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SPRAY
FEATHERS

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ORNITHOLOGY
FOR INDIA AND

ITS DEPENDENCIES

EDITED BY
ALLAN HUME

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PREFACE.



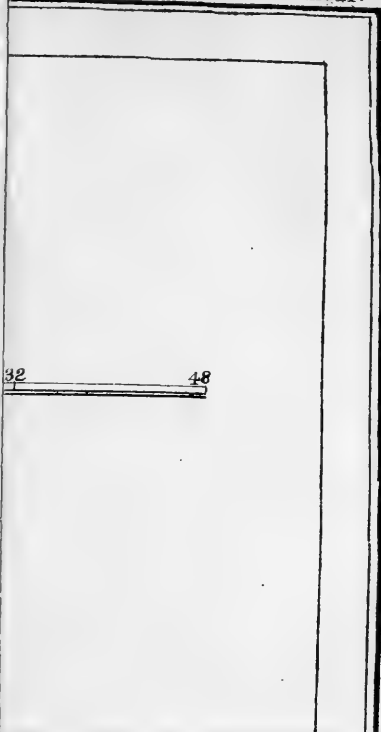
ETWEEN the issue of Parts 1 to 5, and the final number of this volume, there has been unfortunately a great gulf in time—a *hiatus valde deflendus*.

The fact simply is, not that I have in any way lost my interest in Ornithology, but that the pressure of other work, which to me seems the more important of the two, has entirely prevented my giving any time whatsoever either to Birds or to "Stray Feathers."

However, under the friendly pressure of old supporters, I have nerved myself to do this much, *viz.*, first to issue this 6th number of Vol. X and so complete it; and, secondly, to publish as Vol. XI my very long paper on the birds of Manipore, Assam, Sylhet and Cachar, which has lain upon my table ever since September, 1881, and which, although doubtless obsolete in some respects, will, I am assured, be useful as a platform on which others may commence real work.

ALLAN HUME.



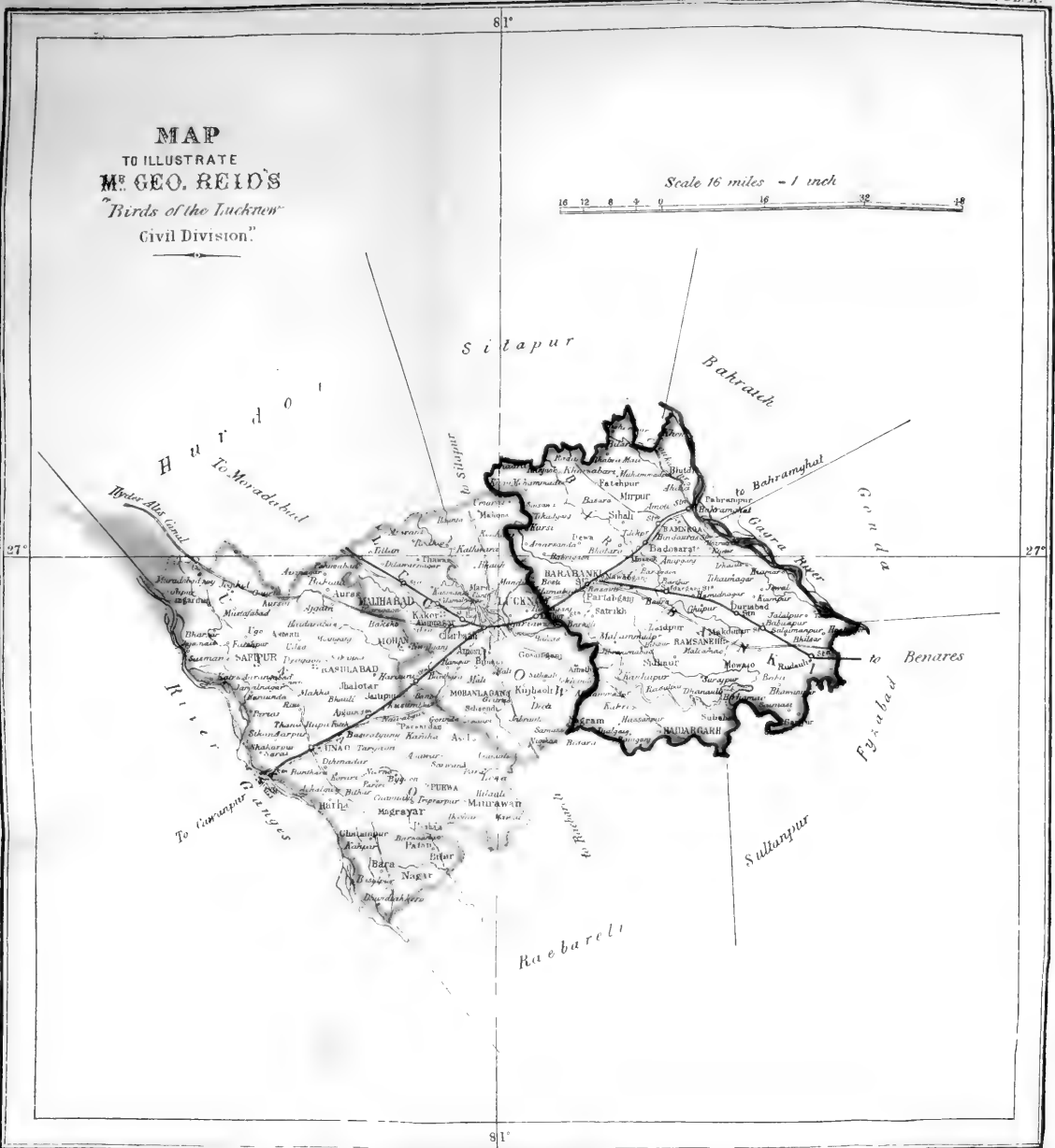


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MAP
TO ILLUSTRATE
MR. GEO. REID'S
"Birds of the Lucknow
Civil Division."

Scale 16 miles = 1 inch



Sitapur

Bahraich

Hurdoo

To Moradabad

To Bahraich

Ghagra River

27°

27°

Si

To Cawnpore

To Benares

Faizabad

Sultanpur

Raebareilly

81°



STRAY FEATHERS.

Vol. X.]

DECEMBER 1881.

[Nos. 1, 2 & 3.

The Birds of the Lucknow Civil Division.

BY GEO. REID.

(Continued from Vol. IX., page 504.)

List.

1.—*Vultur monachus*, Lin.

I have never been able to secure a specimen of this magnificent bird, the Cinereous Vulture, but one, now in the Lucknow Museum, was shot a few years ago at Ajgaen in the Unao district. It may, therefore, be accepted as an exceedingly rare visitor to the Division.

2.—*Otogyps calvus*, Scop. Native name—*Lal-sira Gidh*.*

The Black or King Vulture is a fairly common and permanent resident, though not nearly so abundant as *P. bengalensis*. It seems to be of a rather solitary disposition. I have seen its nest several times on high pipal trees, and once on a tall mangoe tree, though from none of them was I able to secure eggs.

4.—*Gyps indicus*, Scop.

I include the Long-billed Brown Vulture with some hesitation, though Capt. Irby, in his paper on the Birds of Oudh and Kumaon, *vide* the *Ibis*, Vol. III. for 1861, p. 217, states that it is equally as common as *bengalensis*; and that one was "caught inside a horse's belly at Alumbagh." Now, there is no Vulture here as common as *bengalensis*; if there is, it is certainly singular that I have not obtained specimens. On the other hand, I have occasionally seen a Vulture that I thought could not be *bengalensis*, but whether it was *indicus* or *fulvescens*—not to mention the probability of *pallescens* or *tenuirostris* occurring—I cannot say, but should think that it was *indicus*.

* *Gidh* is applied to all Vultures.

5.—Pseudogyps bengalensis, Gm. Native name—*Chamar Gidh.*

The White-backed Indian or Bengal Vulture is common at all seasons. It breeds from November to the end of March, making its nest on tall trees, as near their tops as possible; and, in the vicinity of Lucknow, at any rate, I know of one breeding place where at least 50 or 60 of their nests may be found, frequently two or three on the same tree. The nest is simply a large platform of sticks, and never, I think, contains more than one egg, of a dirty greenish white color, as a rule unspotted, but occasionally beautifully spotted or blotched with brown or reddish brown. Four eggs in my possession measure :—

Average	...	...	3·35	by	2·40	inches.
Largest	...	...	3·40	„	2·43	„
Smallest	...	...	3·33	„	2·38	„

6.—Neophron ginginianus, Lath. Native name—*Safaid Gidh.*

The Indian Scavenger Vulture is exceedingly common wherever human habitations are found, and is, of course, a permanent resident. In the district it breeds invariably on trees, except, perhaps, where an old mosque or tomb offers a suitable site; but in and around Lucknow, where old buildings, mosques, &c., abound, it invariably selects these, fighting with the Common Kite (*M. govinda*) for the possession of eligible building places.

The only eggs (two) in my possession were taken from two different nests—one, on the 7th April from a nest on an old mosque near Chinhut, and the other on the 5th May from a nest in a pipal tree near the Rahimabad railway station. The Chinhut egg was entirely russet brown; the Rahimabad one white, with a few minute brown spots. They measure respectively :—

Brown egg	...	...	2·8	by	2·2	inches.
White egg	...	...	2·58	„	1·94	„

The nest in both cases was a huge platform composed of sticks, old rags, rubbish, &c., that in the pipal tree, being only about 15 feet from the ground.

8.—Falco peregrinus, Gm. Native name—*Bhyri.*

The Peregrine Falcon is only a cold weather visitor, and, though never abundant, a pair or two may always be met with in the vicinity of the larger jhils.

As remarked by Jerdon, "the Bhyri has particular haunts that it frequents for days or weeks together." Two or three tall trees by the side of a jhil, all the better if on rising or high ground, may be cited as one of these. From such a retreat I have often noticed the Peregrine sally forth on the report of a gun, and after sailing leisurely about, as if instinctively searching for a dead or wounded bird, retire to its commanding perch, only to repeat the manœuvre at each succeeding shot.

The Bhyri is still highly esteemed by that remnant of the "Barons of Oude" who remember the days when it was something to follow the noble sport of Falconry—now, alas! dying out, if not altogether dead.

9.—*Falco peregrinator*, *Sund.* Native name—*Kohi*.

The "Shahiu" is, perhaps, a permanent resident, but is so exceedingly rare that I have only as yet succeeded in getting a single specimen. On two or three occasions I have seen it in the possession of the Falconers who visit Lucknow with native noblemen. Like the Bhyri, it is highly esteemed for the chase.

11.—*Falco jugger*, *J. E. Gr.* Native name—*Laggar*.

The Lagger Falcon is both a common and permanent resident. It is, if not invariably, at least popularly called the "Pigeon Hawk" in Lucknow. To my knowledge a pair used to frequent "Claude Martin's" monument in front of the Martinière, and habitually prey upon the blue-rocks of the neighbourhood. The Lagger, however, prefers open country to city suburbs, and, like the Kestrel, may often be seen seated on some eminence or ridge, either devouring or waiting for its prey. It breeds from December to March in the large solitary trees so characteristic of the plains of this part of India. A nest that I examined in March last contained three young birds, semi-fledged.

12.—*Falco babylonicus*, *Gurn.*

On the strength of Capt. Irby's having obtained a specimen of Gurney's Falcon at Barabanki in 1858, I include it in this list; but never having come across the bird, though I have tried hard, both personally and through native agents, it can only, I think, be accepted as a rare and very exceptional visitor.

In the "Gazetteer of Oudh," Major Cock gives it in his list of the birds of the Kheri district; it is, therefore, probably a more frequent visitor to the Terai.

13.—*Falco subbuteo*, *Lin.* Native name—*Morasani*.

The Hobby is only met with in the cold weather, and then but rarely. It frequents, I think, by preference well-wooded, marshy districts, where it may be found early in November and as late as March. It generally moves about in pairs, or in small parties. In January last, I shot one of four that crossed my front when passing through a dhak jungle at the break of day.

14.—*Falco severus*, *Horsf.*

I cannot say that I have ever seen the Indian Hobby in its wild state; but it doubtless occurs here, as I have occasionally seen recently-captured birds in the Bazaar, and the specimens in the Museum were probably purchased locally. It must, however, be very rare, or, I think, I should have obtained it, as I make it a rule to shoot, if possible, every Falcon I come across.

Natives do not recognize the difference between this species and *F. subbuteo*.

16.—*Falco chiquera*, *Daud.* Native name—*Turumuti*.*

8th November, *Male*.—Length, 12·50; expanse, 24·25; wing, 8·20; tail, 5·80; tarsus, 1·40; bill from gape, ·90; weight, 5¾ oz. Irides brown; cere and legs yellow.

29th October, *Female*.—Length, 14·; expanse, 28·50; wing, 9·30; tail, 6·80; tarsus, 1·60; bill from gape, 1·; weight, 8¾ oz. Irides brown; cere and legs yellow.

The Red-headed Merlin is a permanent resident, very abundant during the cold weather, but less so during the hot and rainy seasons.

On the 21st April I found a nest and three fully fledged young ones near the top of a tall mango tree. There was nothing to distinguish the nest from a crow's, and, contrary to my expectations, the parents did not protest (they are usually plucky little falcons) against their offspring being made prisoners. I kept the youngsters for some months, but from some cause or other they died rather suddenly within a few days of one another.

The Red-headed Merlin is the unrelenting enemy of the social and other Larks on which it appears to feed by preference, probably because, from the bushes they frequent, sparrows and other small birds are more difficult to catch.

* This name appears to be generally accepted as *Turumti* by writers who, perhaps, follow Jerdon; but the natives here pronounce it *Turumuti* or *Turmootes*.

17.—*Cerchneis tinnunculus*, *Lin.* Native name—*Koruttia*.

8th October, *Female*.—Length, 15·50; expanse, 30; wing, 10·80; tail, 8·25; tarsus, ; bill from gape, ·90; weight, 7¼ oz.

From about the middle of September to the 15th April, the Kestrel is very abundant, though it begins to migrate to the hills as early as the commencement of March. But I think it doubtful whether the whole of them migrate, having seen a pair frequenting the telegraph wires along the railway on the 30th July—a very early date for their return, supposing them to have bred in the hills.

For some hours in the morning, and for two or three before sunset, the Kestrel is much on the wing, hovering alike over barren plains and cultivated tracts. During the day it frequently takes shelter in trees—solitary ones preferred—but as often rests on some eminence or irrigation ridge on the open plains. It feeds on small mammals, often, I think, on nothing but frogs; but I have seen it breakfasting on a dove (*Turtur suratensis*), though I am unable to say whether it killed it or not. It feeds, however, chiefly on insects.

There is a favorite incubating place of the Kestrel about half way between Almora and Naini Tal, where I found it breeding in company early in May.

18 *bis*.—*Cerchneis pekinensis*, *Swinh.*

I have not myself noticed the Eastern Lesser Kestrel, but it undoubtedly occurs in the Division, though whether as a seasonal visitor or a permanent resident, I cannot say, though I presume as only the former.

There are two specimens in the Lucknow Museum which were captured in the neighbourhood, and Mr. Anderson, on visiting the Museum in 1875, took away two more—*vide* STRAY FEATHERS, Vol. III., page 384, so the bird may fairly claim a place in this list.

23.—*Astur badius*, *Gm.* Native name—*Shikra*.

11th November, *Male*.—Length, 13·; expanse, 24·25; wing, 7·70; tail, 6·60; tarsus, 1·80; bill, from gape, ·80; weight, 5¼ oz. Irides dark red; legs dirty yellow.

The Shikra—still highly prized by the few natives who indulge in Falconry—is a permanent resident and the most common and universally spread of all the hawk tribe. It frequently enters and lives in compounds, and may be found in almost

every avenue and mangoe tope. The following is my record of its nests :—

April 1st	...	...	Nest and three fresh eggs.
„ 7th	...	...	„ „
„ 16th	...	...	„ „
May 5th	...	...	Nest and three fully fledged young.
Average measurement of 9 eggs		1.51	by 1.21 inches.
Measurement of largest egg		... 1.60	„ 1.22 „
Measurement of smallest egg		... 1.42	„ 1.18 „

The nests, made of sticks (small platforms), were all on mangoe trees; the eggs all of a pale bluish white, rather chalky or ungl glossy in appearance.

The Shikra, it may be noted, feeds occasionally on the Common Squirrel (*Sciurus palmarum*). One that I saw captured was forced to descend the tree by one bird, and on reaching the ground was immediately seized by a second pouncing upon it from a branch above.

24.—*Accipiter nisus*, *Lin.* Native name—*Basha*.

4th November, Male, juv.—Length, 13.25; expanse, 26; wing, 8.25; tail, 7; tarsus, 2; bill from gape, .70; weight, 4¾ oz. Irides yellow; legs dirty greenish yellow.

The European Sparrow Hawk is only found in the cold weather, and is then fairly common. It frequents much the same localities as the Shikra with which it is often confounded. Though I have frequently shot and preserved it, I find, curiously enough, that all my specimens are young birds.

25.—*Accipiter virgatus*, *Reinw.* Native name—*Besra*.

The “Besra” Sparrow Hawk is not common, and from the thickets it frequents is rarely seen. It is a cold weather visitor, very locally distributed, as I have never met with it except in the bamboo brakes scattered here and there throughout the Division. Through these thickets it moves with great facility.

27.—*Aquila mogilnik*, *S. G. Gm.* Native name—*Barra Jumiz** or *Satangal*.

