 259
Phalacrocorax carbo, *Lin.* 366
 —, — *fuscicollis*, *Steph.* ... 442
Phalacrocorax pygmaeus, *Pall.* ... 96, 442
phayrii, *Bly.* *Aleippe* ... 179
 —, — *Bly.* *Anthocinclia* 177, 474
 —, — *Bly.* *Osmotreron* 194, 257
Philentoma intermedius, *Hume.* ... 113
Philentoma pyrrhopterum, *Tem.* ... 113
Philentoma velatum, *Tem.* 113
philippensis, *Scop.* *Ægialitis* ... 359
philippensis, *Gm.* *Pelicanus* ... 121, 442
philippinus, *Lin.* *Merops* 152, 381
 —, — *Lin.* *Ploceus* 71, 415
Phodilus badius, *Horsf.* ... 245
Phœnicopterus minor, *G.* *St. Hill.* ... 436
Phœnicopterus roseus, *Pall.* 91, 436
phœnicura, *Frankl.* *Ammomanes* ... 72, 418
phœnicura, *Penn.* *Erythra* 87, 197, 431
Phyllornis aurifrons, *Tem.* 183
 —, — *chlorocephalus*, *Wald.* ... 183
Phyllornis jerdoni, *Bly.* ... 65, 403
 —, — *malabaricus*, *Gm.* 403
Phylloscopus affinis, *Tick.* 331, 408
 —, — *burmanicus*, *Brooks.* ... 272
Phylloscopus indicus, *Jerd.* ... 255, 331, 408
Phylloscopus lugubris, *Bly.* 273, 331, 408
Phylloscopus magnirostris, *Bly.* ... 408
Phylloscopus neglectus, *Hume.* ... 99
Phylloscopus nitidus, *Bly.* 48, 408
 —, — *plumbeitarsus*, *Swinh.* ... 187, 273
Phylloscopus schwarzi, *Radde.* ... 186
Phylloscopus sindianus, *Brooks.* ... 99
Phylloscopus tenellipes, *Swinh.* ... 117
Phylloscopus tristis, *Bly.* 99, 331, 408
 —, — *tytleri*, *Brooks.* ... 331
Phylloscopus viridanus, *Bly.* ... 68, 272, 331, 408
Phylloscopus viridipennis, *Bly.* ... 290
Pica bactriana, *Bp.* ... 342
 —, — *bottanensis*, *Deless.* 293
 —, — *rustica*, *Scop.* ... 218, 293, 342, 456
picatus, *Sykes.* *Hemipus* ... 58, 172, 393
 —, — *Bly.* *Saxicola* ... 217, 302, 321, 454
pictus, *J. & S.* *Francolinus* 208, 422
Picus himalayensis, *Jard. & Selb.* ... 313
Picus macii, *Vieill.* ... 247
 —, — *mahrattensis*, *Lath.* 52, 385
 —, — *sindianus*, *Gould.* ... 215, 279, 453
pileata, *Bodd.* *Halcyon* 49, 154, 382
Pipastes maculatus, *Hodgs.* 190
Piprisoma agile, *Tick.* 37, 248, 391
pispoletta, *Pall.* *Alaudula* 354
 —, — *Pall.* *Calandrella* ... 97
Pitta brachyura, *Lin.* ... 61, 398
 —, — *cuculata*, *Harth.* 177, 250, 474
 —, — *cyanea*, *Bly.* ... 176, 473
 —, — *moluccensis*, *P. L. S. Müll.* ... 177
placida, *G. R. Gr.* *Ægialitis* 258
Platalea leucorodia, *Lin.* ... 91, 435
platyrus, *Jerd.* *Schœnicola* 209, 234, 260, 401
Ploceus baya, *Bly.* ... 257
 —, — *bengalensis*, *Lin.* ... 257
 —, — *manyar*, *Horsf.* ... 415
 —, — *philippinus*, *Lin.* ... 71, 415
Plotus melanogaster, *Penn.* 96, 442
plumbeitarsus, *Swinh.* *Phylloscopus* ... 187, 273
plumbeus, *Hodgs.* ... 244
Polioæetus ... 307
plumipes, *Hodgs.* *Buteo* ... 307
Proœpyga roberti, *G.-Aust. & Wald.* ... 115
Podiceps minor, *Gm.* ... 93, 365, 439, 460
pœcilorhyncha, *Forst.* ... 437
Anas ... 63, 399
poiocephala, *Jerd.* *Alcippe* 63, 399

- poiocephalus, *Jerd.* ...
 Brachypodius ... 402
Polioæstus *humilis*, ...
 S. Müll. ... 244
Polioæstus *ichthyaæstus*, ...
 Horsf. ... 120, 144
Polioæstus *plumbeus*, ...
 Hodgs. ... 244
poliocephala, *Anders.* ...
 Prinia ... 286
poliocephalus, *Lath.* ...
 Oculus ... 54, 388
poliocephalus, *Loth.* ...
 Porphyrio 197, 259, 431, 459, 483
poliogaster, *Hume.* ...
 Stachyris ... 116
poliogenys, *Brooks.* *Cyornis* 96, 295
poliohierax insignis, *Wald.* 142
poliopsis, *Hume.* *Astur* ... 143
Polyplectrum tibetanum, ...