15th February, (sex?).—Length, 31; expanse, 81; wing, 24; tail, 14; tarsus, 3.60; bill, from gape, 2.60; weight, 7 lbs. Irides cream color, spotted darker; cere and feet lemon yellow.

The Imperial Eagle is fairly common, especially in dhak jungles, where solitary Banian and other Fici trees, upon which it

* *Jumiz* is applied generally to all large Eagles. The natives care nothing for species.

usually rests, abound. I have not unfrequently seen it in the dry beds of jhils, devouring crabs, wherever it got them from, and on one or two occasions eating carrion. The specimen, whose dimensions are given above, was shot while feeding on the carcase of a sheep with a lot of Vultures around it, the locality being a dhak jungle.

27 bis.—*Aquila nipalensis*, Hodgs.

31st January, Male.—Length, 31·75; expanse, 73·50; wing, 22·75; tail, 13; tarsus, 3·38; bill, from gape, 2·90; weight, 5·25 lbs. Cere and legs yellow; irides light brown.

The Bifasciated Eagle is not quite so common as the last, but like it, my only specimen, was shot while feeding on the carcase of a sheep. It appears to frequent the same localities, but I know nothing particular in regard to its habits.

28.—*Aquila clanga*, Pall.

15th February, Female, juv.—Length, 27; expanse, 69·25; wing, 21; tail, 11·70; tarsus, 3·60; bill from gape, 2·30; weight, 4½ lbs. Irides dark brown; cere and feet yellow.

I know but little regarding the Spotted Eagle. It appears to be about as common as any species of Eagle (*A. vindhiana* excepted), and seems to frequent the same localities as the rest. I procured a specimen frequenting rather tall dhak trees along a stream, in a locality where Eagles are rather numerous; i.e., near the Rahimabad Railway Station.*

29.—*Aquila vindhiana*, Frankl. Native name—*Wokhab*.

12th November, Male.—Length, 26·25; expanse, 66·25; wing, 16·50; tail, 11·70; tarsus, 3; bill, from gape, ; weight, 2¾ lbs. Irides brown; cere yellow.

The Tawny Eagle is a common and permanent resident. I have frequently seen it in my own compound and in the gardens about Lucknow; but its favorite resort appears to be dhak jungle or open country where solitary trees abound.

33.—*Nisaetus fasciatus*, Vieill. Native name—*Churwa* (?)

Bonelli's Eagle is not common, at least I have never found it so. I have only a single specimen (female juv.) and can give no particulars of its habits from personal observation.

* *Aquila fulvescens*, Gray, the Buff Eagle, ought also to be included, as I have seen a specimen killed in the neighbourhood of Lucknow.—A. O. H.

38.—*Circaëtus gallicus*, Gm. Native name—*Jalar* (?)

8th November, Male.—Length, 29; expanse, 72; wing, 22.50; tail, 12.50; tarsus, 3.50; bill, from gape, 2.25; weight, 2 $\frac{3}{4}$ lbs. Irides bright yellow.

The Common Serpent Eagle is a permanent resident and fairly abundant. It frequents open country, and like *A. vindhiana* may often be seen seated on some solitary tree in its favorite resort—low scrub or dhak jungle. I have also seen it on the open plains, seated on babool and other low trees.

From the open nature of the country which it frequents, it is often difficult to approach, especially in the morning; but after it has breakfasted well, and during the heat of the day, it seems loath to fly, and may then be easily shot.

39.—*Spilornis cheela*, Lath.

The Indian Harrier Eagle is very common during the cold weather, but does not, that I know of, remain all the year round. It appears to leave for the hills, or humid submontane tracts, about the beginning of April, returning again about October. In well-wooded and jungly districts it may be noticed in the mornings and evenings sailing slowly over the trees and fields, often at a great height; but during the heat of the day it generally remains inactive, seated near the top of some tall tree, pretty well concealed from view.

40.—*Pandion haliaëtus*, Lin. Native name—*Machariya* and *Machi-mar*.

The Osprey is, I believe, a permanent resident, though of this I am not quite sure. I have frequently seen it hawking over large jhils, but along the Ganges, Gogra, Chowka and Goomti rivers it is fairly abundant during the cold weather. It may breed in the vicinity of these rivers, though I have never found its nest, and possibly it retreats to the rocky torrents of the outer Himalayas to breed. During the cold weather it may often be seen fishing in the Goomti at Lucknow.

41.—*Polioaëtus ichthyaëtus*, Horsf.

The Ring-tailed Fish Eagle, like the Osprey, may be met with occasionally on large jhils, more frequently on rivers; but it is by no means abundant, and is a wary and difficult bird to approach. I have only seen it during the cold weather, and then only on two or three occasions.

41 *vis.*—*Polioæetus plumbeus*, *Hodgs.*

The Indian Fish Eagle is, of course, only a cold weather visitor, and is also exceedingly rare. I mistook it at first for the young of *ichthyaetus*. The only specimen in my possession was shot on the Goomti at Lucknow, where I found it alternately dodging about an ancient mangoe tope and fishing in the shallow parts of the river. It has a heavy owl-like flight, and appears to depend more on stealth than activity in capturing its prey. It has certainly none of the dexterity of the Osprey, and is altogether a poor performer on the wing for an Eagle that may be said to live entirely on fish.

42.—*Haliaæetus leucoryphus*, *Pall.* Native names—*Macharang*, *Mardum* and *Machakool*.

Pallas' Sea Eagle is a common and permanent resident. There is not a jhil of any pretensions in the Division that is not frequented by a pair or two of these Eagles, nor a river that cannot boast of their presence. Nevertheless it has, in my opinion, little title to be considered a Fishing Eagle. It seldom, as a rule, attempts to catch the finny tribe, but acts the part of a pirate in robbing the Osprey, Kites, Marsh Harriers, &c., of their prey, while sportsmen recognise it as the poacher who never loses an opportunity of carrying off a dead or wounded Duck, often from under their very noses. It will feed on almost anything—birds, snakes, rats, frogs, crabs, turtles—anything in fact but fish, unless, of course, it can get them without much trouble. I may be hard on this otherwise magnificent Eagle, but, if so, it is because I have had ample opportunities of gauging his capabilities.

It has, however, at least one virtue—it pairs, I think, for life! It commences to build as early as the beginning of October, making its nest on some tall, solitary tree overlooking some favorite jhil. The nest is simply a huge platform of sticks, occasionally interlaced with rags and snake skins, and is used from year to year by the same birds or by their heirs or successors. They usually lay in November not more than three eggs, but seldom more than two. On the 3rd, 10th, 17th, 26th and 30th of that month I have found nests containing eggs; on the 24th and 30th nests containing young; while every nest that I have looked at in December was either empty or contained young. On not one of the many occasions that I have sent men to look at or rob their nests did these Eagles ever show fight, though in nine cases out of ten the native climber has gone about his work in fear and trembling.

47.—*Buteo plumipes*, *Hodgs.*

The Harrier Buzzard is only a winter visitor and by no means common. It may, however, be met with occasionally, two or three in company, beating steadily over dhak jungles and ravy and undulating ground.

48.—*Butastur teesa*, *Frankl.* Native name—*Teesa*.

13th January, Female.—Length, 16·75 ; expanse, 36·75 ; wing, 11·20 ; tail, 7·50 ; tarsus, 2·60 ; bill, from gape, 1·3.

The White-eyed Buzzard is common at all seasons, and may be met with, generally in pairs, hawking over *usar* plains, dhak jungles, and along the undulating and ravy banks of streams ; now perching on some solitary shrub or tree, now on a mound or telegraph post, but invariably repairing at night to some sheltered mangoe grove. It generally flies low, merely skimming the ground, and its flight at times is rapid and graceful. It frequently visits road-side railway station yards where the grass is generally long and full of grasshoppers, where lizards abound on the old rails and metal lying about, and where rats and mice are often abundant, both about the station buildings and in the mud fence around the compound.

51.—*Circus macrurus*, *S. G. Gm.*

15th October, Male.—Length, 19·25 ; expanse, 43·0 ; wing, 14·75 ; tail, 10·50 ; tarsus, 2·50 ; bill, from gape, 1·30 ; weight, 11·25 oz.

The Pale Harrier is only a cold weather visitor, but a very common one. It arrives as early as September and leaves as late as the end of April, though the majority may be said to leave about the end of March.

The flight of this Harrier is usually noiseless and slow, but it is capable of moving along at considerable speed, and of dropping instantaneously on its prey, no matter how fast it may be going. It may be found either singly or in pairs—occasionally in small parties—systematically hawking dhak jungles and patches of cultivation, evidently scanning the ground minutely as it progresses. On one occasion I saw it pursuing a Lark in company with a Red-headed Merlin (*Falco chiquera*). The chase was both interesting and long as the Lark endeavoured to escape by ascending, but in an evil moment it made tracks for dhall field, and, though swooped at several times by the Harrier, it fell a prey to the active little Hawk. The former then attempted to rob the latter, and but for a friendly mangoe tope would probably have succeeded.

52.—*Circus cineraceus*, Mont.

Captain Irby states that Montague's Harrier is "found in the same localities as the Pallid Harrier, and is perhaps more numerous." If this is so, it is strange that I have no specimens; but I have occasionally seen a Harrier, with a conspicuous black wing-patch, that may have belonged to this species.*

53.—*Circus melanoleucus*, Forst.

According to the same authority (Captain Irby) this species is "very abundant near the rivers Chowka and Gogra, on the plains covered with thick grass about two feet high. I have never seen this Harrier far away from grass jungle where it appears to replace the preceding species and the Pale Harrier, although they are now and then seen there also."

In the low grass and tamarisk jungles for miles above and below Byramghat, Harriers of various kinds are undoubtedly very abundant; but I don't recollect ever meeting with this species, though I include it on Captain Irby's authority. It can scarcely, however, be as plentiful, now-a-days, as his remarks would lead one to infer.

54.—*Circus æruginosus*, Lin. Native name—*Kutar*.

15th November, Male.—Length, 20; expanse, 47·7; wing, 15·5; tail, 9·75; tarsus, 3·3; bill, from gape, 1·45.

The Marsh Harrier, I am disposed to think, is a permanent resident, exceedingly rare in the hot and rainy seasons, it is true, but very common in the cold weather, though for one adult then met with fully 50 youngsters, in all shades of plumage, may be seen. As its trivial name implies, it habitually frequents marshes, jhils, river banks, inundated fields, &c., but is sometimes met with in almost all kinds of localities. Its food is principally frogs, lizards, rats and any small or weakly mammals or birds that it may come across.

Where Marsh Harriers are so numerous as they are on our jhils they are an unmitigated nuisance to the sportsman in quest of wild fowl. Often, when I have tried to get a particular or rare duck, have these villains deprived me of the coveted prize by swooping at it or otherwise frightening it away. Teal of all kinds particularly dread them, and will rise or dive at their approach in abject terror, while they drive Coots into fits of frenzy as if in mere wantonness and mischief. The dread they inspire arises, I think, from the fact that when they capture a dead or wounded bird, as

* In this species the primaries are black, and there is a rather narrow blackish bar on the grey secondaries, but hardly what would be called "a conspicuous black wing-patch."—*Ed.*

they often do, they devour it in the presence of almost every duck on the jhil, by selecting for their repast, either a ridge on its banks or a mud eminence in the water itself. Thus seated and engaged, it is not an unusual thing to see a dozen or so after sportsmen have been their rounds: it is, therefore, not surprising that wild fowl should dread them and look upon all their actions with suspicion, especially as they immediately seize upon any disabled bird that a flock, on taking wing, leave behind them. I have never, however, seen the Marsh Harrier "strike home," when the bird was of any size and in possession of all its powers.

55.—Haliastur indus, Bodd. Native name—*Bahmini Chil.*

The Maroon-backed or Brahminy Kite is a common and permanent resident, rarely seen in the dry season at any distance from water, but universally spread over the Division during, and for a while after, the rains. It is generally found in pairs, and is very fond of crabs, judging from the accumulated remains of these occasionally seen on the ground beneath some of its favorite perches on the Goomti. Though it breeds in the Division, I have never been fortunate enough to discover its nest, though I have had its eggs brought to me in March.

56.—Milvus govinda, Sykes. Native name—*Chil.*

The Common Kite is everywhere abundant. It breeds from November to the end of April, making its nest of sticks indiscriminately on trees, mosques, minarets, old buildings, &c., and usually lays from two to three eggs of a dirty or greenish white, spotted or blotched with brown of various shades, rarely two alike, and some very beautifully marked indeed.

Average measurement of 12 eggs 2·17 by 1·26 inches.
 Measurement of largest egg ... 2·25 „ 1·29 „
 Measurement of smallest egg... 2·12 „ 1·22 „

Though it is scarcely safe to generalize from a couple of instances, it is worth recording that on two occasions eggs were again laid in nests from which I had seen incubated eggs taken about a month previously.

Though Kites actually swarm in Lucknow I have looked in vain for *Milvus major*, Hume; *M. melanotis*, Tem. and Schl? In the jungle, too, where I was most likely to find it, my searches have been equally fruitless; but then, I was probably too particular in expecting to find a Kite with a "huge pure white wing-patch," though I have seen some old *govindas* that might pass muster if one was not over-particular about the patch being pure white.

57.—*Pernis ptilorhynchus*, Tem.

The Crested Honey Buzzard is fairly common about Lucknow from August to November, probably because bee-combs then abound; but is not so numerous during the colder months, a few only remaining throughout the year, the majority migrating to the hills for the hot and early portion of the rainy seasons.

A specimen that I shot in October had evidently been feeding on honey-comb; for, on lifting it up by the legs, the honey ran from its mouth in clear stream, and would probably have filled a tea-cup.

These Buzzards, it should be noted, vary astoundingly in plumage, from light fulvous to almost black, so much so that it would not be an easy task to find two exactly alike. Such, at any rate, is my experience.

59.—*Elanus cæruleus*, Desf. Native name—*Masunwa*.

The Black-winged Kite is a fairly common and permanent resident.

On one occasion I saw the *Elanus* flying over the native city of Lucknow, evidently in a great hurry to reach "fresh fields and pastures new." But it is in the dhak jungles, wherever these are interspersed with taller trees, along the railway, perched on telegraph posts, and about the banks of nullahs, where these are grassy and rugged, particularly if babool trees exist, that it is chiefly found.

In STRAY FEATHERS, Vol. VIII., pages 415-16, a good deal of information is given about the nidification of this species. It probably breeds twice a year, as I have shot almost nestlings in January, while other observers state that it nidificates very generally from March to June. In November last I noticed a pair making their nest near the top of a mangoe tree, of which there were three in a clump; a fortnight later I visited the spot, hoping to find eggs, but without success. The birds then appear to have forsaken the nest, for, on re-visiting the place, I found them busily engaged making another nest on the second tree. Thereupon I gave them another fortnight's grace and then went for the eggs, but found none. The same thing occurred again; they forsook the nest and commenced to build on the third tree. I gave them three weeks this time, but still found no eggs, and on re-visiting the place a fortnight later found they had decamped. I blessed those birds, I did!

60.—*Strix javanica*, Gm. Native name—*Ulu*.*

The Indian Screech Owl—though I have never seen it in the district—is pretty common about Lucknow, where it inhabits

* Applied to Owls generally.

deserted buildings, wells, mosques, &c., in the city and city suburbs. I have seen it frequently in the ruins of the Bailey Guard, and occasionally on trees in the neighbourhood. I may be wrong, but I hardly think this Owl is guilty of screeching, at any rate, to any extent. It of course breeds here, though I have never found its nest.

61.—*Strix candida*, Tick.

On one occasion I flushed a solitary Owl, which I took to be the Grass Owl, in grass and scrub jungle near Rahimabad, and, though I followed it from place to place, the Crows kept bothering it, so that it never rested in one spot long enough to allow me to get a shot. Captain Irby mentions it under the name of *Glaux javanica*, and I have little doubt that it occurs, though sparingly, in suitable localities, for instance, in the jungles about the Chowka and Gogra, where Mr. Anderson seems to have met with it—See STRAY FEATHERS, Vol. III., page 388.

65.—*Syrnium ocellatum*, Less. Native name—*Khuska* (?)

The Mottled Wood-Owl is not at all common, but inhabits the better wooded parts of the Division, especially where groves of ancient mangoe trees exist. A specimen was, however, procured for me from a tree in the noisy vicinity of the Railway Workshops at Charbagh. It is a permanent resident.

68.—*Asio accipitrinus*, Pall.

During the cold weather the Short-eared Owl is very common in the grass and tamarisk jungle on the banks of the Chowka and Gogra at Byramghat. I have also flushed it in patches of *sarpatta* or thatching grass about Lucknow, and in other parts of the Division, principally in dhak jungle and in broken grassy ravines and nullahs. It appears to be gregarious in its habits—many being always found together in suitable localities, and even in places less inviting it is rarely seen alone. It flies well during the day, and if pursued by Crows, &c., as it often is, will go for miles without alighting. It migrates, I believe, at the commencement of the hot weather.

69.—*Bubo bengalensis*, Frankl. Native name—*Ghughu*.*

13th October, Male.—Length, 22·25; expanse, 54; wing, 15·25; tail, 9; tarsus, 2·50; bill, from gape, 1·90; weight, 2½ lbs.

* A name elsewhere, and more appropriately (for it exactly represents this bird's double coo) applied to *Turtur risorius*.—Ed.

13th October, *Female*.—Length, 22·75 ; expanse, 56 ; wing, 16·75 ; tail, 9·25 ; tarsus, 2·50 ; bill, from gape, 2 ; weight, (not recorded.)