 Gm. ... 195, 203
Pomatorhinus albicollis, ...
 Horsf. ... 253
Pomatorhinus horsfieldi, ...
 Sykes. ... 63, 400
Pomatorhinus leucogaster, ...
 Gould. ... 180, 251
Pomatorhinus nuchalis, ...
 Tweed. ... 251
Pomatorhinus olivaceus, ...
 Bly. ... 117, 180
Pomatorhinus schisticeps, ...
 Hodgs. ... 251
pompadoura, *Gm.* ...
 Osmotreron ... 481
pondicerianus, *Gm.* ...
 Ortyornis ... 208, 422
pondicerianus, *Gm.* ...
 Tephrodornis ... 88, 392
Porphyrio edwardsi, ...
 Elliot. ... 121
Porphyrio poliocephalus, ...
 Lath. 197, 259, 431, 459, 483
Porzana akool, *Sykes.* ... 431
 —, — *bailloni*, *Vieill.* ... 87, 259,
 432, 460
 —, — *fusca*, *Lin.* ... 87, 118,
 432
 —, — *maruetta*, *Leach.* 363, 432
 —, — *parva*, *Scop.* ... 363
 —, — *pygmæa*, *Naum.* ... 363
præcognitus, *Swinh.* ...
 Stachyris ... 117
prasinæ, *Sparrm.* ...
 Erythrura ... 121
pratensis, *Bechst.* *Crex* ... 363
Pratincola caprata, *Lin.* 66, 185,
 254, 404, 454
 —, — *ferreus*, *Hodgs.* ... 185
pratincola, *Lin.* *Glareola* ... 78, 425
Pratincola hemprichi, *Ehr.* 320
Pratincola indicus, *Ely.* ... 66, 136,
 185, 319
 —, — *insignis*, *Hodgs.* 134, 505
 —, — *macrorhyncha*,
 Stol. ... 320
Pratincola maurus, *Pall.* ... 319_n,
 404
 —, — *pastor*, *Voigt.* ... 133
 —, — *robusta*, *Tristr.* 133,
 320 & *n*
 —, — *rubetraoides*,
 Jam. ... 320 & *n*
Pratincola rubicola, *Lin.* 319
 —, — *sybilla*, *Lin.* ... 133
 —, — *torquata*, *Lin.* ... 133
princeps, *Tem.* *Muscipeta* 125
Prinia adamsi, *Jerd.* ... 406
 —, — *beavani*, *Wald.* ... 186
 —, — *cinereocapilla*,
 Hodgs. ... 286
Prinia gracilis, *Frankl.* ... 406
 —, — *hodgeoni*, *Bly.* ... 67, 406
 —, — *poliocephala*,
 Anders. ... 286
Prinia socialis, *Sykes.* ... 67, 406
Prionochilus modestus,
 Hume. ... 171
Propasser frontalis, *Bly.* ... 349
 —, — *rhodochlamys*,
 Brandt. ... 349
Propasser rhodochrous,
 Vig. ... 368, 417
Propasser thura, *Bp.* ... 349,
 350_n
protomelas, *Cab.* *Turdus* ... 101
Pearisomus dallhousiæ,
 Jam. ... 156
psaroides, *Vig.* *Hypsipetes* 253
Pseudogyps bengalensis,
 Gm. ... 29, 142, 369
Pterocles alchata, *Lin.* ... 458
 —, — *arenarius*, *Pall.* 200,
 219, 458
 —, — *coronatus*, *Licht.* 200, 219,
 296, 458
 —, — *exustus*, *Tem.* ... 421
 —, — *fasciatus*, *Scop.* ... 201, 421
 —, — *lichtensteini*,
 Tem. ... 202
Pterocles senegalus, *Lin.* ... 200
ptilorhynchus, *Tem.* *Pernis* 122, 245,
 375, 446
Ptyonoprogne concolor,
 Sykes. ... 43, 378
Ptyonoprogne rupestris,
 Scop. ... 378
Pucrasia macrolopha, *Less.* 205
puella, *Lath.* *Irena* ... 65, 184,
 403
Puffinus chlororhynchus,
 Less. ... 264

<i>pugnax</i> , <i>Lin.</i> <i>Machetes</i> ...	85, 361
<i>pulchellus</i> , <i>Horsf.</i> <i>Carci-</i>	
<i>neutes</i> ...	154
<i>pulchratus</i> , <i>Hodgs.</i> <i>Turtur</i>	420
<i>pulverulentus</i> , <i>Tem.</i>	
<i>Muelleripicus</i> ...	141, 162, 472
<i>puncticollis</i> , <i>Malh.</i>	
<i>Brachypternus</i> ...	53, 386
<i>punctulata</i> , <i>Lin.</i> <i>Amadina</i>	71, 415
<i>punicea</i> , <i>Hodgs.</i>	
<i>Pyrhospiza</i> ...	351
<i>puniceus</i> , <i>Tick.</i> <i>Alsocomus</i>	258
<i>purpurascens</i> , <i>Gould.</i>	
<i>Sturnus</i> ...	343
<i>purpurea</i> , <i>Lin.</i> <i>Ardea</i> ...	88, 433
<i>purpureus</i> , <i>P. L. S. Müll.</i>	
<i>Palæornis</i> ...	51, 384
<i>pusilla</i> , <i>Pall.</i> <i>Metoponia</i> ...	351, 457
<i>Pycoris</i> <i>longirostris</i> ,	
<i>Hodgs.</i> ...	250
<i>Pycoris</i> <i>sinensis</i> , <i>Gm.</i> ...	63, 399
<i>pygmæa</i> , <i>Naum.</i> <i>Porzana</i> ...	363
<i>pygmæus</i> , <i>Pall.</i> <i>Phalacro-</i>	
<i>corax</i> ...	96, 442
<i>Pyrhacorax alpinus</i> , <i>Koch.</i>	342
<i>graculus</i> , <i>Lin.</i>	342
<i>pyrrhonotus</i> , <i>Bly.</i> <i>Passer</i> ...	232, 280,
	442
<i>pyrrhops</i> , <i>Hodgs.</i>	
<i>Buchanga</i> ...	173
<i>pyrrhopterum</i> , <i>Tem.</i>	
<i>Philentoma</i> ...	113
<i>pyrrhopygus</i> , <i>Less.</i>	
<i>Trichixos</i> ...	129
<i>Pyrhospiza punicea</i> , <i>Hodgs.</i>	351
<i>Pyrhula aurantiaca</i> ,	
<i>Gould.</i> ...	347
<i>Pyrhulauda grisea</i> , <i>Scop.</i>	73, 418
<i>melanauchen</i> ,	
<i>Cab.</i> ...	281

<i>QUERQUEDULA CIRCIA</i> , <i>Lin.</i> ...	93, 198,
	365, 438
<i>crecca</i> , <i>Lin.</i> ..	93, 365,
	438, 460

<i>RADIATUM</i> , <i>Tick.</i> <i>Glaucidium</i>	39, 377
<i>Rallus aquaticus</i> , <i>Lin.</i> ...	363
<i>rama</i> , <i>Sykes.</i> <i>Hypolais</i> ...	232, 279,
	407, 455
<i>rayi</i> , <i>Bp.</i> <i>Budytes</i> ...	455
<i>recurvirostris</i> , <i>Cuv.</i> <i>Æscus</i>	290, 427
<i>Reguloides flavo-olivaceus</i> ,	
<i>Hume</i> ...	291
<i>Reguloides humii</i> , <i>Brooks.</i>	331, 409
<i>occipitalis</i> , <i>Jerd.</i>	68, 331,
	409
<i>subviridis</i> ,	
<i>Brooks.</i> ...	332

<i>Reguloides superciliosus</i> ,	
<i>Gm.</i> ...	188, 409
<i>Reguloides trochiloides</i> ,	
<i>Sund.</i> ...	291
<i>Regulus cristatus</i> , <i>Koch.</i> ...	332
<i>religiosa</i> , <i>Lin.</i> <i>Eulabes</i> ...	300, 414
<i>remifer</i> , <i>Tem.</i> <i>Bhringa</i> ...	173
<i>Rhinomyias pectoralis</i> ,	
<i>Salvad.</i> ...	126
<i>rhodochlamys</i> , <i>Brandt.</i> <i>Pro-</i>	
<i>passer</i> ...	349
<i>rhodochrous</i> , <i>Vig.</i> <i>Propas-</i>	
<i>ser</i> ...	368, 417
<i>rhodolaema</i> , <i>Shell.</i> <i>An-</i>	
<i>threptes</i> ...	125
<i>Rhodonessa caryophyllacea</i> ,	
<i>Lath.</i> ...	437
<i>Rhopodytes tristis</i> , <i>Less.</i> ...	168
<i>viridirostris</i> ,	
<i>Jerd.</i> ...	55, 389
<i>Rhyacophila glareola</i> , <i>Lin.</i>	86, 197,
	429, 459
<i>Rhynchæa bengalensis</i> , <i>Lin.</i>	84, 197
<i>capensis</i> , <i>Lin.</i> ...	236, 428
<i>Rhynchops albicollis</i> , <i>Sws.</i>	441
<i>Rhyticeros undulatus</i> , <i>Shaw.</i>	141, 159,
	247
<i>richardi</i> , <i>Vieill.</i> <i>Corydalla</i>	117, 190,
	256
<i>ridibundus</i> , <i>Lin.</i> <i>Larus</i> ...	94, 439
<i>riparia</i> , <i>Lin.</i> <i>Cotyle</i> ...	149, 246, 378
<i>risorius</i> , <i>Lin.</i> <i>Turtur</i> ...	75, 219, 258,
	458, 482
<i>roberti</i> , <i>G.-Aust.</i> & <i>Wald.</i>	
<i>Pnoepyga</i> ...	115
<i>robusta</i> , <i>Tristr.</i> <i>Pratincola</i>	133,
	320 & n
<i>rosaceus</i> , <i>Hodgs.</i> <i>Anthus</i> ...	335, 505
<i>roseus</i> , <i>Lin.</i> <i>Pastor</i> ...	71, 343,
	414, 456
<i>Vieill.</i> <i>Perierocotus</i>	173
<i>Pall.</i> <i>Phœnicopterus</i>	91, 436
<i>rostratum</i> , <i>Bly.</i> <i>Trichas-</i>	
<i>toma</i> ...	109, 127
<i>Rubecula akahige</i> , <i>Tem.</i> ...	234
<i>rubecula</i> , <i>Gould.</i> <i>Geocichla</i>	100
<i>rubeculoides</i> , <i>Vig.</i> <i>Cyornis</i>	96, 114,