The Rock Horned-Owl is common in suitable localities, and stragglers may be met with in the most unlikely places at all seasons. A favorite resort is a clump of bamboos containing some tall and stately trees, in which it resides, especially if in the vicinity of a stream with ravine and undulating banks. I have flushed it occasionally in dhak jungle, but more frequently in broken and rugged ground. It flies well during the day, and is often difficult to approach when once it is disturbed. In the stomachs of four specimens that I examined I found nothing but large balls of feathers, unquestionably those of Mynahs and Doves.

Does this Owl ever fish? I shot one once, just at dusk, in a very suspicious position, *i.e.*, on the branch of a tree about two feet above a stream, intently watching something in the water.

70.—*Bubo coromandus*, Lath. Native name—*Jangli Ghughu*.

13th October, *Male*.—Length, 23·75 ; expanse, 58 ; wing, 16·50 ; tail, 9·75 ; tarsus, 2·50 ; bill, from gape, 2 ; weight, (not recorded).

13th October, *Female*.—Length, 24·50 ; expanse, 60 ; wing, 16·75 ; tail, 9·75 ; tarsus, 2·25 ; bill, from gape, 1·90 ; weight, 4 lbs.

The Dusky Horned-Owl is a common and permanent resident, frequenting ancient mangoe topes, and is very partial to tamarind trees. In bamboo brakes, containing high and thickly foliaged trees, it is sometimes very abundant. It flies well during the day, making its way through branches with facility. The common native superstition about an inmate dying, should this Owl commence hooting about a house, is current throughout the Division. Of three specimens that I examined I found in the stomach of each only one huge ball of feathers.

72.—*Ketupa ceylonensis*, Gm.

13th October, *Male*.—Length, 24 ; expanse, 55 ; wing, 16·25 ; tail, 9 ; tarsus, 3 ; bill, from gape, 2·10 ; weight, 4 lbs. Irides bright yellow ; legs dirty yellow ; bill slaty black.

The Brown Fish Owl is a fairly common and permanent resident.

A glance at the date on which I obtained specimens of this and of the two preceding species, will show that they were all obtained on the same day. I found them inhabiting the

same trees, chiefly tamarind and pipal, in a dense bamboo clump, evidently once an old fort, but now a jungle. It was perfectly infested with these large Owls—*Bubo coromandus* predominating—but they got so wide-awake from my firing at them that, in the long run, I found it extremely difficult to get near enough for a shot, though approaching silently and under cover.

Though essentially a Fish Owl, *K. ceylonensis*, like the rest of its tribe, does not stick at trifles. In the stomachs of four that I examined I discovered nothing but a huge ball of feathers in each. I have, therefore, not the least doubt that it takes readily to birds when its legitimate food is not available. The rainfall of 1877, it must be remembered, was lamentably deficient; many, if not all, of our so-called perennial streams were dry or nearly so, as indeed were all the jhils, with the exception of a few of the largest. Under these circumstances, it is not surprising that *K. ceylonensis* had to change his usual diet, especially as many thousands of human beings had to do likewise, or starve.

74 bis.—Scops sunia, Hodgs.

Notwithstanding all that has been written about the little Scops Owls, I am far from convinced about the specific distinctness of *S. sunia*, Hodgson's Scops Owl. A specimen in my possession appears to be changing from the rufous to the grey phase of plumage. I am, therefore, inclined to think that, as in the case of the Paradise Flycatcher (*M. paradisi*, Lin.), the rufous stage is only transitory or seasonal,* though I am not quite prepared to maintain that it is so in the face of a vast deal of evidence to the contrary. Still, the specific distinctness of these little Owls sadly wants working out.

75 ter.—Scops bakkamœna, Penn.

Pennant's Scops Owl is very common about Lucknow, and is a permanent resident. It breeds in holes in mangoe trees in the early part of the year, and after the breeding season habitually frequents bamboo clumps, in which it may be found generally seated in pairs. It appears to be quite sylvan in its habits, rarely residing near human habitations.

76.—Carine brama, Tem. Native name—*Kasuttea*.

Towards dusk and early morning, and throughout moonlight nights, the Spotted Owlet may be heard and seen in the

* It is certainly not seasonal, and as I have myself procured two old birds with four young ones, all of the bright uniform rufous type, I do not think it is transitory. Many grey birds show a great deal of rufous, but this is quite a different rufous to that of *sunia*.—Ed.

neighbourhood of almost every village, and almost in every compound in Lucknow, many often squabbling and screeching together. It resides during the day in holes in trees; often only on branches, and, if disturbed, flies readily and with facility even in bright sunshine.

On the 24th March I obtained six eggs of this species from three different nests, all in holes in mangoe trees. In one nest there were four eggs, and one in each of the other two.

Average measurement of eggs... 1.31 by 1.04 inches.

Measurement of largest egg... 1.50 ,, 1.02 ,,

Measurement of smallest egg... 1.26 ,, 1.01 ,,

77.—*Glaucidium radiatum*, Tick. Native name—*Kalakasut*.

The Jungle Owlet is a common and permanent resident. In almost every mangoe tope a pair or two, often many more, may be found. As a rule, it is an inveterate skulker, residing in its hole in spite of any noise. When disturbed and seated on a branch it remains perfectly still, and appears to have the faculty of knowing the moment it is discovered, instantly taking wing, and will, if pursued, repeat the performance until a lucky shot brings it to its bearings.

The native superstition regarding *Bubo coromandus* applies, I think, equally to this Owl; probably indeed to any Owl heard persistently in the neighbourhood of a dwelling.

81.—*Ninox lugubris*, Tick.

13th December (?)—Length, 11.60; expanse, 25.; wing, 8.30; tail, 5.2; tarsus, 1.20, bill, from gape, .95. Irides bright yellow; legs yellow; bill dusky black.

The Brown Hawk-Owl is frequently met with in bamboo thickets, rarely in mangoe groves, but is nevertheless both a common and permanent resident. It is quite nocturnal in its habits, rarely, if ever, stirring out before dark. One that I wounded and succeeded in recovering cried very much like a hare under similar circumstances. I have never heard its natural call, though for weeks together a pair frequented a tamarind tree in my own compound, and have never found its nest.

82.—*Hirundo rustica*, Lin. Native name—*Ababil*.*

The Common Swallow is abundant during the cold season, making its appearance in October and departing at the commencement of the hot weather. A few stragglers may even be found in the early part of May. Here, however, it is never the

* Applied generally to all Swallows, Swifts and Martins.

household pet that it is in England, frequenting for the most part open country, especially in the vicinity of jhils, and is not unfrequently found skimming over water in vast numbers. It sometimes perches on the bare branches of trees, and in some localities probably spends the night on them.

It also frequents the telegraph wires, but has not, that I know of, any liking for native villages, though in towns it gets attached to mosques, minarets and old buildings, about which many may always be found.

84.—*Hirundo filifera*, Steph.

The Wire-tailed Swallow—perhaps the loveliest of its tribe—is a permanent resident, and though never found in any great numbers, is universally spread over the Division. It habitually frequents jhils and rivers, the masonry bridges over the latter being favourite resorts; but it may be met with in any locality on its way to and from its especial haunts.

85.—*Hirundo erythropgia*, Sykes.

The Red-rumped or Mosque Swallow is probably a permanent resident, though it is only in the cold weather that it is at all abundant, the majority migrating to breed either in the hills or in suitable localities on the plains, though I do not see why Lucknow should not suit it as well as most places. A few most likely do breed in the old mosques and minarets about the city, but on every occasion I have failed either to find their nests or to see the birds.

During the cold weather, as already remarked, it is, however, very common about Lucknow, frequenting the deep cutting known as Hyder Ali's canal, as well as the mosques and minarets in the city, in vast numbers. In the district I have occasionally come across great flocks basking in the sun on the ground, generally in ploughed fields, and sanding themselves like sparrows; while, at other times, I have seen them on the telegraph wires, sitting in rows and keeping up an incessant chattering or twittering. They occasionally perch on bare trees, and probably pass the night in mangoe topes in the absence of more suitable resting places. In no other way can I account for their presence in localities, remote even from villages, where I have seen them often in great numbers at the break of day.

89.—*Cotyle sinensis*, J. E. Gr. Native Name—*Chota Ababil*.

The Indian Sand-Martin is abundant along the banks of all our rivers and frequents Hyder Ali's canal in vast numbers.

It breeds from February to May, making its nest invariably in holes in river banks, &c., while its daily vocation appears to consist of an incessant whirling to and fro, relieved by frequent visits to its subterranean quarters. During May last I took many eggs from nests in the banks of the Goomti, of which 0·70 by 0·48 inches is the average measurement of ten.

100.—*Cypsellus affinis*, *J. E. Gr.*

The Common Indian or White-rumped Swift is very abundant about Lucknow and in all suitable localities.

It breeds, I think, twice a year, as I have seen inhabited nests as early as February and as late as August. The inside of the roof of the Alumbagh Gateway is usually covered with nests, semi-globular in shape and closely packed together, so much so that if you took one down half a dozen others would come along with it. Nests are equally abundant about deserted buildings, &c., in and around Lucknow, while solitary pairs not unfrequently breed in bungalow verandahs. A pair that took up their quarters in the verandah of the house I reside in were so fond of twittering at all hours of the night that I came to regard them as a nuisance and banished them from the premises.

Average measurement of six eggs, 0·90 by 0·57 inches.

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

The Palm Swift appears to be a strictly rural bird, rarely found, except in the immediate vicinity of palm trees, those on the banks of jhils and streams seemingly preferred. It is a permanent resident.

109.—*Caprimulgus albonotatus*, *Tick.*

15th December, *Male*.—Length, 12·8; expanse, 25; wing, 8·45; tail, 6·8; tarsus, 0·8; bill, from gape, 1·45. Bill black; legs and feet vinaceous brown.

The Large Indian Nightjar is fairly common and a permanent resident. As many as twenty may sometimes be flushed in some favourite spot, but, as a rule, it is found singly or in pairs, generally in thick brushwood under the shade of trees, but it is also very partial to bamboo brakes and thick dhak jungle. When flushed, it usually flies but a short distance and squats again, either on the ground or on the low and spacious arm of some tree. Occasionally it may be found resting during the day high up in thick bamboos, and in clumps of these it probably breeds, though I have never found its nest. But in whatever tangled thickets it may rest for the day, it sallies forth at dusk

to fields and open glades, where it may be seen flying noiselessly along, or feeding and shuffling about with great activity on the ground, changing the scene of its operations every minute or so, while at intervals its familiar call—*chuk, chuk, chuk*—slowly and monotonously repeated, “is a welcome and pleasing addition” (?) to the “voices of the night.”

112.—*Caprimulgus asiaticus*, *Lath.*

10th January, *Male*.—Length, 9; expanse, 18·12; wing, 6·37; tarsus, ·80; tail, 4·40; bill, from gape, 1·46. Legs flesh color; irides dark brown; bill fleshy brown.

The Common Indian Nightjar is by no means so abundant here as *C. albonotatus*. Indeed I have rarely or never seen it except when the “shades of evening” have so far advanced as to render shooting it next to impossible. It feeds, I think, by preference on the mud by the water’s edge of streams or jhils, where I have often, when waiting for geese, seen it flitting actively about.

117.—*Merops viridis*, *Lin.* Native Name—*Patana* and *Hurrial*.

12th January, *Male*.—Length, 9; expanse, 11·75; wing, 3·75; tail, 4·70; tarsus, 0·4; bill, from gape, 1·4. Bill black; irides red; legs and feet plumbeous grey.

The Common Indian Bee-Eater is a permanent resident and very common, being equally at home in our gardens and in the less attractive parts of the Division, inhabiting even *usar* plains, where a pair or two may occasionally be seen seated on some low shrub. It breeds here in March, usually making its nest in the mud walls of compounds, in the banks of Hyder Ali’s canal, and in similar localities about ravines and rivers. It usually lays four almost round, white eggs; the average measurement of 13 being 0·79 by 0·71 inches, while the largest measures 0·83 by 0·70, and the smallest 0·70 by 0·65.

Towards the beginning, and again about the end of the cold weather, they may be seen, a little before sunset, collecting in great numbers on some unfrequented road or dry sandy land, where they leisurely roll about in the dust. Their sand-bath over, they usually take wing together, and after indulging in a few circular and other evolutions, all the while keeping up an incessant chattering, they separate into small parties for the night. They also often indulge in a similar practice in the mornings, but on such occasions they collect, I think, on the wing or on some tree, and dispense altogether with the preliminary sand or dust bath.

118.—*Merops philippensis*, *Lin.*

The Blue-tailed Bee-eater is by no means as common as the last species, while its partiality for the vicinity of water naturally localizes its distribution and makes it appear rarer than it really is. It is, however, a permanent resident, and is fairly abundant along the Goomti where it breeds from March to June in the river banks. It also frequents trees and shrubs in the neighbourhood of jhils, starting from these at intervals for a long cruise over the water.

123.—*Coracias indica*, *Lin.* Native name—*Nilkant*.

The Indian Roller is a common and permanent resident. It frequents gardens, groves, dhak jungle, and even scrub-covered plains, and is numerous along the railway, where it usually sits on the telegraph wires watching for the crickets that abound in the kunker ballast and for the grasshoppers that frequent the side cuttings. A pair of them made their nest in a hole in a *neem* tree about 15 yards from the verandah of the house I live in, from which I obtained four white eggs on the 20th April measuring as follows:—

Average	...	...	1·27	by	1·03	inches.
Largest egg	...	...	1·30	„	1·04	„
Smallest egg	...	...	1·25	„	1·02	„

127.—*Pelargopsis gural*, *Pearson*. Native name—*Badami Kowrilla*.

The Brown-headed Kingfisher is by no means abundant, and never, I think, frequents water that is not well shaded by trees. One that I shot, and, with an exception or two, the only one I have ever seen, was dodging about a tank surrounded on all sides by dense bamboo jungle. I know nothing regarding its habits or nidification, and cannot say whether it is a permanent resident or not. It probably is.

129.—*Halcyon smyrnensis*, *Lin.* Native name—*Kowrilla*.*

13th December, Male.—Length, 11·25; expanse, 16·5; wing, 4·65; tail, 3·20; tarsus, 0·70; bill, from gape, 2·75. Bill coral red; irides brown; legs and feet bright orange red.

The White-breasted Kingfisher is fairly abundant, frequenting alike jhils and rivers, and not unfrequently mangoe topes in their vicinity. During the rainy season, and for as long as there is

* Applied generally to all Kingfishers.

water in the side cuttings, it may be seen along the railway, sitting occasionally on the telegraph wires or posts, but usually on the babool trees (planted as a line fence) overlooking the pools. It does not dive for fish—habitually at least; and, though it may catch them occasionally, it appears to depend more upon grasshoppers, &c., for food. It doubtless breeds here, but I have never found its nest.

134.—*Alcedo bengalensis*, *Gm.*

13th December, Male.—Length, 6·50; expanse, 10·30; wing, 2·75; tail, 1·4; tarsus, 0·3; bill, from gape, 1·8. Bill, above horny, below vermilion; legs and feet bright vermilion; irides brown.

The Common Indian Kingfisher is, here, fairly common and a permanent resident. It frequents jhils and rivers, and also the side cuttings along the railway so long as these contain water, perching occasionally on the telegraph wires. Unlike the last species, it is never seen away from water, unless when migrating from one locality to another; is an expert fisher, living principally upon small fish and tadpoles, and never, according to my observation, condescends to scramble on the ground after grasshoppers and locusts. I know nothing regarding its nidification, except that it is said to breed in holes in river banks from March to May.

136.—*Ceryle rudis*, *Lin.*

The Pied Kingfisher is exceedingly common on all rivers and jhils, and is, of course, a permanent resident.

Unlike the last two species, it lives, I think, absolutely on small fish, which it invariably searches for on the wing and captures by a perpendicular plunge into the water. As a preliminary to diving, it usually hovers for a while over its intended victim, as if to make sure of its aim, and rarely misses its object. It often remains under the water for a considerable time, where, perhaps, it continues the pursuit, as it seldom emerges without a fish, which it carries to the nearest perching place—generally a tree or some elevated portion of the banks—and devours, or if small swallows, on the wing. It breeds from February to April in holes in the banks of rivers and jhils.

144.—*Ocyroceros birostris*, *Scop.* Native name—*Chakotra*.

11th October, Male.—Length, 26·; expanse, 29·75; wing, 8·80; tail, 12·37; tarsus, 2·; bill, from gape, 3·60; weight, 13·25 oz. Irides reddish-brown; legs dark plumbeous.

The Common Grey Hornbill is fairly abundant in localities where there are plenty of pipal and other species of wild-fig trees, upon the fruit of which it feeds. It is generally met with in pairs, occasionally three or four together, and when one flies from a tree, the others are sure to follow it immediately. Its flight is slow and undulating. Though it doubtless breeds here, I have not yet found its nest.

147 quat.—Palæornis indoburmanicus, Hume. Native name—*Paharee Tota*.

The Indo-Burmese Paroquet only pays a passing visit to the Division. It arrives at Lucknow in flocks about the middle of August, remains to the end of September, and feeds almost exclusively on the berries of the *neem* trees, frequenting avenues where these trees are numerous very early in the morning. To the bird-catchers of Lucknow it is quite a god-send; they catch and retail it (previously giving it some drug to make it appear tame) to Europeans and natives alike, as a bird brought all the way from Nipal, and for which they consequently ask and receive a higher price than they would otherwise get. Perhaps it is the young of this species that the natives bring from Nipal (so they say) for sale in April and May; but if Hodgson's bird (*P. nipalensis*) be really distinct, the youngsters may possibly belong to that *jat*, probably to both; but on this point I must reserve judgment until I have an opportunity of getting some of the young birds referred to.