	175, 397
<i>rubetraoides</i> , <i>Jam.</i> <i>Pratin-</i>	
<i>cola</i> ...	320 & n
<i>rubicillus</i> , <i>Güld.</i> <i>Carpoda-</i>	
<i>cus</i> ...	347
<i>rubicola</i> , <i>Lin.</i> <i>Pratincola</i> ...	319
<i>Rubigula flaviventris</i> , <i>Tick.</i>	182
<i>gularis</i> , <i>Gould.</i> ...	402
<i>rubricapillus</i> , <i>Tick.</i> <i>Mixor-</i>	
<i>nis</i> ...	180, 250
<i>rubronigra</i> , <i>Hodgs.</i> <i>Ama-</i>	
<i>dina</i> ...	71, 193, 415
<i>rubropygius</i> , <i>Hodgs.</i> <i>Seri-</i>	
<i>lophus</i> ...	247

- rudis*, *Lin.* *Ceryle* ... 50, 156, 383
rufa, *Scop.* *Dendrocitta* ... 70, 191, 413
rufescens, *Hume.* *Drymæca* 68, 407
 —, — *Horsf.* *Scops* ... 124
ruficaudus, *Sws.* *Cyornis* ... 317, 397
ruficeps, *Swains.* *Pellorneum* ... 63, 400
ruficeps, *Blyth.* *Stachyris* 117
ruficollis, *Pall.* *Turdus* ... 318 & n
rufifrons, *Hume.* *Stachyris* 117, 179
rufilata, *Hodgs.* *Nemura* ... 329n
rufina, *Pall.* *Fuligula* ... 365, 438
rufipennis, *Ill.* *Centrocercus* ... 56, 389
rufiventris, *Salvad.* *Mala-cocincla* ... 109
rufiventris, *Vieill.* *Ruticilla* 66, 327, 328n, 405
rufogularis, *Moore.* *Ruticilla* ... 328, 455
rufonuchalis, *Bly.* *Parus* ... 337
rufula, *Vieill.* *Corydalla* ... 69, 190, 412, 505
rupestris, *Pall.* *Columba* 357
 —, — *Scop.* *Cotile* ... 312
 —, — *Scop.* *Ptyonoprogne* ... 378
rupicola, *Pall.* *Turtur* ... 357
rustica, *Lin.* *Hirundo* ... 43, 215, 312, 377, 453
 —, — *Scop.* *Pica* ... 218, 293, 342, 456
rusticula, *Lin.* *Scolopax* ... 360, 428
rutherfordi, *Swinh.* *Spilornis* ... 144
Ruticilla aurea, *Pall.* ... 255
 —, — *œruleocephala*, *Vig.* ... 329
Ruticilla erythrogastra, *Guld.* ... 328
 —, — *erythronota*, *Eversm.* ... 327, 455
Ruticilla erythroprocta, *Gould.* ... 327
 —, — *frontalis*, *Vig.* ... 329
 —, — *hodgsoni*, *Moore.* 327
 —, — *mesoleuca*, *Hemp. & Ehr.* ... 327n
Ruticilla rufiventris, *Vieill.* 66, 327, 328n, 405, 454
 —, — *rufogularis*, *Moore.* ... 328, 455
rutila, *Pall.* *Casarca* ... 364, 437
- SAGITTATUS*, *Cass.* *Scops* ... 125
Sarcidiornis melanonotus, *Penn.* ... 436, 486
Sarraglossa spiloptera, *Vig.* 256
Sasia ochracea, *Hodgs.* ... 247
- saularis*, *Lin.* *Oopsycho* 66, 184, 404
saundersi, *Hume.* *Sterna* ... 95, 131, 441
saxatilis, *Lin.* *Monticola* 318
Saxicola albonigra, *Hums.* 323
 —, — *capistrata*, *Gould.* 323
 —, — *deserti*, *Rüpp.* ... 327, 405, 454
 —, — *hendersoni*, *Hume.* 326
 —, — *isabellinus*, *Rüpp.* 217, 325, 404, 454
 —, — *monachus*, *Rüpp.* 454
 —, — *morio*, *Hemp. & Ehr.* ... 323, 326n
Saxicola œnanthe, *Lin.* ... 325 & n
 —, — *opistholeucos*, *Strickl.* ... 320, 401, 454
Saxicola picatus, *Bly.* ... 217, 302, 321, 454
 —, — *vittata*, *Hemp. & Ehr.* ... 323 & n
schistaceus, *Hodgs.* *Henicurus* ... 141, 189
schisticeps, *Hodgs.* *Poma-torhinus* ... 251
schœnielus, *Lin.* *Emberiza* 345
Schœnicola platyurus, *Jerd.* ... 209, 234, 260, 401
schwarzi, *Radde.* *Phylloscopus* ... 186
sclateri, *Jerd.* *Lophophorus* 203
scolopax, *S. G. Gm.* *Œdinemus* ... 82, 427, 482
Scolopax rusticula, *Lin.* ... 360, 428
Scops bakhamaena, *Penn.* 37, 452
 —, — *brucei*, *Hume.* ... 36, 312, 376, 452
 —, — *giu*, *Scop.* ... 452
 —, — *lempigi*, *Horsf.* ... 147