148.—Palæornis torquatus, Bodd. Native name—*Tota*.

The Rose-ringed Paroquet is much too common to be regarded in any other light than that of a most unmitigated nuisance. Notwithstanding that it often talks well and is an amusing and pleasant cage-bird, its wholesale depredations in grain fields and gardens, if committed in merry England, would bring upon it a terrible vengeance. Fancy a farmer seeing a thousand or two settle in a field of his, and on being driven off depart, each, with an ear of his precious wheat! Just imagine his looks on discovering some hundreds of his choicest fruit lying about on the ground, and then picture to yourself what a tolerant being the mild Hindoo is, whose only remonstrance against such havoc is a threatening shout or a tiny mud projectile, which the birds accept as unconcernedly as they do his corn and fruit.

The Rose-ringed Paroquet breeds here very generally in March, nesting, I think, for choice in *Jamin* trees. From the following record it will be seen that I once found five

eggs in a nest, but that four appears to be the normal number laid :—

March 10th ...	...	nest and 3 fresh eggs.
„ 17th ...	...	„ 4 „
„ 17th ...	...	„ 5 hard-set eggs.
„ 24th ...	...	„ 4 fresh eggs.
April 21st ...	...	„ 4 young.
Average measurement of 11 eggs		1·19 by 91 inches.
Measurement of largest egg ...		1·24 „ 98 „
Measurement of smallest egg ...		1·14 „ 90 „

149.—*Palæornis purpureus*, P. L. S. Müll. Native name—*Lalsira Tota*.

The Rose-headed Paroquet is a common and permanent resident, though not by any means as abundant as *P. torquatus*. In its habits it is much the same, but prefers well-wooded tracts, and is rarely seen in any numbers in the more open parts of the country. It is particularly numerous along the Chowka at Byramghat where ancient mangoe groves and pipal trees abound, and is fairly common in the vicinity of Lucknow itself. On the 4th March, I found a nest containing four young fledglings in a hole near the top of a pipal tree, and another on the 15th April containing four fresh eggs. These eggs measure (average) 0·98 by 0·80 inches.

160.—*Picus mahrattensis*, Lath. Native name—*Kutpurwa*.*

The Yellow-fronted Woodpecker is both a common and permanent resident, frequenting gardens, avenues, mangoe groves, &c. It generally moves about in pairs and breeds from February to April in holes, artificially made, in decayed trees. I have frequently found its nest, but could never get at the eggs.

164.—*Iyngipicus nanus*, Vig.

The Indian Pigmy Woodpecker is also a common and permanent resident. I have met with it singly, in pairs, and often in small parties, generally in mangoe groves. It keeps well to the tops of trees, where it may be seen flying from branch to branch, and even hopping about like a Sparrow from bough to bough.

I found a nest of this species and two fresh eggs on the 24th March. The nest was placed about eight feet from the ground, in a horizontal and internally decayed (but not hollow) bough of a mangoe tree in a neglected garden in the native city of

* This name is applied generally to all Woodpeckers and Barbets.

Lucknow. The entrance aperture, on the under side of the bough, was about $\frac{7}{8}$ th of an inch in diameter, gradually widening to the egg cavity about 10 inches away towards the trunk of the tree. The eggs were white, and measured respectively .70 by .53 and .70 by .52 inches.

180.—*Brachypternus aurantius*, *Lin.*

The Golden-backed Woodpecker is common in almost every mangoe grove, and frequently enters compounds and gardens, while its shrill screaming call, uttered usually as it flies from tree to tree, is here quite a familiar "wood note wild." A specimen that I shot—now in the possession of Mr. Hume—had the upper mandible about a quarter of an inch longer than the lower, and taking its bill as a whole it was, I think, abnormally long.

B. aurantius breeds, I believe, twice a year—first in March and April, and again after the rains set in. I have on two occasions found its nest, but could not get at the eggs without cutting into, and probably destroying, the large mangoe trees they were in.

188.—*Iynx torquilla*, *Lin.*

The Wryneck is fairly common during the cold weather. I have seen it frequenting dhak jungles, and on two or three occasions have noticed it in my own garden, but being a quiet and unobtrusive bird, it escapes detection when others less numerous but less retiring in their habits, would surely be seen.

193.—*Megalæma caniceps*, *Frankl.*

The Common Green Barbet is a permanent resident, and is very abundant about Lucknow and in localities where wild fruit trees, especially the banian, pipal, &c., abound, upon the berries of which it feeds. Though silent, as a rule, throughout the cold months, it is nevertheless the first to announce the coming of the spring. Just when the days are getting perceptibly hotter in January, its loud startling call begins to be heard in the land, and from then, till the close of the breeding season in May, must be familiar to everybody, though few perhaps actually know the bird. During the rains its call is less frequently heard, and ceases gradually as the cold season advances.

On the 23rd April, and again on the 5th May, I found nests of this species, each containing two fresh eggs. One nest was in a hole made by the bird in an old mangoe tree, only about six feet from the ground, while the other was in a similar hole just about the same distance from the top of a tall *Jamun* tree. The

egg-shells were translucent, which gave the eggs a fleshy-white appearance. They measured as follows:—

Average of four	...	...	1·14	by	·86	inches.
Smallest egg	...	...	1·12	„	·84	„
Largest egg	...	...	1·15	„	·88	„

197.—*Xantholæma hæmacephala*, *Müll.* Native name—*Basunta*.

The Crimson-breasted Barbet is a permanent resident and one of our most common, as it is also one of our most brightly colored, birds. It feeds, like the last species, on fruit and berries and young and tender buds. It begins to pair in January, and from then to the end of May its loud and monotonous call resounds in every tope, and is perhaps the most familiar heard. Unlike *Palæornis torquatus*, it invariably excavates the hole for its nest, and selects for that purpose either branches or trunks of trees internally or outwardly decayed—the former, I think, for choice. It generally lays two eggs—occasionally three—smaller of course, but of exactly the same shape and appearance as the eggs of *M. caniceps*. My record of nests is as follows:—

March	17th	...	nest and 2 eggs	(fresh.)
„	17th	...	2 „	(hatching off.)
„	18th	...	2 „	(fresh.)
„	24th	...	3 „	(semi-incubated.)
May	8th	...	2 young	(just hatched.)
„	21st	...	2 „	(fledged.)
Average measurement of 6 eggs .94 by .67 inches.				
Measurement of largest egg ... .97 „ .70 „				
Measurement of smallest egg ... .90 „ .64 „				

199.—*Cuculus canorus*, *Lin.*

Early one morning about seven or eight years ago, while wandering leisurely about the ruins of the “Bailey Guard,” I was agreeably surprised to hear the Cuckoo’s “Wandering Voice,” but did not see the bird—fit visitor to such a shrine; but I was more fortunate on the 29th May last, when I both heard and saw it in a rather forest-looking tract, in which a pineapple garden flourishes under the grateful shade of stately trees, and through which a clear rivulet runs for eight months of the year—a delightful spot about two miles to the north of Lucknow.

Though the above record is all I know of the occurrence of the Cuckoo in the Division, others may have met with it oftener. Still, its visits like those of angels, must, I am afraid, be “few and far between.”

205.—*Hierococcyx varius*, *Vahl*. Native name—*Popiya*.

The Common Hawk Cuckoo is a permanent resident, frequenting alike gardens, groves and avenues. During the breeding season, *i.e.*, from March to the commencement of the rains in June, it is a noisy bird, particularly in the evening and early morning, three or four often going up the gamut together, each trying to outdo or silence the other; while during moonlit nights it often vies with the Koel in trying to keep the world astir, but during the cold weather it is shy and retiring, seldom seen and never heard. It feeds usually, I think, on fruit or tender buds, but frequently on small caterpillars for which it may be seen hunting among the leaves of trees. Small birds often mistake it for the *Shikra*. Though it doubtless deposits its eggs in the nest of some bird or other—probably in that of the Common Babbler—I have never been able to find any, if it is possible to distinguish them from the Babbler's eggs.

208.—*Cacomantis passerinus*, *Vahl*.

The Indian Plaintive Cuckoo I have never seen, though for all that it may occur in the Division. Mr. Adam, I note, would seem to imply that it not only occurs but breeds here—see “Nests and Eggs,” page 137; but the large eggs to which he refers as belonging to this species were possibly the eggs of *Drymæca inornata*, some of which vary greatly in size and coloration.

212.—*Coccytes jacobinus*, *Bodd*. Native name—*Kala Popiya*.

The Pied Crested Cuckoo, though not so common as the last species, is nevertheless fairly abundant at all seasons; found alike on high trees and low shrubs, and even feeding on the ground. During the breeding season it also is a noisy bird, and, like *varius*, deposits its eggs in the nests of other birds.

214.—*Eudynamis honorata*, *Lin*. Native name—*Koel* and *Kala Koeli*.

The Indian Koel, or Black Cuckoo, is a permanent resident, very abundant during the rains, but apparently migrates to some extent as the cold weather sets in and advances. It feeds principally on fruit, being very fond of the small berries of the banian and other *Fici*. During the breeding season several males may often be seen following the same female, and from this it may be inferred that, like the true Cuckoos, they do not

pair. On such occasions they are very noisy; while at this season their well-known call is often heard at night.

The Koel, I think, invariably deposits its eggs in the nest of the Common Indian Grey-necked Crow (*C. splendens*). I have found them on several occasions. Details as follows:—

June 30th	...	1 egg (fresh)	no Crow's eggs in nest.
„ 30th	...	1 „ („)	„ „
July 9th	...	1 „ (hard-set)	2 „ „
„ 9th	...	3 „ („)	1 „ „
„ 17th	...	1 „ (fresh)	3 „ „
„ 23rd	...	1 „ („)	no Crow's egg in nest.
Average measurement of 6 eggs... 1·20 by ·88 inches.			
Measurement of largest egg ... 1·28 „ ·94 „			
Measurement of smallest egg ... 1·14 „ ·86 „			

The above record is rather puzzling, but tends, I think, to show that the Koel ejects the Crow's eggs from the nest when depositing her own. I may also add that at Chinhut, on the 25th August, I saw a Crow feeding a young Koel. The youngster, to attract the attention of the Crow, occasionally indulged in a continuous “cawing” for all the world like a young Crow. It was fully fledged, and flew from tree to tree after its foster-parent. On another and more recent occasion I saw a batch of three young Koels, being led about and fed by a pair of Crows, the young birds making very fair attempts to “caw.”

217 *quat.*—**Centrococcyx intermedius**, *Hume*—Native name—*Mahok*.

Hume's Coucal or Crow Pheasant—which, I believe, is the only species of this genus found in the Division—is a permanent resident. It is fairly abundant but rather locally distributed, frequenting bamboo brakes, particularly where these occur round tanks in the neighbourhood of villages; sugarcane fields in the vicinity of jhils, and generally, any odd patches of jungle bordering on water, from which latter it is seldom found at any distance. In the Horticultural Gardens at Lucknow it is rather common, and breeds there in trees overrun with creepers. It also breeds in bamboo and other thorny thickets, generally in June, but it may have two broods in the year, as I have seen quite young birds in November. Of two nests that I robbed in June one contained three and the other two white eggs, rather dull and chalky in appearance. Their average in measurement 1·38 by 1·12 inches.

220.—**Taccocua sirkee**, *Gray*.

The Bengal Sirkeer is a permanent and fairly common resident, but is also somewhat locally distributed. In well-wooded

tracts it will rarely be found unless there is a deal of grass and other jungle growing about; but in dhak jungles, mingled with *Fici* and other trees, into which it flies and hides when disturbed, it is fairly abundant. It is a great skulk, and the united efforts of half a dozen beaters will sometimes almost fail to eject it from one of these trees. It feeds, usually on the ground in jungle thickets, on ants, slugs, &c., in this respect resembling *C. intermedius* very closely. Though I have never found its nest, I shot quite a nestling on the 3rd November, though I need not have wasted my shot as its wing-feathers proved on inspection to be quite undeveloped. It had evidently left its nest prematurely, and was calling loudly for its parents, or I should never have discovered it.

234.—*Cinnyris asiatica*, Lath.—Native name—*Shukur-khora*.

The Purple Honey-Sucker is exceedingly common, and is the only Honey-sucker found in the Division. The males of this species moult, I think, very irregularly, some retaining their purple plumage throughout the cold weather, while as late as May others may be seen in their garb of brown.

C. asiatica breeds generally in May and June, making its nest usually on some low shrub in gardens and groves. The nest is suspended to a twig, is oval with the entrance hole, sometimes protected by a slightly projecting roof or awning, on one side near the top. It usually lays two eggs of a greyish white color, spotted dusky, the spots forming in some a distinctly marked zone round the thick end of the egg.

Average measurement of 6 eggs	... .62	by	.43	inches.
Measurement of largest egg	... .66	„	.46	„
Measurement of smallest egg	... .58	„	.42	„

240.—*Piprisoma agile*, Tick.

The Thick-billed Flowerpecker is a permanent resident. I have usually seen it in small parties hopping about the tops of mangoe trees, evidently looking for insects and their larvæ. I have not, however, as yet found its nest.

250.—*Sitta castaneiventris*, Frankl.

30th September, Male.—Length, 5.31; expanse, 9.06; wing, 2.95; tail, 1.66; tarsus, .61; bill, from gape, .76; weight, .50 oz.

The Chestnut-bellied Nuthatch is a common and permanent resident. After the breeding season it is usually seen, in almost every mangoe grove and about gardens, in small parties; at other times, generally in pairs. It feeds on insects and their

larvæ, and, unlike the Woodpeckers, moves with equal facility either up or down trees.

Though this is a very common bird about Lucknow, it has baffled all my attempts to find its nest, though I am pretty sure that a pair had their nest in a tree in my own garden.

254.—Upupa epops, Lin.

The Hoopoe, of Europe, is not common, and is only found here in the cold weather. Its larger size and the white band on its crest readily distinguish it from the next species. But the scarcity of the bird here is, to my thinking, much more remarkable than its presence, considering its reputed abundance in other parts of India during the cold season.

255.—Upupa ceylonensis, Reich. Native name—*Hudhud.*

The Indian Hoopoe is a common and permanent resident. It commences to pair in December, if not earlier, and breeds in February and March. On the 5th of the latter month I obtained a nest and seven fresh eggs in an out-house in my own compound. The nest was in a hole in the wall just above the door, and was nothing more or less than a shapeless and gigantic bundle of tow and rags, probably once a squirrel's nest.

Average measurement of eggs ...	·88	by	·65	inches.
Measurement of largest egg ...	·91	„	·68	„
Measurement of smallest egg ...	·83	„	·60	„

256.—Lanius lahtora, Sykes. Native name—*Safaid Latora.*

The Indian Grey Shrike, though it may be found almost anywhere in open country, is numerically rare. It frequents dhak jungles, oftener babool and other low trees on open plains, and occasionally telegraph wires. Though it feeds mostly on crickets, locusts, &c., I have never, as apparently others have done, seen it even attempt to seize young or sickly birds.

It breeds here from March to July, making a massive cup-shaped nest in babool trees, generally in solitary ones on open plains. A nest that I came across on the 24th June contained four young, semi-fledged birds.

257.—Lanius erythronotus, Vig. Native name—*Mattiya Latora.*

The Rufous-backed Shrike is decidedly commoner than the last species; and, like it, is a permanent resident, frequenting

the same localities, with perhaps less of a liking for open plains, but very abundant in all dhak jungles. In its habits it is much the same as *L. lahtora*, and breeds during the same season, but usually in some thick wild *corounda* bush surrounded by dhak. On one occasion I saw it succeed in capturing a large moth on the wing.

260.—*Lanius vittatus*, Val.

The Bay-backed Shrike is not common, but may be met with occasionally in dhak jungles and in well-wooded bushy tracts. It appears to have the usual habits of its tribe, and is a permanent resident.

261.—*Lanius cristatus*, Lin.

The Brown Shrike is fairly common in the cold weather. It frequents the same localities as the last species.

262.—*Lanius isabellinus*, Hemp. & Ehr.

The Desert Shrike is not common, and is probably only a cold weather visitor. It frequents the same localities as the preceding species, and appears to have, here, precisely the same habits.

265.—*Tephrodornis pondicerianus*, Gm. Native name—*Kerula*.

17th November, Male.—Length, 7·; expanse, 11·25; wing, 3·50; tail, 3·; tarsus, ·90; bill, from gape, ·90; weight, $\frac{7}{8}$ oz.

The Common Wood Shrike is a common and permanent resident, frequenting alike gardens, avenues and mangoe groves; but is rarely, if ever, seen in low scrub or dhak jungle. It generally moves about in small parties, apparently searching the leaves and branches of trees for insects, caterpillars, &c. I have never found its nest.

270.—*Graucalus macii*, Less. Native name—*Khaki Popiya*:

10th October, Female.—Length, 12·25; expanse, 20·; wing, 6·90; tail, 5·90; tarsus, 1·10.

The Large Cuckoo Shrike is fairly common in well-wooded tracts, and frequently visits compounds and gardens. A peculiarity of this bird is, that it rarely alights on mangoe trees, preferring to pass over them on its way from one tree to another; while at other times it may be seen on babool bushes, evidently oblivious of the comparatively magnificent mangoe trees around. I cannot account for this, especially as mangoe trees usually swarm with the insects, caterpillars, &c.,

upon which it principally feeds. Its flight is slow and undulating, and it is seldom seen alone, generally in pairs, and sometimes, though rarely, in small parties. It breeds in the Division, though I know nothing about its nidification, having never been fortunate enough to find its nest.