 —, — *malabaricus*, *Jerd.* ... 36, 377
 —, — *mantis*, *Tem. & Schl.* 124
 —, — *pennatus*, *Hodgs.* 147, 311, 376
 —, — *rufescens*, *Horsf.* ... 124
 —, — *sagittatus*, *Cass.* ... 125
Scotocerca inquieta, *Rüpp.* 217, 455
scouleri, *Vig.* *Henicurus* 332
scutulata, *Raffl.* *Ninox* 377
seena, *Sykes.* *Sterna* ... 410
seloputo, *Horsf.* *Syrnium* 146
senegalensis, *Lin.* *Turtur* ... 74, 219, 358n, 420, 458
senegulus, *Lin.* *Pterocles* ... 200
Serilophus lunatus, *Gould.* 157
 —, — *rubropygius*, *Hodgs.* ... 247
serrator, *Lin.* *Mergus* ... 268
shah, *Bp.* *Emberiza* ... 245n
siamensis, *Swinh.* *Acridotheres* ... 285

- sibericus, *Gm.* Hemicheli-
 don ... 317
 simile, *Hume.* Trochalop-
 terum ... 319
 similis, *Jerd.* Agrodroma ... 412
 simplex, *S. Müll.* Anthrep-
 tes ... 120
 sindianus, *Brooks.* Phyllos-
 copus ... 99
 sindianus, *Gould.* Picus ... 215, 279,
 453
 sinensis, *Gm.* Ardetta ... 259, 434
 —, — *J. E. Gr.* Cotila 149, 378
 —, — *Lin.* Excalfactoria 196
 —, — *Gm.* Pycoria ... 63, 399
 —, — *Gm.* Sterna ... 131, 490
 —, — *Gm.* Sturnia ... 118
 singalensis, *Gm.* Chalcoparia 170
 Sitta leucopsis, *Gould.* ... 315
 —, — neglecta, *Wald.* ... 141, 171
 —, — neumayeri, *Mich.* ... 216, 453
 smyrnensis, *Lin.* Halcyon 49, 154,
 382, 472
 socialis, *Sykes.* Prinia ... 67, 406
 solitaria, *Hodgs.* Gallinago 283, 360
 solitarius, *P. L. S. Müll.*
 Cyanocinclus ... 116
 soloensis, *Horsf.* Astur ... 120, 143
 somervillii, *Sykes.* Mulaco-
 cercus ... 64, 400
 sonnerati, *Lath.* Cuculus 54, 388
 —, — *Tem.* Gallus ... 76, 205,
 421
 sophia, *Severt.* Leptopæ-
 cile ... 303, 336
 sordida, *Rüpp.* Agrodroma 412, 456
 —, — *Stol.* Fringillauda 353
 spadiceus, *Gm.* Gallopardix 76, 422
 sparveroides, *Fig.* Hiero-
 coccyx ... 167, 248
 Spatula clypeata, *Lin.* ... 92, 364,
 437
 speculigerus, *Brandt.* My-
 cerobus ... 346
 spiloptera, *Fig.* Sarraglossa 256
 Spilornis batcha, *Daud.* ... 107
 —, — cheela, *Lath.* ... 31, 373
 —, — melanotis, *Jerd.* 32, 373
 —, — rutherfordi, *Swinh.* 144
 spinoletta, *Lin.* Anthus ... 335
 Spizæus ceylonensis, *Gm.* 476
 Spizalauda deva, *Sykes* ... 418
 —, — malabarica, *Scop.* 73, 418
 splendens, *Vieill.* Corvus ... 70, 413
 spodiopygia, *Peale.* Collo-
 calia ... 45
 spodocephala, *Pall.* Emberi-
 za ... 257
 squamatus, *Fig.* Gecinus 314
 Squatarola helvetica, *Lin* 79, 118,
 425
 Stachyris assimilis, *Wald.* 117
 —, — bocagii, *Salvad.* ... 117
 —, — chrysæus, *Hodgs.* 117
 —, — nigriceps, *Hodgs.* 250
 —, — poliogaster, *Hume.* 116
 —, — præcognitus,
Swinh. ... 117
 Stachyris ruficeps, *Bly.* ... 117
 —, — rufifrons, *Hume.* 117, 179
 stagnatilis, *Bechst.* Totanus 430
 stellaris, *Lin.* Botaurus ... 434
 stentorius, *H. & E.* Acro-
 cephalus ... 67, 279,
 405
 Sterna albigena, *Licht.* ... 94, 440
 —, — anaetheta, *Scop.* ... 96, 121,
 441, 491
 —, — anglica, *Mont.* ... 94, 440
 —, — bergii, *Licht.* ... 95, 119,
 441, 490
 —, — caspia, *Pall.* ... 439, 487
 —, — dougalli, *Mont.* ... 488
 —, — fluviatilis, *Naum.* ... 366
 —, — fuliginosa, *Gm.* ... 441
 —, — gouldi, *Hume.* ... 131
 —, — media, *Horsf.* ... 95, 121,
 441, 491
 —, — melanogastra, *Tem.* 440, 460
 —, — minuta, *Lin.* ... 131