271.—*Pericrocotus speciosus*, Lath. Native name—*Sat suki kapi*.*

17th November, Female.—Length, 9·; expanse, 12·75; wing, 4·10; tail, 4·50; tarsus, ·80; bill, from gape, 1·05; weight, 1·40 oz.

At one time I was inclined to look upon this lovely bird, the Large Minivet, as a rare and very exceptional cold weather visitor. Rare it undoubtedly is, but small parties, chiefly females, may be met with occasionally, from November to the end of February, in mangoe topes all over the Division, while I have frequently seen it in the Horticultural Gardens at Lucknow. It is strange that while this species visits us *P. roseus* does not.

273.—*Pericrocotus brevirostris*, Vig.

11th November, Male.—Length, 8·; expanse, 11·; wing, 3·70; tail, 4·50; tarsus, ·70; bill, from gape, ·70; weight, ·62 oz.

11th November, Female.—Length, 8·50; expanse, 11·; wing, 3·70; tail, 4·70; tarsus, ·70; bill, from gape, ·70; weight, ·62 oz.

The Short-billed Minivet begins to put in an appearance in October, leaving again at the end of the cold weather, but during its stay is a fairly common visitor to both our gardens and groves. It generally moves about in small parties, in which females and young in the yellow garb usually predominate in the proportion of two or three to one adult male; keeps well to the tops of trees, be they high or low, and seems always busily engaged hunting for insects and their larvæ.

276.—*Pericrocotus peregrinus*, Lin.

11th November, Male.—Length, 6·25; expanse, 8·50; wing, 2·80; tail, 4·; tarsus, ·60; bill, from gape, ·60; weight, ·40 oz.

11th November, Female.—Length, 6·25; expanse, 8·50; wing, 2·70; tail, 3·10; tarsus, ·70; bill, from gape, ·60; weight, ·38 oz.

The Small Minivet is a common and permanent resident. Like the last species, it is generally seen in small parties, frequenting mangoe topes and gardens. I have never been fortunate enough to find its nest.

* This name is also applied to *P. brevirostris*.

278.—*Buchanga atra*, *Herm.* Native name—*Bojanga*.

The Common Drongo Shrike or "King Crow" is everywhere common, frequenting gardens, avenues, groves, telegraph wires, jungly and cultivated tracts, and even low scrub on *usar* plains. It generally perches in positions whence it commands a good look-out; often on the backs of cattle, where it watches for the crickets and grasshoppers they disturb when grazing. It is an active, pugnacious and noisy bird, particularly during the breeding season, when its familiar call-note may be heard long before sunrise and after dusk. It has, however, a pleasant, prolonged, low twittering song, which it occasionally indulges in at dusk when the day's labor's done.

On one occasion, early in May, I saw what I thought was a curious sight—a Drongo cutting such antics on the wing that I never for a moment suspected it was all the while belaboring a poor Tit or Warbler that it must have had in its talons. The liberation of the little captive fairly astonished me, but judging from the rapidity with which it made for the nearest tree, it was apparently more frightened than hurt.

The earliest record I have of the breeding of this species is the 16th May, and the latest the 20th July; but intermediately I have come across many nests, by far the most from the 15th June to the 10th July. Out of 54 eggs I have of the two typical kinds—*pure white* and *spotted*—13 of the former and 41 of the latter, including four with only about half a dozen minute spots on each.

Spotted eggs:

Average measurement of 41 eggs .99 by .72 inches.

Measurement of largest egg { 1.06 " .72 " (longest.)
1.00 " .78 " (thickest.)

Measurement of smallest egg .91 " .64 "

Pure white variety:

Average measurement of 13 eggs .97 by .72 inches.

Measurement of largest egg { 1.06 " .72 " (longest.)
1.02 " .76 " (thickest.)

Measurement of smallest egg .88 " .68 "

281.—*Buchanga cærulescens*, *Lin.*

The White-bellied Drongo is fairly common during the cold weather in well-wooded localities, but rarely, if ever, seen in such open country as the last species. In its habits it is much the same, except that it never frequents cows' backs, and sometimes sings sweetly. I believe it migrates to the hills at the

commencement of the hot weather; at any rate, I have not been able to find its nest, nor have I seen it during the breeding season.

286.—*Chibia hottentotta*, *Lin.*

The Hair-crested Drongo can only, I think, be considered as a rare visitor during the rains. It is then occasionally brought into the market, but I have only once seen it in its wild state frequenting the outer trees of a mangoe tope near Lucknow. It seems strange that it should be found here at all during the rains, and not in the cold weather.

288.—*Muscipeta paradisi*, *Lin.* Native names—*Shah-Bulbul* and *Sham-Bulbul*.

5th June—Brown, Female.—Length, 8·50; expanse, 10·40; wing, 3·89; tail, 4·25; tarsus, ·62; bill, from gape, 1·; weight, ·62 oz.

The Paradise Flycatcher, though by no means common, is universally spread over the Division. Occasionally it may be seen flitting about mangoe topes, but oftener in bamboo brakes and other thickets, and is a frequent visitor to the Horticultural Gardens at Lucknow, where it breeds. On the 6th June last I took a nest and four eggs from a low branch of a mangoe tree. The eggs, of a delicate white salmon color, were minutely spotted with red and ringed with similar spots at the large end. Their measurement averages 0·80 by 0·58 inches.

A complete account of the changes of plumage of this species is still very much required. Personally, I am inclined to regard the chestnut phase as its breeding plumage, the female having a short, and the male a long, tail at this season; while it is also the universal livery of the young, but for how long Heaven only knows. At any rate, during May, June and July, these birds are generally in the chestnut plumage, white ones being then the exception, though it is these very exceptions that puzzle one so much. Perhaps, some day, we may get to know all about them.

In the "Gulistan of Hafiz" the chestnut and white bird are considered as distinct species; the white—I write from memory—being called the *Shah*, and the chestnut bird the *Sultana Bulbul*.

290.—*Hypothymis azurea*, *Bodd.*

The Black-naped Blue or Azure Flycatcher is only a cold weather visitor, and even then is by no means common. It does not seem to care for mangoe topes, in which I have never seen it; but in forest-looking tracts, with plenty of under-

wood or shrubs, it may occasionally be seen, generally two or three together.

292.—*Leucocerca aureola*, Vieill.

The White-browed Fantail is common throughout the Division, alike in mangoe groves, avenues, gardens, &c. It feeds on small insects, which it usually seizes on the wing, and breeds from May to August. On the 25th July I was fortunate enough to see a pair commence building their nest, and I watched its progress daily very carefully. The place selected was a horizontal and slender mangoe branch about six feet from the ground, at a point where the branch terminated and three slender uprights started. In this fork they commenced the nest by twisting spider webs round the main or horizontal stem upon which their tiny structure was destined to stand. Next morning the nest was but little bigger than, and almost as neat and compact as a large acorn cup, and entirely unconnected with any of the upright twigs. During the next two days good progress was made, and on the fifth day the nest was a perfect full-sized skeleton, having its sides firmly attached to the three perpendicular twigs. The process of thickening the sides of the nest then commenced, and in 13 days, counting from the beginning, the nest was completed. On the fifteenth day it contained two eggs of a creamy white color with a zone of brownish spots at the thick end of each.

Average measurement of the two .63 by .50 inches.

Respective measurements ... { .65 ,, .50 ,,
 .62 ,, .50 ,,

295.—*Culicicapa ceylonensis*, Sws.

14th November, Female.—Length, 5.25; expanse, 7.50; wing, 2.40; tail, 2.20; tarsus, .50; bill, from gape (?); weight, .25 oz.

The Grey-headed Flycatcher visits the Division in great numbers during the cold weather. It seems to be particularly fond of mango topes, where many may always be seen flitting a good deal about the lower branches, and sallying forth in all directions after insects.

297.—*Alseonax latirostris*, Raffl.

The Earth-brown Flycatcher is by no means abundant, and I am at a loss whether to consider it a permanent resident or not. It certainly visits us during the rains; but I have no record or recollection of having seen it at other seasons.

301.—*Stoporala melanops*, Vig.

The Verditer Flycatcher is only a cold weather visitor. It is never, however, abundant, and frequents for the most part the better wooded tracts of the district, though I have seen it in my own garden, and very often in the Wingfield Park and Horticultural Gardens, Lucknow.

It breeds in Kumaon, where it was very plentiful in June. On the 10th of that month, I found a nest and three fully fledged young in a dâk bungalow out-house. The nest, for the most part built of moss, semi-globular and rather massive in appearance, and lined with fine black roots, was placed between the roof and ridge-pole, resting on the latter. Again, on the 12th, I took a nest of similar construction from under the exposed roots of a tree in a roadside embankment. The eggs, three in number and quite fresh, were of a creamy white color, with a light but well-defined reddish brown zone round the thick end of each, with the circular space at the end within the zone of a still lighter shade. They measure respectively $\cdot 76$ by $\cdot 54$, 72 by $\cdot 55$, and $\cdot 78$ by $\cdot 56$ inches.

304.—*Cyornis rubeculoides*, Vig.

The Blue-throated Redbreast is only a cold weather visitor, numerically rare and seldom seen, except perhaps in the guava groves and gardens about Lucknow. In the district it is occasionally met with in mangoe topes, frequenting low branches, often small shoots projecting from the trunks of the trees, from which it sallies forth after insects, rarely returning to the same perch, and seldom to the same tree.

306.—*Cyornis tickelli*, Bly.

Tickell's Blue Redbreast is perhaps rather commoner than the last species, but is similar in habits, and frequents the same localities, keeping, however, more to the upper than to the lower branches of trees. It is, of course, only a cold weather visitor.

323.—*Erythrostera albicilla*, Pall.

From having for a long while confounded this, the Eastern White-tailed Robin Flycatcher, with the next species, I am unable to say much about it, but my impression is that it is quite as common as *E. parva* during the cold weather, and in its habits exactly resembles that bird, frequenting the same localities.

323 bis.—*Erythrostera parva*, Bechst.

The White-tailed Robin Flycatcher is common during the cold weather in mangoe groves, gardens, &c., almost indeed

anywhere. It is usually seen sporting about the lower branches and trunks of trees, capturing insects, &c., and is an active, restless little bird. It retires to the hills in April.

353.—*Petrophila cinclorhyncha*, *Vig.*

The Blue-headed Chat Thrush can only, I think, be considered as a rare cold weather visitor. I have only seen it on two or three occasions in the forest-looking topes along the Chowka near Byramghat, and once in a rather jungly mangoe grove not far from Lucknow. In December last I saw and shot a specimen in a mangoe tope near Lucknow.

355.—*Geocichla citrina*, *Lath.*

The Rusty-throated Ground-Thrush, like the last species, is only a cold weather visitor, but is not so rare. It may, to a certainty, be found in every forest-looking bamboo brake, frequenting damp and dark nooks, where it feeds on the slugs and insects usually found in these, turning over the leaves on the ground to find them. It not unfrequently enters the Horticultural Gardens at Lucknow, where it finds suitable haunts in the damp shrubberies there; but in dry dhak jungles, no matter how shady the trees may be, I have never seen it. It also avoids mangoe topes.

371.—*Oreocincla dauma*, *Lath.*

28th December, *Female*.—Length, 10·5; expanse, 16·25; wing, 5·60; tail, 3·65; tarsus, 1·30; bill, from gape, 1·25. Bill, upper mandible dark brown, lower much paler brown; legs fleshy white.

The Small-billed Mountain Thrush, which is also only a winter visitor, is about as common as the last species, resembling it in its habits and frequenting precisely the same localities, though I have not observed it so close to Lucknow as in the Horticultural Gardens.

385.—*Pictoris sinensis*, *Gm.*

14th November, *Female*.—Length, 7·62; expanse, (?); wing, 2·50; tail, 4; tarsus, 1; bill, from gape, ·60; weight, ·50 oz.

The Yellow-eyed Babbler is very common and a permanent resident, rather more abundant during the cold than in the hot and rainy seasons. It is fond of grassy bush and dhak jungle, but fonder still of patches and rows of tall thatching grass, on the stalks of which, when seeding, it settles and searches diligently for insects, generally in parties ranging from six to a

dozen. During the heat of the day the party usually retires to rest in some bush overgrown with long grass, where they may be heard conversing in a low chatter. If disturbed then, they make a great noise and scuttle through the adjoining grass in all directions, becoming silent as they hide or squat, and remaining so until the intruder moves off, when they generally re-assemble either in the same bush or in some other close by. The male bird sings very sweetly, oftenest, I think, in the cold dewy November mornings.

432.—*Malacocercus terricolor*, Hodgs. Native name—*Ghoughai* and *Sat-bhai*.

1st November, Female.—Length, 10; expanse, 13; wing, 5.50; tail, 4.80; tarsus, 1.40; bill, from gape, (?); weight, 2.50 oz.

The Bengal Babbler is very common in avenues, gardens, hedgerows, mangoe topes and dhak jungles—in fact wherever there are trees or bushes it is sure to be found. Jerdon surely could never have mistaken this species for *M. malcolmi*, yet we find him writing that the latter doubtless “extends through most of the N. W. Provinces, whilst *M. terricolor*, so far as we know, is not found there”—(*Birds of India*, Vol. II., page 65). The reverse is the case, and so far from *M. terricolor* not occurring it is one of the commonest, and probably the noisiest, bird in the N. W. Provinces. It is universally known amongst the natives as the “*Sat bhai*,” or seven brothers; “*babbler*” or “*chatterer*” being the name usually applied to it by Europeans. Being a constant resident in gardens and compounds its habits are very generally known.

When the Shikra, as it sometimes does, makes a swoop at a party of babblers, it is curious to observe how silent they become, sneaking off singly to the tops of trees where they hide for some time, and then begin to file away to some other locality where they still keep very quiet until well into the business of feeding again.

Their breeding season extends from March to September; but though by habit gregarious, they never breed in company. Orange, citron, guava and other low trees and shrubs are favorite nesting places, as well as the lower branches of mangoe trees. Their nests are mostly composed of coarse grasses lined with finer grass, but sometimes with coarse hair-like roots, the egg cavity being about 5 by 4 by 2 inches. They generally lay three eggs, of a deep greenish blue (the shade varies in some), and occasionally four may be found in a nest.

Average measurement of 12 eggs .99 by .77 inches.

Measurement of largest egg ... 1.05 ,, .79 ,,

Measurement of smallest egg95 ,, .76 ,,

436.—*Argya malcolmi*, Sykes. Native name.—*Bhaina*.

Since the first part of this paper was published, and long after this part was in type, I met with this species, the Large Grey Babbler, for the first time in this Division in the dhak jungles in the neighbourhood of the Rahimabad Railway Station, where, on this occasion, I found them common. During the day I spent there I must have seen some seven or eight different parties of from five to ten individuals in each. Though I have explored these jungles before, times without number, I have never previously noticed this species. I could hardly have passed them over as *terricolor*, for *malcolmi* is a larger bird and recognizable at a glance when flying by the whitish color of the lateral tail feathers. Still this seems more likely than that this species should now, for the first time during several years, have made its appearance here. Anyhow it must be very locally distributed in the Division, and it is certainly *not* found in the vicinity of Lucknow. The addition of this species brings my total number up to 414 (*vide* p. 501, Vol. IX.)

438.—*Chatarrhæa caudata*, Dum.

The Striated Bush-Babbler is a common and permanent resident, very abundant in dhak and thorn jungle; less so in patches of thatching grass, which it also frequents, and is seen, though not habitually, in hedgerows and about gardens, and is not uncommon in the large, grass-hedged, guava groves about Lucknow.

It breeds from April to August, making its nest usually in thick bushes, especially in dhak jungles in the wild corounda. The following is a record of its nests and the dates on which I found them:—

May 5th ...	...	nest and 3 eggs (hard-set.)
„ 31st ...	...	3 „ (fresh.)
June 20th ...	...	3 „ („)
July 20th ...	...	3 „ („)
„ 29th ...	...	3 young (just hatched.)
Average measurement of 12 eggs...		·81 by ·62 inches.
Measurement of largest egg		... ·88 „ ·75 „
Measurement of smallest egg		... ·77 „ ·60 „

The eggs are blue and glossy.

460.—*Otocompsa emeria*, Lin. Native name—*Kangra Bulbul*.

The Red-whiskered Bulbul is very common all the year round. It frequents gardens and avenues about Lucknow and

abounds throughout the district in all well-wooded tracts. It breeds very generally in May: in that month I found the following nests:—

May 5th	...	...	nest and 3 eggs (fresh.)
„ 7th	...	...	„ 1 „ („)
„ 10th	...	...	„ 2 „ („)
„ 31st	...	...	„ 3 „ („)
„ 31st	...	...	„ 3 „ („)
Average measurement of 12 eggs			·82 by ·62 inches.
Measurement of largest egg			... ·86 „ ·70 „
Measurement of smallest egg			... ·80 „ ·60 „

It habitually breeds in thickly foliated shrubs, particularly in creepers running up trees or lattice work, and in the Horticultural Gardens, here, nests are consequently very numerous.

462.—*Molpastes hæmorrhous*, Gm. Native name—*Bulbul*, also *Guldum Bulbul*.

The Common Madras Bulbul is quite as abundant as the last species, and perhaps more generally spread, being frequently found in comparatively woodless tracts. Still, it frequents much the same localities, and is very abundant about Lucknow, where it is prized by the natives for its fighting qualities. In the district, too, it is trained for the same purpose, and on several occasions I have seen as many as a hundred perched on, and fastened to, separate sticks shaped like the letter T, in the courtyards of country magnates.

The eggs of this species are somewhat larger and redder than those of *O. emeria*; but there is but little difference in the size and shape of their nests, and they breed in the same localities; *O. emeria* very generally in May, but this species apparently not until June or July.

The following is my record of its nests:—

June 13th	...	...	nest and 3 eggs (fresh.)
„ 15th	...	„	2 „ („)
„ 26th	...	„	3 „ (hard-set.)
July 18th	...	„	3 „ (partly incubated.)
Average measurement of 10 eggs			·87 by ·64 inches.
Measurement of largest egg			... ·95 „ ·72 „
Measurement of smallest egg			... ·75 „ ·63 „

468—*Iora tiphia*, Lin.

18th November, Male.—Length, 5·80; expanse, 8·25; wing, 2·60; tail, 2·20; tarsus, ·70; bill, from gape, ·75; weight, ·62 oz. Legs dark plumbeous; irides greyish brown; bill dark horny.

The Green Iora, or White-winged Green Bulbul, as Jerdon calls it, is a fairly common and permanent resident. It frequents avenues, gardens, mangoe topes, &c., generally in pairs, but occasionally in small parties, keeping well out of sight, as it quietly searches the leaves and branches of trees for its insect food. On the 16th July I found a nest and three eggs. The nest was in a mangoe tree on a horizontal bough (attached to that and an upright twig) about 20 feet from the ground; it was cup-shaped, compact and well made of fine grass stems (lined with finer) and cobwebs, and so well concealed from view that I would have given long odds against any one finding it who had not, as I had, seen the birds building it. The eggs measured $\cdot 75$ by $\cdot 56$, $\cdot 75$ by $\cdot 56$, $\cdot 73$ by $\cdot 58$ inches, and are, I consider, the most beautiful in my collection, being of a creamy white color, beautifully marked with longitudinal wavy streaks of faint purplish brown.

470.—*Oriolus kundoo*, Sykes. Native name—*Pilak*.

5th October, Female, juv.—Length, 9·25; expanse, 15·; wing, 5·; tail, 3·87; tarsus, ·87.

The Mango Bird or Indian Oriole, though a permanent resident, is never so abundant during the cold weather as it is during the hot and rainy seasons from about the time the mangoe trees begin to bloom to the end of September. It frequents gardens, avenues, mangoe topes, and is frequently seen in open country, taking long flights between trees, principally the banian and other *Fici*, upon the berries and buds of which it feeds. I have the following record of its nests:—

June 16th	...	nest and no eggs (building).
July 2nd	...	2 eggs (fresh).
„ 2nd	...	1 „ („)
„ 5th	...	3 „ („)
„ 25th	...	3 young (just hatched).
Aug. 5th	...	2 „ (fledged).
Average measurement of 6 eggs		... 1·10 by ·84 inches.
Measurement of largest egg		... 1·10 „ ·88 „
Measurement of smallest egg		... 1·06 „ ·84 „

The nests were all alike, cup-shaped, made up of coarse grasses, tow, rags, &c., suspended to forks in branches of mangoe trees, easily seen from beneath but well concealed by leaves above. A nest, which I saw the birds building, was ready for fully a month before it was used.

472.—*Oriolus melanocephalus*, Lin. Native name—*Pahari Topi-dar Pilak*.

12th November, Female.—Length, 9·50; expanse, 16·50; wing, 5·30; tail, 4·; tarsus, 1·10; bill, from gape, 1·30; weight, 2·50 oz.

Unlike *O. kundoo*, the Black-headed Oriole is much more common during the cold weather than it is in either the hot or rainy season; many evidently migrating for these seasons. In its habits it closely resembles the last species, and frequents the same localities. I have never found its nest. It probably does not breed here.

475.—Copsychus saularis, Lin. Native name—*Dhyal*.

The Magpie Robin is a permanent and familiar resident, frequenting compounds, gardens, guava and mangoe groves, as well as dhak jungles and the trees and shrubs in the vicinity of villages. Its food must be very varied, for I found one feeding on a centipede about four inches long that I made it drop with difficulty. On examining the centipede I found that life was not quite extinct.

During the pairing and breeding seasons this Robin sings sweetly, particularly in the early mornings and at dusk. It usually nests in holes in trees, but occasionally in walls and deserted buildings, and generally lays four eggs, pale bluish green, spotted or blotched with brown. Of its nests I have the following record:—

May 22nd	...	nest and 4 eggs (fresh)	mangoe tree.
July 9th	...	2 "	(") "
" 12th	...	4 "	(hard set) "
" 15th	...	4 young (unfledged),	"
Average measurement of 8 eggs ... .84 by .74 inches.			
Measurement of largest egg ... .86 " .74 "			
Measurement of smallest egg ... .82 " .75 "			

480.—Thamnobis cambaiensis, Lath. Native name—*Shama*.*

5th October, Female.—Length, 6.50; expanse, 9.25; wing, 3; tail, 2.87; tarsus, 1; bill, from gape, .62; weight, .75 oz.

The familiar Brown-backed Robin is a permanent resident, and frequents the same localities as the last species. It is generally seen in pairs, and during the breeding season has a pleasing song, which it usually warbles forth at morn and even, dancing about all the time with its wings in a trailing position and its tail erect. It generally—almost invariably—nests in holes in houses, masonry or mud walls, and old deserted buildings of any kind; occasionally in nullahs and ravines. The following is my record of its nests:—

March 10th	...	nest and 4 eggs (incubated).
May 24th	...	3 " (fresh).
June 15th	...	3 " (")
July 7th	...	3 " (")
" 7th	...	3 " (hard set).

* Popularly so, though the name properly pertains to *Cercotrichas macrura*.

Average measurement of 12 eggs... ·79 by ·56 inches.

Measurement of largest egg ... ·83 „ ·61 „

Measurement of smallest egg ... ·74 „ ·55 „

One of the above nests, which I found in a wall of the Secunder Bagh ruins, was entirely composed of human hair! Another, which I robbed on three occasions, each time leaving the nest, had soon afterwards a fourth set. This time I allowed the eggs to remain, and had the satisfaction of knowing that the old lady managed to rear her brood.

Possibly I am, and was, wrong in supposing her to have laid the four clutches; but though I watched closely, I was convinced at the time that it was the same pair that kept about the nest.

481.—Pratincola caprata, Lin. Native name—*Kalapidha*.

The White-winged Black Robin is common in thin dhak and tamarisk jungles, and scrub-covered, undulating and raviny ground; but does not, habitually at least, frequent gardens and well-wooded tracts. It feeds on insects which it usually captures on the ground, darting down on them from some low perch. It is a permanent resident.

483.—Pratincola maurus, Pall.

The Indian Bush Chat, which is very common during the cold weather, frequents the same localities as the last species, and its habits are much the same. It usually makes its appearance about the beginning of October and leaves early in April; is in general a very wary bird, keeping well out of range of danger, and flying from bush to bush as one approaches, taking at last to thickets if persistently pursued.

491.—Saxicola isabellinus, Rüpp.

Menetries' Wheat-ear is found only in the cold weather, and is not common, being rather locally distributed, as it frequents, generally, rugged and barren tracts and the more open parts of dhak and scrub jungle. I know nothing particular in regard to its habits.

492.—Saxicola deserti, Rüpp.

The Black-throated Wheat-ear is similarly only a cold weather visitor and far from common. It frequents much the same localities as the last species. On one occasion I found some five or six frequenting block kunker quarries, particularly the material lying exposed and scattered about, on the barren margin of a jhil at Ajgaen.

494.—*Cercomela fusca*, Bly. Native name—*Dauma*.

The Brown Rock Chat is fairly common about Lucknow, but I have not seen it elsewhere. It frequents the numerous old buildings and walls in the City Suburbs. A nest which I took from an old mosque on the 24th May contained three fresh eggs of an uniform pale blue color, marked with tiny spots of different shades of brownish red, chiefly towards the larger end where the spots formed an irregular dotted zone. Of five eggs in my possession the average measurement is 0.80 by 0.62 inches.

497.—*Ruticilla rufiventris*, Vieill. Native name—*Lalgonda*.

The Indian Redstart—a cold weather visitor—makes its first appearance about the end of September, stragglers remaining as late as May. It is very common, frequenting gardens, mango and guava groves, and not unfrequently out-houses, walls and old buildings. It feeds on insects, usually capturing them on the ground.

514.—*Cyanecula suecica*, Lin.

The Red-spot Blue-throat is very common in the cold weather. It habitually frequents damp places, such as patches of long grass, sugarcane, pea fields, &c., in the vicinity of rivers and jhils, and is common in the tamarisk jungles about Byramghat. It feeds on insects.

518 bis.—*Luscinola melanopogon*, Tem.

The Moustached Sedge Warbler is fairly common in all suitable localities, but only, I think, during the cold weather. In the low-lying grass-covered lands here and there on the banks of the Goomti, in the grass and tamarisk jungle in the semi-swamps about Byramghat, and in similar localities on the khadir lands of the Oudh bank of the Ganges, it is not uncommon, while a few may sometimes be found in the rushy swamps and nooks on such rivers as the Goomti and Saie. From its skulking habits, it is difficult to get a fair shot at it unless at very close quarters, when it generally gets mangled almost past recognition.

520.—*Locustella hendersoni*, Cass.

The Eastern Grasshopper Warbler—probably only a cold weather visitor—frequents the same localities as the last, the two being often found together, but it is decidedly a greater skulk and numerically less common. The only specimen I have, I captured alive after a good deal of trouble in

trying to get a fairly distant shot at it (I had already blown two to pieces), when I saw it suddenly sneak into a small patch of "doob" grass, and rushing up I caught it between the rooting runners of the grass and the ground, so tightly squeezed in that I had some difficulty in getting it out.

530.—Orthotomus sutorius, Penn. Native name—*Phutki.*

The Indian Tailor-bird is a common and permanent resident, frequenting gardens, hedgerows, groves, and all kinds of jungles. In gardens it sometimes nests in *brinjal* bushes, but more frequently in the low shoots of guava trees, sewing two or three of the leaves together, which it lines with some soft material—cotton or wool preferred—if procurable either by fair means or foul. I have known it to enter verandahs, and even rooms, to pick the fibre out of cotton and other ropes. Its eggs are usually white, spotted with reddish brown, but some are of a very pale bluish green color, similarly, but more minutely, spotted with a lighter shade of brown. Of the two varieties, I have nine eggs of the former and four of the latter; they measure respectively:—

Bluish variety.

Average measurement	...	·65	by	·46	inches.
Measurement of largest egg	...	·69	„	·48	„
Measurement of smallest egg	...	·63	„	·43	„

White variety.

Average measurement	...	·64	by	·46	inches.
Measurement of largest egg	...	·70	„	·48	„
Measurement of smallest egg	...	·64	„	·43	„

It breeds very generally in June and July.

535.—Prinia stewarti, Bly. Native name—*Phutki.**

Stewart's Wren-Warbler is about as common and frequents the same localities as the last species, being particularly abundant in dhak and thorn jungles. It is very destructive in gardens, where it destroys peas with a vengeance, snapping its tail† at any one who attempts to interfere with its apparently favorite pastime. This it habitually does when disturbed, excited or frightened. It makes its nest in any low bush, with leaves large enough to answer its purpose when two or three are tacked together. The nest is very much like a tailor bird's;

* Applied generally, in this Division, to all small Warblers.

† How does it perform this remarkable and unusual operation?—*Ed.*

but the eggs are very different, being of a brick-red color. The average measurement of six is .64 by .46 inches.

539.—*Cisticola cursitans*, Frankl.

The Fantail Warbler is a permanent resident, abundant in all suitable localities, principally in long grass wherever this is found—in dhak jungles, where grass is abundant, and in corn and pea-fields in the neighbourhood of, or partially surrounded by, *sarpatta* grass; but never, I think, far away from these and such like retreats. It feeds on small insects and their larvæ. I have no notes regarding its nidification.

543.—*Drymœca inornata*, Sykes. Native name—*Ghas-Phutki*.

The Earth-brown Wren-Warbler frequents the same localities as the last, but in far greater numbers. Indeed, it is one of the most common birds in the Division, always found in great numbers wherever thatching or *sarpatta* grass abounds. When disturbed, it usually takes a short, jerky, flight and darts again into the grass, through which it moves with great facility. Sometimes, when undisturbed and “alone in its glory,” it takes short excursions into the air, jerks about for a few moments, and then returns to the grass to indulge in a low twittering song. It breeds very generally in July. Between the 1st and 31st of that month, I must have seen and examined at least 100 nests in the *sarpatta* grass clumps so common along the Goomti at Lucknow. The nests were invariably made of fine strips of grass, which is always used when green and pliable, giving them at first a green appearance, but later on, as it fades, a straw color. In shape they are rather elongated oval structures, very neatly woven, with the entrance hole near the top, and are generally about three or four feet from the ground in the middle of a clump of grass firmly attached to five or six of the stems. The eggs are generally of a pale bluish-green, spotted with chocolate and various shades of brown, the larger ends generally with, but occasionally without, a zone of denser spots entangled in a labyrinth of fine hair-like lines. Another variety, though similarly marked, have pure pinkish-white grounds, and are very beautiful eggs. Out of 70 eggs in my possession, 62 belong to the former, and eight to the latter, variety. They measure respectively :—

Bluish variety ;

Average measurement	...	.60	by	.45	inches.
Measurement of largest egg	...	.62	„	.47	„
Measurement of smallest egg	...	.58	„	.44	„

Pinkish-white variety :

Average measurement	...	.57	by	.41	inches.
Measurement of largest egg	...	.59	”	.42	”
Measurement of smallest egg	...	.56	”	.42	”
		.59	”	.40	”

551.—*Franklinia buchanani*, Bly.

The Rufous-fronted Wren-Warbler is fairly common and a permanent resident. It frequents very much the same localities as the last species, especially low thorn and scrub jungle. It makes an oblong loosely-constructed nest with the aperture near the top, and lays three or four white eggs, minutely spotted with dingy red. Average measurement of four eggs, 0.60 by 0.46 inches.

554.—*Phylloscopus tristis*, Bly.

The Brown Tree-Warbler is common during the cold weather in trees and jungle on the banks of the Chowka at Byramghat, and on the Goomti about Lucknow, especially in a large tope of young babool trees belonging to the Horticultural Gardens. I have also seen it frequenting mangoe topes.

559.—*Phylloscopus nitidus*, Bly.

The Bright-green Tree-Warbler is only, I think, a cold weather visitor, though I have shot it early in September, and as late as the end of April. It frequents mangoe topes, and is fairly abundant in the babool fences along the railway.

565 bis.—*Reguloides humii*, Brooks.

Hume's Crowned Tree-Warbler is certainly fairly common in the mangoe groves about Lucknow and elsewhere during the cold weather. On the 11th October I shot two specimens, and saw many more in the same tope, and have seen it often since.

582.—*Sylvia affinis*, Bly.

The Allied White-Throat is very generally spread over the Division during the cold weather; but I have never seen it anywhere so numerous as it is in the babool trees along the Goomti and the railway. In the tall dhak and thorn jungles about Rahimabad it is also pretty common; but it never, I think, except by chance, enters mangoe topes.

589.—*Motacilla maderaspatensis*, Tem. Native name—*Khanjan*.

The Large Pied Wagtail is a permanent resident, but common only, I think, on rivers and streams. On the Goomti, where

I have had opportunities of observing it, I have seldom found more than one or two together, and have never seen it associating in flocks like other Wagtails. When flushed it usually flies but a short distance along the river—always, I think, over the water, and on alighting on the beach is often rudely assailed by one of its own species, each evidently considering a certain range his own particular beat.

591.—*Motacilla personata*, Gould. Native name—*Dhobin*.*

The Black-faced Wagtail is common during the cold weather, making its appearance early in September and remaining to about the end of April. It may be found almost anywhere, *viz.*, in ploughed fields, grassy plains, gardens, topes, and about rivers and jhils, usually running briskly about after insects.

591 bis.—*Motacilla dukhunensis*, Sykes.

The remarks about the last species apply equally to this, the Indian White-faced Wagtail, which is everywhere as common, frequenting the same localities.

592.—*Calobates melanope*, Pall.

I cannot say that I have ever observed the Grey and Yellow Wagtail, though it surely must occur during the cold weather. It is mentioned in Captain Irby's paper as "common," and its occurrence can scarcely be doubted, though I should not think it could be at all abundant, or I could hardly have overlooked it.

593 bis.—*Budytes melanocephalus*, Licht. Native name—*Pilkya*.

The Black-cap Field Wagtail is common during the cold weather, coming in early and remaining late. After a good shower they may be seen in great numbers on *usar* plains; are common in rice and well-irrigated corn-fields, and in the neighbourhood of jhils and rivers. They sometimes perch on trees.

594.—*Budytes calcaratus*, Hodgs.

The Black-backed Yellow-headed Wagtail is not quite so common as the last species, but is fairly abundant in marshes, inundated fields and damp tracts in the vicinity of jhils and rivers. It is only a cold weather visitor.

596.—*Anthus maculatus*, Hodgs.

The Indian Tree-Pipit is common during the cold weather, appearing about the end of September and departing about the

* Applied to most Grey Wagtails.

end of April. Some few may, however, remain to breed* as I saw a pair in a mangoe tope so late as the 29th of May last.

This Tree-Pipit frequents shady places, and is abundant in all mangoe groves where the ground is covered with vegetation, from which it may be seen flying up into the trees as one approaches. In the gardens about Lucknow it is also common. It usually feeds on the ground, but frequently on trees.