 —, — saundersi, *Hume.* ... 95, 131,
 441
 —, — seena, *Sykes.* ... 440
 —, — sinensis, *Gm.* ... 131, 490
 —, — tibetana, *Saund.* ... 95, 366
 stevensoni, *Gurn.* Accipi-
 ter ... 109, 231
 stewarti, *Bly.* Emberiza 345, 456
 sthenura, *Kühl.* Gallinago 83, 196,
 283, 423
 stoliczka, *Hume.* Stolicz-
 kana ... 336
 Stoliczkanastoliczka, *Hume* 336
 Stoporala melanops, *Fig.* 60, 114,
 175, 247, 396
 strachei, *Moore.* Embe-
 riza ... 344
 streperus, *Lin.* Chaulelaa-
 mus ... 92, 365,
 438
 Strepsilas interpres, *Lin.* ... 82, 427,
 482
 strinta, *Lin.* Amadina ... 72, 416
 —, — *Lin.* Hypotaenidia 87, 197,
 259, 432
 striatus, *Bly.* Alcurus ... 182
 —, — *Drap.* Cuculus ... 315
 —, — *Sws.* Mulacocercus 479
 strictus, *Horsf.* Chrysoco-
 laptus ... 52, 107, 238, 385
 striolata, *Bly.* Corydalla 412
 striolatus, *Bly.* Gecinus ... 386

- Strix candida*, Tick. ... 375
 —, — *javanica*, Gm. ... 34, 146, 375
stulta, Gm. *Petronia* ... 343 & n
Sturnia blythi, Jerd. ... 228, 237, 267, 414
 —, — *incognita*, Hume. ... 295
 —, — *malabarica*, Gm. ... 71, 228, 267, 414
 —, — *memoricola*, Jerd. ... 192, 229
 —, — *pagodarum*, Gm. ... 70, 343, 414
 —, — *sinensis*, Gm. ... 118
 —, — *sturnina*, Fall. ... 192
sturnina, Fall. *Sturnia*... 192
Sturnopastor superciliaris, Bly. ... 192
Sturnus purpurascens, Gould. ... 343
Sturnus vulgaris, Lin. ... 342
subarquata, Guld. *Tringa* 85, 361, 429
subbuteo, Lin. *Falco* ... 282, 305, 370
subochraceum, Swinh. *Pel-lorneum* ... 180
subrufa, Jerd. *Layardia*... 401
subruficollis, Bly. *Rhyti-ceros* ... 159
substriolata, Hume. *Hirundo* ... 246
subundulata, G.-Aust. *Ama-dina* ... 505
subviridis, Brooks. *Reguloides* ... 332
suecica, Lin. *Cyanecula*... 67, 255, 330, 405, 455
sultanea, Hodgs. *Melano-chlora* ... 190, 256
sultaneus, Hodgs. *Chrysocolaptes* ... 52, 107, 162
sumatrana, Raffl. *Ardea*... 235
sumatranus, Raffl. *Corydon* ... 157
sundara, Hodgs. *Niltava*... 234
superciliaris, Tick. *Abrornis* ... 188
superciliaris, Jerd. *Larvora* ... 66, 405
superciliaris, Jerd. *Musci-capula* ... 397
superciliaris, Bly. *Sturno-pastor* ... 192
superciliosa, Gray. *Ophrysia* ... 471
superciliosus, Lath. *Lanius* 107
 —, — Gm. *Reguloides* ... 188, 409
suratensis, Gm. *Turtur*... 75, 358, 420, 458
- Surniculus lugubris*, Horsf. 248
sutorius, Penn. *Orthotomus* ... 67, 186, 406, 505
Suya albogularis, Hume... 227
swinhoii, Hume. *Merops*... 49, 153, 332, 478
sybilla, Lin. *Pratincola* ... 133
sykesi, Lloyd. *Megalæma* 387n
 —, — *Strickl.* *Volvocivora* 58, 393
sylvatica, Jerd. *Drymæca* 407
Sylvia affinis, Bly. ... 332, 409, 455
 —, — *althæa*, Hume. ... 332
 —, — *cinerea*, Lath. ... 332
 —, — *jerdoni*, Bly. ... 409, 455
 —, — *nana*, Hemp. and Ehr. ... 280
sylvicola, Jerd. *Tephrodornis* ... 392
Sypheotides aurita, Lath. 77, 424
Sypheotis bengalensis, P. L. S. Müll. ... 199
Syrnium indranee, Sykes. 35, 375
 —, — *nivicolum*, Hodgs. 37, 310
 —, — *ocellatum*, Less. 35, 376
 —, — *seloputo*, Horsf. 146
- TACCOCUA LESCHENAUTII, Less. ... 56, 389
taczanowskia, Swinh. *Tribura* ... 445
taigoor, Sykes. *Turnix* .. 77, 424
taivanus, Swinh. *Budytes* 130
Tantalus leucocephalus, Penn. ... 91, 435, 485
tarda, Lin. *Otis* ... 199
teesa, Frankl. *Butastur* ... 33, 374