597.—*Anthus trivialis*, *Lin.*

It is not easy to distinguish the European Tree-Pipit from the last species without a closer examination than one usually gets in the fields; but it appears to be equally as common, frequenting the same localities and very similar in its habits.

600.—*Corydalla rufula*, *Vicill.*

The Indian Tit-Lark is a common and permanent resident, found alike in cultivated tracts, open plains, and dhak jungles, but more abundantly in damp and wet places, such as thin patches of wild paddy and rice. When the thatching grass grown in the suburbs of Lucknow is cut in April or May, many will always be found frequenting the stumps or tufts, in which they doubtless make their nests.

604.—*Agrodroma sordida*, *Rüpp.*

The Brown Rock-Pipit is not common. I have occasionally met with it in cultivated tracts, ploughed fields, and about mounds covered with broken brick and scrub jungle. It is only a cold weather visitor.

631.—*Zosterops palpebrosa*, *Tem.* Native name—*Baboona*.

The White-eyed Tit is both a very common and permanent resident, found in all well-wooded tracts, very numerous in mangoe topes, and the compounds and gardens about Lucknow. It is social in its habits, many being always found together, and appears to feed on small insects. I have found its nest on several occasions. Details as follows:—

May 18th	...	...	nest and 2 eggs (fresh).
„ 18th	...	...	1 „ („)
June 8th	...	...	3 „ (incubated).
„ 10th	...	...	1 „ (fresh).
July 23rd	...	..	3 „ („)

* This seems extremely unlikely; up to the present this species has never been known to breed anywhere in the plains.—*Ed.*

Average measurement of 6 eggs ·56 by ·46 inches.
 Measurement of largest egg ... ·60 ,, ·48 ,,
 Measurement of smallest egg ... ·53 ,, ·45 ,,

The nests were all on mangoe trees, suspended to thin twigs at the extreme ends of branches, and very carefully hidden by leaves, to the stems of which they were also attached.

This Tit readily forsakes its nest. All the nests that I examined during construction (and I must have looked into a dozen or more) were at once abandoned.

660.—*Corvus macrorhynchus*, Wagl. Native Name —*Kala-kowa*.

The Bow-billed Corby, though not by any means so common as the next species, is decidedly plentiful wherever there are human habitations, and is often met with in comparatively lonely places. It breeds in thickly-foliaged trees, generally mangoe or tamarind, in March and April. The following is my record of nests:—

March 6th ...	... nest and 4 eggs (fresh).
" 10th ...	" 4 ,, (")
" 15th ...	" 2 ,, (")
" 24th ...	" 4 ,, (")
" 24th ...	" 4 ,, (incubated).

Average measurement of 10 eggs 1·74 by 1·4 inches.
 Measurement of largest egg ... 1·88 ,, 1·16 ,,
 Measurement of smallest egg ... 1·60 ,, 1·2 ,,

The nests are stick platforms, always placed high in the trees.

663.—*Corvus splendens*, Vieill. Native name —*Kowa*.

The Indian Grey-necked Crow is, of course, abundant, and as impudent and familiar here, as it is elsewhere, while its chief characteristics are too well known to need recapitulation. I may mention, however, that it robs nests, if not habitually, at least occasionally, for I have more than once seen it despatching eggs with great gusto.

It breeds very generally in July and August, the first fall of rain in June being the signal for building operations to commence. It may then be seen vigorously stealing the khus-khus from tatties, purloining pea-sticks, annexing twigs, rags, &c., with which it soon completes its nest. It usually lays four eggs of a greenish-blue colour, spotted and blotched with all shades of brown, some remarkably free from any spots at all.

The Koel, it may be noted, invariably lays its eggs in the nests of this species.

674.—Dendrocitta rufa, Scop. Native name—*Mootri.*

14th November, Female.—Length, 16; expanse, 18; wing, 5·90; tail, 9·50; tarsus, 1·30; bill, from gape, 1·20; weight, 3 oz.

The Common Indian Tree-pie is a permanent resident, abundant in all well-wooded tracts, as well as in the gardens and avenues about Lucknow. A specimen that I shot had evidently robbed some nest, for its bill was smeared with the yolk of eggs. On another occasion, I actually caught one in the act of robbing a Babbler's nest.

This Tree-pie breeds generally from May to the end of July, making its nest on high mangoe trees, invariably very near their tops. I have found the following nests:—

May	8th ...	...	nest and 4 eggs (fresh).
„	17th ...	...	2 „ („)
„	21st ...	...	3 „ („)
July	5th ...	...	4 „ („)
„	7th ...	...	5 „ („)

In some nests, the eggs were white with reddish-brown spots; in others of a light bluish-green color with much lighter brown spots. Of the former variety I have six eggs; of the latter ten. They measure respectively:—

White variety:

Average	...	...	1·14 by ·81 inches.
Largest	...	...	1·16 „ ·84 „
Smallest	...	...	1·12 „ ·80 „

Bluish variety:

Average	...	...	1·08 by ·83 inches.
Largest	...	...	1·20 „ ·86 „
Smallest	...	...	1·00 „ ·82 „

681.—Sturnus vulgaris, Lin. Native names—*Kusnai* and *Tilora.*

The Common Starling is very abundant during the cold weather, frequenting open cultivated tracts and putting up for the night in neighbouring trees. It associates in flocks—large or small. These flocks, before roosting, occasionally go through a few evolutionary manœuvres on the wing; at other times they may be seen at dusk flying very low, rising now and then to clear trees, and evidently in a great hurry to reach

some distant nightly abode. When migrating in April they often depart in flocks of countless numbers. When out on the Volunteer Rifle Range, on the 13th April last, a flock passed across the range, covering its entire length of 900 yards and extending far beyond the Butts, presenting a dense and zig-zag line fully 40 yards in breadth—a sight to see and hear.

There is, I think, another Starling that frequents the Division—probably *S. purpurascens*; but having no specimens, I cannot, of course, vouch for its occurrence.

683.—*Sturnopaster contra*, Lin. Native name—*Abulka *Mynah*.**

The Pied Starling is a common and permanent resident. It feeds in flocks in company with Mynahs, swarms in the vicinity of every village, and rests for the night in trees in the neighbourhood. In Lucknow it is very generally caged for its song; indeed, when taken young and brought up within hearing of a whistling *Shama*, (*Cercotrichas macrura*) it imitates the song of that bird to perfection. It breeds very generally in July, never, I think, laying more than four glossy blue eggs. Seen at a distance its nest might pass for a shapeless bundle of old rags and grass, paper, &c., of which, indeed, it is generally constructed, in a perfect maze of twigs in babool trees, often in the middle of a village. In the absence of the babool, any tree would, however, seem to answer for its nest, if it only has the recommendation of being in or near a village.

Average measurement of 13 eggs 1·09 by ·77 inches.

Measurement of largest egg ... 1·14 ,, ·80 ,,

Measurement of smallest egg ... 1·06 ,, ·75 ,,

684.—*Acridotheres tristis*, Lin. Native name—*Mynah*.

The Common Mynah is very abundant, particularly so in the vicinity of towns and villages. When taken young it is easily domesticated, and need never be caged, as it rarely abuses its freedom by flying away.

Generally speaking, the Common Mynah, like the Crow (*C. splendens*), commences to build with the first fall of rain in June—early or late as the case may be—and has done breeding by the middle of September. It nests indiscriminately in old ruins, verandahs, walls of houses, &c., but

* Usually even in Oudh the bird is called "*Ablaka*" from "*Ablak*"=pic-bald, and not "*Abulka*."—Ed.

preferentially, I think, in holes in trees, laying generally four, but sometimes five, pale blue eggs:—

Average measurement of 14 eggs 1·18 by ·86 inches.

Measurement of largest egg ... 1·25 „ ·91 „

Measurement of smallest egg ... 1·14 „ ·82 „

685.—Acridotheres ginginianus, Lath. Native name—*Daryta Mynah*.

The Bank Mynah is also excessively common, keeping more to the open country than *A. tristis*; but generally speaking, where one is the other is almost sure to be found. During the breeding season it associates in large flocks along the banks of the Goomti, where it nidificates in colonies in holes in the banks of the river. From some of these holes I took a few fresh eggs on the 15th May, and again on the 30th June on re-visiting the spot. In the district it breeds in old irrigation wells, and occasionally in ravines with good steep banks.

Average measurement of 10 eggs 1·09 by ·76 inches.

Measurement of largest egg ... 1·14 „ ·74 „

Measurement of smallest egg ... ·98 „ ·78 „

687.—Sturnia pagodarum, Gm. Native names—*Pawi, Popoya Mynah* and *Kala-sir Mynah*.

The Black-headed Mynah, though seldom met with in any numbers, is universally spread over the Division, and in Lucknow inhabits almost every garden. It is perhaps more common in the cold weather than it is at other seasons, but in this I may be mistaken. Like *S. contra* it is commonly caged, being a good songster and imitator of other birds. It breeds very generally in July, making its nest invariably in holes in trees, and usually lays but three eggs. The following is my record of its nests:—

July 9th nest and 3 eggs (fresh).

„ 22nd „ 3 „ („)

„ 22nd „ 3 „ („)

„ 23rd „ 2 „ („)

Average measurement of 11 eggs ·99 by ·70 inches.

Measurement of largest egg ... 1·04 „ ·72 „

Measurement of smallest egg ... ·94 „ ·66 „

688.—Sturnia malabarica, Gm. Native name—*Pawai*.

The Grey-headed Mynah is possibly a permanent resident, but is by no means common, and for months at a time one may wander about without seeing a single specimen. I am inclined to think that it migrates to the hills to breed, but

while here it is captured and caged by the natives ; and, though I cannot say that I have ever heard it, it doubtless sings well, and imitates other birds like the last species.

690.—*Pastor roseus*, Lin. Name name—*Golabi Mynah*.

I have sometimes been inclined to think that some few of the Rose-colored Starlings were permanent residents. It is only, of course, from about the middle of February to the end of April that they occur in vast numbers, but occasional stragglers will be met with throughout the hot and rainy seasons, and it is fairly abundant as early as the commencement of October.

In the early part of the cold weather they are seldom seen in parties of more than four or five members, but are very generally distributed, particularly in well-wooded and jungly tracts, interspersed with *jowar* fields. As the cold season advances these small parties would appear to lose their individuality in, or probably combine and constitute, the large flocks that traverse the country in all directions preparatory to migrating, as 95 per cent. undoubtedly do in April or May at latest. Do the few that remain warrant the acceptance of *P. roseus*, as a permanent resident ?*

694.—*Ploceus philippinus*, Lin. Native name—*Baya*.

The Weaver Bird or *Baya* is a common and permanent resident. It is social in its habits, frequenting some localities in vast numbers ; is easily tamed, and when taken young may be taught a lot of tricks, and on this account is a great favorite with the natives. It breeds from June to the end of September, but not very generally until the rains have fairly set in, making its nest usually on trees standing in or over water. Its conspicuous retort-shaped nest in the babool fences along the railway must be familiar to every traveller. Palm trees are also favorite nesting places, from five to fifteen nests being frequently seen on one tree. Occasionally three eggs may be found in a nest, but seldom more than two, cylindrical in form and pure white.

Average measurement of 10 eggs .80 by .57 inches.

Measurement of largest egg86 ,, .60 ,,

Measurement of smallest egg75 ,, .55 ,,

* Most certainly the Rosy Starling is nowhere a permanent resident of the plains of India. I very much doubt if Mr. Reid has ever met with one about Lucknow between the 7th of May and the 20th of July. If he has, it can only have been a few isolated, weakly or wounded birds. By the end of July or the first week in August (it varies in different seasons) they begin to return from their bridal tour (see also IX., 456.)—*Ed.*

695.—*Ploceus manyar*, Horsf. Native name—*Telia-baya*.

Though Jerdon states that the Striated Weaver-bird does not appear to occur in the N. W. Provinces (*Birds of India*, Vol. II., page 349), he must, I think, have been misinformed, as it certainly is not uncommon here during the rains, and in suitable localities throughout both Oudh and the N. W. Provinces. In July 1878, when the Goomti was in high flood, some hundreds of these birds commenced building their nests in a large jungle of *sarpatta* grass which was then surrounded by and standing in water, the overflow of the river. Soon afterwards the river fell, leaving the grass high and dry, and nesting operations immediately ceased. In only two nests did I afterwards find eggs—three in each; the average measurement of the six being $\cdot 81$ by $\cdot 59$; the largest measuring $\cdot 84$ by $\cdot 61$ and the smallest $\cdot 78$ by $\cdot 56$ inches.

698.—*Amadina rubronigra*, Hodgs. Native name—*Nakalnor*.

The Chestnut-bellied Munia is not very common, though it is a permanent resident. I have rarely seen it, except when the thatching or *sarpatta* grass is in seed, on the long stalks of which numbers may often be seen feeding. The Lucknow bird-catchers, however, manage to secure large numbers wherever they get them from; but as no two of these gentlemen tell the same story when questioned about the haunts of any bird, I don't believe, and will not reproduce the yarns they have told me about this species.

699.—*Amadina punctulata*, Lin. Native name—*Seena-baz* and *Sing-baz*.

The Spotted Munia is a common and permanent resident. It may be found in dhak and indeed in any jungly localities, and like the last species frequents *sarpatta* grass when in seed. I have also frequently seen it in flocks in the tamarisk and grass jungles about Byramghat. It is also captured in large numbers and caged.

703.—*Amadina malabarica*, Lin. Native name—*Chirkwa* and *Chiroka*.

The Plain Brown Munia is a common and permanent resident, generally found in small parties in dhak and grassy jungles. It also visits gardens and compounds, and is easily caught in trap cages baited with a live bird or two of its own species. It usually builds in small thorny trees or shrubs, making a rugged, globular-looking nest of fine grasses with

the entrance at the side, and lays from five to seven white eggs. The following is my record of its nests :—

July 7th	... nest and 7 eggs (incubated).
July 21st	... „ 5 „ (fresh).
Sept. 11th	... „ 7 „ („)
Average measurement of 12 eggs .59 by .46 inches.	
Measurement of largest egg	... .63 „ .48 „
Measurement of smallest egg	... .56 „ .45 „

704.—*Estrelida amandava*, Lin. Native name—*Lal Munia*.

The Red Wax-bill, or Lal Munia, is also a common and permanent resident, frequenting thatching grass when it seeds in great numbers. In the tamarisk and grass jungles about Byramghat, and in all jungly looking localities wherever met with, it is almost sure to be found associating in small or large flocks. Like the last species, it is easily taken in trap-cages—indeed *that* is the method of capturing all these Munias—and appears to be even happy in confinement, often indulging in its short pleasant song a few days after its imprisonment. Large numbers may always be had in the Lucknow market, where the males are sold for fighting—a pastime in which the natives take great delight.

705.—*Estrelida formosa*, Lath. Native name—*Harri Munia*.

The Green Wax-bill is not common, and, unlike the last species, does not, habitually at least, frequent jungles; but keeps, according to what I have seen of it, to mangoe topes and high trees. It is also captured and caged, and is sometimes brought into the market in considerable numbers. I believe it to be a permanent resident.

706.—*Passer domesticus*, Lin. Native name—*Gouriya*.

The House Sparrow is common enough in all conscience, and is rather too permanent a resident to be got rid of easily, even when you want the scamp to leave your own drawing-room! It is, therefore, needless to say anything about him here.

711.—*Gymnoris flavicollis*, Frankl.

The Yellow-throated Sparrow is both a common and permanent resident, frequenting mangoe topes, avenues, and occasionally gardens. When passing through dhak jungle in the cold weather, I have often seen it in large flocks feeding about on the ground. Its call-note is very like that of the Common Sparrow, and may be mistaken for it, but fortunately for man-

kind its habits and habitat are somewhat different! Common as it is at certain seasons, I have never found its nest, and, though many breed here, I am disposed to think that the majority either go to the hills or submontane tracts, returning again when the breeding season is over.

716.—*Emberiza buchanani*, Bly.

The Grey-necked Bunting is common in large flocks during the cold weather on bare and scrub-covered plains and open dhak jungle. Though it resembles the Ortolan of Europe, and was for a long time considered identical, it rarely, if ever, finds its way to the table, in Lucknow at any rate, where thousands of social and other Larks, if not Sparrows, are annually passed off as genuine Ortolan!

722.—*Euspiza luteola*, Sparrm. Native name—*Gaudam*.

The Red-headed Corn Bunting is also a common, but only a winter visitor. It avoids well-wooded tracts, but is abundant in dhak jungle wherever it borders on cultivation. It also frequents thatching grass when in seed, and I have often seen it in pipal trees—solitary ones in open country.

724.—*Melophus melanicterus*, Gm. (*M. cristatus*, Fig. ?) Native name—*Kulchira*.

The Crested Black Bunting is usually seen solitary or in pairs, flitting about grass and dhak jungles, but only during the cold weather. It is, however, fairly common about Lucknow when the *sarpatta* grass, which it frequents, is seeding in November and December; and again about March or April, then probably on its way to the hills, or thinking about going.

738.—*Carpodacus erythrinus*, Pall. Native name—*Tuti*.

The Common Rose Finch is perhaps only a cold weather visitor. At the same time I am inclined to think some may be permanent residents, as I have seen it in the market for sale at all seasons, and have myself shot it early in September. At any rate, it is fairly common in the cold weather in the groves and gardens about Lucknow, and in the district in dhak jungles and bamboo brakes. It has a feeble, prolonged, but somewhat twittering song, and is commonly caged.

756.—*Mirafra erythroptera*, Jerd. Native name—*Aggia*.