temmincki, Brandt. *Accentor* ... 340
temmincki, J. E. Gr. *Cerionornis* ... 205
temmincki, Vig. *Myiophobus* ... 317
temmincki, Leisl. *Tringa* 258, 361, 362, 428
tenellipes, Swinh. *Phylloscopus* ... 117
tephrocephala, Anders. *Cryptolopha* ... 188
Tephrodornis pelvicus, Hodgs. ... 172, 249
Tephrodornis pondicerianus, Gm. ... 58, 392
Tephrodornis sylvicola, Jerd. ... 392
terricolor, Hodgs. *Alseonax* 225
Tetraogallus himalayensis, Gr. ... 207, 358
Tetraogallus tibetanus, Gould. ... 358
tetrax, Lin. *Otis* ... 359

- Thamnobia fulicata*, *Lin.* 66, 404
threnodes, *Cab. Cacomantis* ... 167, 248
Thriponax feddeni, *Blanf.* 162
 —, — *hodgsoni*, *Jerd.* 386
thura, *Bp. Propasser* ... 349, 350n
tibetana, *Brooks. Calandrella* ... 97
tibetana, *Saund. Sterna* ... 95, 366n
tibetanum, *Gm. Polyplectron* ... 195, 203
tibetanus, *Gould. Tetragallus* ... 358
Tichodroma muraria, *Lin.* 315
tickelli, *Bly. Cyornis* ... 61, 397
 —, — *Bly. Ocyeros* ... 158
 —, — *Hume. Orthorhynchus* ... 181, 253
Tiga javanensis, *Ljunge* ... 164
tigrinus, *Tem. Turtur* ... 194, 258
Timalia bengalensis, *G. Aust.* ... 250
Timalia leucotis, *Strickl.* ... 117
tinnunculus, *Lin. Cerchneis* 29, 214, 305, 376, 451
tiphia, *Lin. Iora* ... 65, 183, 403, 505
Toekus griseus, *Lath.* ... 51, 384
torquata, *Lin. Pratincola* ... 133
torquatus, *Hume. Gampsorhynchus* ... 178
torquatus, *Bodd. Palæornis* ... 51, 384, 478
torquatus, *Leach. Palumbus* ... 237
torquilla, *Lin. Iynx* ... 314, 386
torra, *B. Ham. Herodias* 88, 433
Totanus calidris, *Lin.* ... 86, 259, 362, 430
 —, — *fuscus*, *Lin.* ... 362
 —, — *glottis*, *Lin.* ... 86, 362, 430
 —, — *hypoleucus*, *Lin.* ... 197
 —, — *ochropus*, *Lin.* ... 86, 197, 259, 430, 459
 —, — *stagnatilis*, *Bechst.* 430
tranquebaricus, *Herm. Turtur* ... 75, 421
Treron nipalensis, *Hodgs.* ... 193, 257
triborhyncha, *Hodgs. Alauda* ... 355n
Tribura affinis, *Hodgs.* ... 445
 —, — *brunneipectus*, *Bly.* ... 445
Tribura intermedia, *Oates.* 445
 —, — *luteoventris*, *Hodgs.* ... 240, 445
Tribura mandelii, *Brooks.* 240, 445
 —, — *taczanowskia*, *Swinh.* ... 445
Trichastoma abbotti, *Bly.* ... 108, 178, 250
 —, — *minus*, *Hume.* 179
 —, — *olivaceum*, *Strickl.* ... 108
Trichastoma rostratum, *Bly.* ... 109, 127
Trichixos pyrrhopygus, *Less.* ... 129
tricolor, *Hume. Geocichla* 100, 105
tridactyla, *Pall. Ceyx* ... 141, 155, 383, 478
trigonostigma, *Scop. Dicaeum* 170
Tringa minuta, *Leisl.* ... 85, 361, 429, 459
 —, — *subarquata*, *Guld.* ... 85, 361, 429
 —, — *temminckii*, *Leisl.* ... 258, 361, 362, 429
Tringoides hypoleucus, *Lin.* 86, 282, 362, 430, 459
tristis, *Lin. Acridotheres* ... 70, 192, 413
 —, — *Bly. Phylloscopus* ... 99, 331, 408
 —, — *Less. Rhopodytes* ... 168
trivialis, *Lin. Anthus* ... 69, 335, 412, 505
trivirgatus, *Tem. Astur* ... 299
Trochalopterus fairbanki, *Blanf.* ... 505
Trochalopterus jerdoni, *Bly.* ... 507
Trochalopterus lineatum, *Vig.* ... 319
Trochalopterus meridionale, *Blanf.* ... 506
Trochalopterus simile, *Hume.* ... 319
trochiloides, *Sund. Reguloides* ... 291
Troglodytes neglectus, *Brooks* ... 317
turcomanus, *Eversm. Bubo* 310
Turdinulus murina, *S. Mull.* 115
Turdinus brevicaudatus, *Bly.* ... 179
Turdinus crispifrons, *Bly.* 179
 —, — *guttatus*, *Tick.* ... 179
Turdulus wardi, *Jerd.* ... 399
Turdus atrogularis, *Tem.* ... 319, 454
 —, — *hortulanus*, *Sclat.* ... 100
 —, — *javanicus*, *Horsf.* 106
 —, — *pelios*, *Bp.* ... 101
 —, — *protomelas*, *Cab.* ... 101
 —, — *ruficollis*, *Pall.* 318 & n
 —, — *unicolor*, *Tick.* ... 101, 104
 —, — *viscivorus*, *Lin.* ... 319
Turnix dussumieri, *Tem.* ... 77, 424
 —, — *joudera*, *Hodgs.* ... 424
 —, — *maculosa*, *Tem.* ... 196, 208

- Turnix taigoor, Sykes.* ... 77, 424
Turtur aurita, G. R. Gr. ... 357
 —, — *cambayensis, Gm.* ... 358
 —, — *humilis, Tem.* ... 194, 258
 —, — *meena, Sykes.* ... 74, 420, 457
 —, — *pulchratus, Hodgs.* ... 420
 —, — *risorius, Lin.* ... 75, 219, 258, 420, 458, 482
 —, — *rupicola, Pall.* ... 357
 —, — *senegalensis, Lin.* ... 74, 219, 358n, 429, 458
 —, — *suratensis, Gm.* ... 75, 358, 420, 458
 —, — *tigrinus, Tem.* ... 194, 258
 —, — *tranquebaricus, Herm.* ... 75, 421
tweedalii, Hume. Pernis ... 446
tytleri, Hume. Calornis ... 298
 —, — *Jerd. Hirundo* ... 245
 —, — *Brooks. Phylloscopus* ... 331
UMBRINUS, Hedenb. Corvus ... 341
undulatus, Shaw. Rhyti-
ceros ... 141, 159, 247
unicolor, Jerd. Collocalia ... 44, 289, 380
 —, — *Tick. Geocichla* ... 399
 —, — *Tick. Turdus* ... 101, 104
unwini, Hume. Caprimul-
gus ... 215, 313, 453
Upupa ceylonensis, Reich. ... 57, 391
 —, — *epops, Lin.* ... 57, 216, 316, 391, 454
 —, — *longirostris, Jerd.* ... 171
urbica, Lin. Chelidon ... 378
Urocissa magnirostris, Bly. ... 191
VALIDA, Bly. Drymæca ... 480
Vanellus vulgaris, Bechst. ... 359
varians, Lath. Crypsirina ... 192
varius, Vahl. Hierococyx ... 55, 388
velatum, Tem. Philentoma ... 113
ventralis, Cuv. Hoplopterus ... 196
vernalis, Sparrm. Loriculus ... 52, 151, 384
vespertina, Lin. Cerchneis ... 371
vigorsi, Sykes. Æthopyga ... 56, 390
vindhiana, Frankl. Aquila ... 372
virens, Bodd. Megalæma ... 165, 473
virgatus, Tem. Accipiter ... 109, 231, 451, 475
virgo, Lin. Anthropoides ... 360, 427
viridanus, Bly. Phylloscopus ... 68, 272, 331, 408
viridescens, Bly. Iole ... 182, 254
viridifrons, Bly. Orocopus ... 194, 257
viridipennis, Bly. Phylloscopus ... 290
viridirostris, Jerd. Rhopodytes ... 55, 389
viridis, Bly. Gecinulus ... 112, 164
 —, — *Bodd. Megalæma* ... 54, 387
 —, — *Lin. Merops* ... 48, 152, 381
viscivorus, Lin. Turdus ... 319
vittatus, Vieill. Gecinulus ... 163
 —, — *Valenc. Lanius* ... 58, 392, 454
 —, — *Hemp. & Ehr. Saxicola* ... 323 & n.
Vivia innominata, Burt. ... 165, 247
Volvocivora intermedia, Hume. ... 172
Volvocivora melaschista, Hodgs. ... 58, 393
Volvocivora sykesi, Strickl. ... 58, 393
vulgaris, Pall. Coccythraustes ... 456
vulgaris, Lin. Sturnus ... 342
 —, — *Bechst. Vanellus* ... 359
Vultur monachus, Lin. ... 214, 304, 450
WARDI, Jerd. Turdulus ... 399
XANTHOLÆMA HEMACEPHALA
Mull. ... 54, 166, 247, 387
Xantholæma malabarica, Bly. ... 387
xantholæmus, Hodgs. Herpornis ... 190, 256
xanthorhynchus, Horsf. Chrysococyx ... 248
Xenorhynchus asiaticus, Lath. ... 235, 432, 484
YUNGIPICUS CANICAPILLUS, Bly. ... 141, 161
Yungipicus nanus, Vig. ... 52, 385
ZEYLONICA, Lin. Cinnerys ... 56, 390
Zoothera marginata, Bly. ... 177
Zosterops palpebrosa, Tem. ... 69, 413, 505