The Red-winged Bush Lark is a common and permanent resident, found in low scrub and dhak jungles and dry grass

lands, rarely seen in other localities. It usually rises to sing from the top of some small bush, takes a short heaven-ward flight, and drops down gradually on to the top of another shrub. Though I have never seen its nest, I have met with young birds—almost nestlings—in May.

760.—*Pyrrhulauda grisea*, Scop. Native name—*Duri*.

The Black-bellied Finch Lark is both a common and permanent resident, found in open, even *usar*, plains and ploughed and fallow fields, generally in flocks or small parties. I found a nest and two eggs on the 22nd April at the root of a tuft of *sarpatta* grass. The eggs measure respectively $\cdot 73$ by $\cdot 57$ and $\cdot 74$ by $\cdot 58$ inches.

761.—*Calandrella brachydactyla*, Leisl. Native name—*Baghaira*.*

The Short-toed or Social Lark (the Ortolan of Indian dinner tables) is only a cold weather visitor (I wonder how the khansamas manage in the hot and rainy seasons without it), but a very common one, coming in early in October and leaving again in April. It is usually seen in open plains and scrub jungle; often in ploughed and young corn fields, and in grass meadows in the vicinity of jhils and elsewhere, always in flocks either large or small, and is looked upon as common property by almost all of the hawk tribe.

767.—*Alauda gulgula*, Frankl. Native name—*Chundul*.

The Indian Skylark is a common and permanent resident, and is found in much the same localities as the last species. It also frequently enters grassy compounds, and is very common in all low-lying grassy patches, particularly in those about the tamarisk jungles on the Chowka and Gogra near Byramghat. It is a favorite song-bird with the natives, and is consequently very commonly caged. I have never found its nest.

769.—*Galerita cristata*, Lin. Native name—*Chundul*.

The Crested Lark is also a common resident, and, like the last species, is a favorite cage-bird. It usually frequents open plains, ploughed fields and dry scrub jungle, avoiding, as a rule, damp meadow lands. As in the case of *A. gulgula*, I have never found its nest.

773.—*Crocopus chlorigaster*, Bly. Native name—*Hurrial*.

1st November, Male.—Length, 12·75; expanse, 21·; wing, 7·25; tail, 5·; tarsus, 1·; bill, from gape, 1·10; weight, 7·75 oz.

* More commonly, and I think correctly, applied to *Melanocorypha bimaculata*.—Ed.

The Southern Green Pigeon is both a common and permanent resident, and is strictly frugivorous, being very fond of the berries of the banian and other *Fici*, in quest of which it will enter gardens and compounds freely. The natives here erroneously believe that it never descends to the ground, and even pretend that, when shot, it loses about a pound in weight the moment it comes in contact with it! If asked how it manages to quench its thirst, they will tell you that it settles upon a reed, which bends over with the weight of the bird and enables it to drink! Be all these "yarns" as they may, it is a rare occurrence to see a Green Pigeon on the ground—still rarer to see it drinking.* I have taken nests as follows:—

June 6th	...	...	nest and 2 eggs (fresh).
" 20th	...	...	" " ( " )
July 3rd	...	...	" " ( " )
Average measurement of 6 eggs ... 1.27 by .95 inches.			
Measurement of largest egg ... 1.32 " .94 "			
Measurement of smallest egg ... 1.19 " .96 "			

The nests, small platforms of twigs, were all high up in mangoe trees.

There is, I am inclined to think, another species of Green Pigeon found in the Division, but not having seen it of late years, I am unable to identify it.

787.—*Palumbœna eversmanni*, Bp. Native name—*Pahari Kabutar*.

The Indian Stock Pigeon makes its appearance in vast flocks in March and April when the spring crops are ripening and being cut, and disappears in the beginning of May. They invariably rest during the heat of the day, and throughout the night, in mangoe topes, and if undisturbed keep to the same grove for days and even weeks together.

788.—*Columba intermedia*, Strickl. Native name—*Kabutar*.

The Indian Blue Rock Pigeon is a common and permanent resident, frequenting the mosques, tombs, minarets and palaces of Lucknow in vast numbers, notwithstanding the many daily caught and sold for domestic use. The natives here do not venerate it as they do in Rajputana. It breeds, I think, all the year round in and about the buildings it frequents.

Average measurement of 12 eggs 1.46 by 1.10 inches.			
Measurement of largest egg ... 1.50 " 1.20 "			
Measurement of smallest egg ... 1.32 " 1.06 "			

* But do they ever drink? I think not.—Ed.

**792.—*Turtur pulchratus*, *Hodgs.* Native name—
*Pahari Perki.***

The Indian Turtle Dove is only a cold weather visitor, but is then very common. Though it generally frequents mangoe topes, it is more partial to bamboo clumps and dhak jungle, in which tall trees abound. About the beginning of March it begins to collect in flocks, and towards the end of the month, when the crops have been cut, may be seen frequenting the stubble in great numbers prior to migrating.

**794.—*Turtur senegalensis*, *Lin.* Native name—
Chota Fachta and *Perki.***

The Little Brown Dove is a common and permanent resident. It frequents gardens, groves of every description, and all dhak and thorny jungles, including bamboo brakes. It breeds generally in April and May, making its nest, a small platform of sticks, in some low thickly-foliaged bush, and lays the usual two white eggs.

Average measurement of 12 eggs	1.00	by	.85	inches.
Measurement of largest egg	...	1.10	„	.88 „
Measurement of smallest egg	...	0.90	„	.77 „

**795.—*Turtur suratensis*, *Gm.* Native name—
Chitroka Fachta and *Perki.***

The Spotted Dove is very common in every garden and grove, and is, of course, a permanent resident. It is a familiar bird, often making its nest in verandahs and under the eaves of out-houses; and with, perhaps, the exception of a month or two in the cold weather, breeds all the year round. It usually selects some moderately-sized thorny bush to build in, making a small thin platform for a nest, and lays two white eggs.

Average measurement of 12 eggs	1.05	by	.81	inches.
Measurement of largest egg	...	1.10	„	.85 „
Measurement of smallest egg	...	1.00	„	.75 „

These Doves hate the Common Tree-pie (*Dendrocitta rufa*) because it doubtless robs their nests, and on two or three occasions I have seen a couple of them succeed in driving it out of a mangoe tope.

**796.—*Turtur risorius*, *Lin.* Native name—
Dor Fachta and *Perki.***

The Indian Ring Dove, though a common and permanent resident, is far more abundant in the cold weather than it is at other seasons. Many evidently migrate in April, previously

collecting in vast flocks. Like *T. suratensis* it breeds almost throughout the year, never, I think, in verandahs or out-houses, though often in gardens, and very abundantly in all dhak jungles.

Average measurement of 10 eggs	1·17	by	·91	inches.
Measurement of largest egg ...	1·22	„	·98	„
Measurement of smallest egg ...	1·10	„	·88	„

797.—Turtur tranquebaricus, Herm. Native name—
Biki and Ghirwee Pachta.

The Ruddy Ring-Dove, though not so common as the two preceding species, is a permanent resident and frequents gardens and groves. It is very partial to bamboo brakes and to the babool fences along the railway. Dhak and thorn jungle, if old and tall, is also much resorted to by this species.

Average measurement of 6 eggs	1·02	by	·81	inches.
Measurement of largest egg ...	1·08	„	·83	„
Measurement of smallest egg ...	1·00	„	·77	„

799.—Pterocles arenarius, Pall. Native name—
Bhut-Titur.

There is no doubt that the Large or Black-bellied Sand-grouse occasionally occurs, but nowhere in the Division, that I am aware of, is there any locality that it habitually frequents. It is, however, common in the Hurdui district, where I have seen and shot many, and possibly it is equally abundant in the west of the Unao district.

802.—Pterocles exustus, Tem. Native name—
Bur-Titur.

The Common Sand-grouse, though a permanent resident, is rarely met with strictly within the limits of the Division. I have seen and shot it occasionally on barren land on the banks of the Baita nuddy near Rahimabad, where a few may now and then be found. It is said to be, and probably is, much more common in the west of the Unao district, and I have seen vast flocks on the wing steering in that direction.

803.—Pavo cristatus, Lin. Native name—*Mor.*

The Common Peacock is found permanently throughout the Division wherever suitable localities occur, being abundant in dhak and thorn jungles, particularly on the banks of streams passing through these, and also in bamboo brakes. It is not here the object of that veneration which saves it from molestation elsewhere. In its habits it is pretty regular,

frequenting daily and for weeks together the same feeding grounds and the same tree at nights. It feeds principally on grain, occasionally on insects and grubs, and even on snakes; at any rate, years ago, a small snake was taken from the stomach of one in my presence. The breeding season here extends, I think, from June to September. The majority probably lay in August, judging from the number of small chicks brought into Lucknow for sale in October.

818.—*Francolinus vulgaris*, Steph. Native name—*Kala-Titur*.

Though common in many parts of Oudh, I have never seen the Black Partridge strictly within the limits of the Division. Stragglers, according to good testimony, have been shot within its boundaries on the banks of the Goomti; while native shikaris assert that they reside in the tamarisk and grass jungles in the khadir of the Ganges (Unao district). From the nature of the localities referred to, I am inclined to believe that they may be found in the vicinity of the Ganges, though I have not personally seen or heard them there.

During my rambles in Kumaon in May and June I found this Partridge very abundant in the valleys of the Sarjoo, Ramgunga, and Gori rivers (up the latter almost to the snows), and frequently saw it perched on trees generally about the lower branches; but once about 80 feet high on the top of a dead tree with nothing but the trunk and the stumps of some of the larger branches left. It was calling lustily, but as no one thought of looking at the tops of the trees it bothered us greatly for some time, but was at last discovered.

822.—*Ortygornis pondicerianus*, Gm. Native name—*Titur*.

The Common Grey Partridge, though found almost anywhere, is nowhere very abundant, except, perhaps, in dbak and thorn jungles, to which it flies for shelter when the spring crops are cut. From its skulking habits it is often difficult to flush, and consequently affords poor sport; but a few may always be bagged in the very early morning when out feeding. A few call birds, placed overnight in a suitable place, will generally succeed in collecting about them all the males in the neighbourhood, when a battue may be arranged the following morning.

This Partridge also takes readily to trees. A pair that I flushed some half a dozen times, without being able to bag them, eventually took shelter in a huge mango tree in which I could not see them, and from which they were with difficulty

dislodged. Male birds, it may be noted, are eagerly sought after by the partridge-fighting community of Lucknow, and command a good price in the market. Indeed the steady demand for these will probably result in denuding the country of birds, aided as it is by the havoc which some mammals and birds of prey also inflict on the eggs and young.

826.—*Perdica asiatica*, Lath. Native name—*Lowa*.

The Jungle Bush Quail is not common. It may, occasionally, be flushed when beating about hedges and patches of grass in unfrequented groves or gardens, and sometimes in bush and grass jungle in undulating and raviny ground. It appears to be a permanent resident, but of this I am not quite sure.

829.—*Coturnix communis*, Bonn. Native names—*Bhatér*, *Ghagir Bhatér* and *Burra Bhatér*.

Essentially a migratory bird, the Common or Grey Quail does not arrive in any numbers until March, the majority leaving again shortly after the spring crops are cut. It is, however, fairly common during the cold weather, and stragglers—doubtless remaining to breed—may be flushed during the hot and rainy seasons. When abundant, large numbers are taken in nets and brought into Lucknow for sale, prices ranging from Rs. 2 to Rs. 2-8 per hundred. Good males are, however, advantageously retained for fighting—a favorite pastime among the Mahommedan community of Lucknow.

830.—*Coturnix coromandelica*, Gm. Native name—*Chinung Bhatér*.

The Rain Quail—though a permanent resident—is never common until the rains set in, but is then very abundant in standing crops and grassy jungles. Like the last species, it is caught in nets and sold at prices ranging from Rs. 1-8 to Rs. 2 per hundred, realizing less than the Grey Quail, either because it is smaller in size, or because it is captured, as it usually is, in greater numbers during the rains than *C. communis* ever is during the cold weather, or even in March when it is most abundant. The males of this species are also prized for fighting.

831.—*Excalfactoria chinensis*, Lin. Native name—*Gobal-Butai*.

This lovely bird—the Painted or Blue-breasted Quail—is exceedingly rare, and is only, I am pretty certain, found during

the rains. Professional Quail-catchers inform me that they occasionally capture one or two when out netting the Rain Quail, but that, like myself, they have never seen it during the cold weather.

834.—*Turnix joudera*, *Hodgs.* Native name—*Lowa-Butai*.

835.—*Turnix dussumieri*, *Tem.* Native names—*Ghinwa-Lowa* and *Chota-Lowa*.

These Button Quails are permanent residents, though not very abundant, *T. dussumieri* predominating. They are generally found in dry grass jungle, but owing to their retiring habits are seldom seen, unless specially looked for, when a good deal of beating is always required to flush them. They also reside in lonely gardens and groves, where the grass is allowed to grow long, particularly if these are surrounded and intersected by rows of *sarpatta* or thatching grass, being generally, I think, fonder of shade than most of the Quail tribe.

840.—*Cursorius coromandelicus*, *Gm.* Native name—*Nukri*.

The Indian Courser or Courier Plover is fairly common and a permanent resident. It frequents by preference bare plains and ploughed fields, generally in small parties, the individual members of which, however, keep well apart. I have never once heard it utter a single sound or call of any kind.

842.—*Glareola orientalis*, *Leach*.

Of the Larger Swallow Plover or Eastern Pratincole I have no specimens, nor can I recollect ever meeting with it; but Captain Irby says it was "seen at Alumbagh (three miles from Lucknow) in January 1858." I therefore include it.

843.—*Glareola lactea*, *Tem.*

The Smaller Eastern Pratincole or Swallow Plover occurs on the Ganges at Cawnpore, and probably also on the Chowka and Gogra rivers at Byramghat. I have not observed it on the Goomti, though it most likely does occur on suitable reaches of the river.

845.—*Charadrius fulvus*, *Gm.* Native name—*Turali* (?)

I am inclined to consider the Eastern Golden Plover a permanent resident,* having seen, or imagined I saw, a flock of them in

* Although for the last twelve years this bird has been closely watched by dozens of keen observers, it has nowhere, as yet, been discovered breeding anywhere in India proper.—*Ed.*

July. But be that as it may, they are common enough during the cold weather, and are usually seen in flocks in fallow lands and ploughed fields in the neighbourhood of jhils—now feeding and now moving about in a body, from one spot to another, the whole day long.

848.—*Ægialitis cantiana*, Lath.

The Kentish Ring Plover is common during the cold weather. If it is only, as I suppose it is, a winter visitor, it certainly does not migrate early, for I have seen it throughout the month of April—then in its summer or breeding plumage. It frequents the banks of rivers and jhils, and occasionally *usar* plains, but only after they have been well saturated by rain.

849.—*Ægialitis dubia*, Scop.

The Indian Ring Plover is a permanent resident, frequenting the same localities as, but in greater numbers than, the last species. It is, however, often met with singly or in pairs in the most unlikely places; but, as a rule, it occurs generally in small companies of from 10 to 20.

Though the individual members of a flock keep well apart when feeding, they usually all rise when one is disturbed, collect together on the wing, and after a deal of whirling to and fro settle down only to part again.

851.—*Vanellus vulgaris*, Bechst. Native name—*Saehoor* (?)

The Crested Lapwing or English "Pee-wit" is only a cold weather visitor, then fairly common, and generally found in flocks about jhils and marshes and neighbouring fields, usually very wary and difficult to approach.

852.—*Chettusia gregaria*, Pall.

Though mentioned in Captain Irby's list as "exceedingly common on open sandy plains in January, February and March," and notwithstanding that it is likely enough to occur, I have not come across this species, the Black-sided Lapwing. From this I conclude that it cannot be common, whatever claim it may have to a place in this list.

853.—*Chettusia villotæi*, Audouin.

The White-tailed Lapwing is a cold weather visitor, frequenting the same localities as the Pee-wit, but in much smaller flocks, rarely in lots of more than eight. It would seem to be a very quiet bird, and, as a rule, the members of a flock keep some yards apart when feeding or at rest, and stand stock-

still on being discovered. It is, however, very easily approached, and in this respect differs from my experience of *V. vulgaris*, which is both noisy and wild.

? 854.—Chettusia cinerea, Bly.

Captain Irby states that this species, the Grey Lapwing, is "abundant in the cold season about swamps and jhils, seen generally in lots of seven or eight;" but the description so aptly applies to *villotæi* that I fancy he has mistaken it for *cinerea*. I have never seen the latter, nor do I think that it occurs in Oude at all, still less in the Lucknow Division.

855.—Lobivanellus indicus, Bodd. Native name—*Titiri*.

The Red-wattled Lapwing is a permanent and common resident, usually found about water, though it may be met with in the driest tracts. It appears to breed very generally in May and June, laying usually four eggs on the bare ground. A favorite breeding place is the kunker ballast on the railway, where the birds may be noticed getting off their nests on the approach of a trolley or train. I cannot imagine how they manage at night; but one would think that the vibration caused by passing trains would be fatal to successful incubation.

Average measurement of 10 eggs 1·62 by 1·17 inches.

Measurement of largest egg ... 1·66 ,, 1·20 ,,

Measurement of smallest egg... 1·52 ,, 1·14 ,,

856.—Lobipluvia malabarica, Bodd.

The Yellow-wattled Lapwing is also a permanent resident, but not quite so common as the last species, and caring less for the vicinity of water, is seldom seen near it unless this happens to adjoin its feeding grounds. It moves about in pairs or in small parties, and seems to be particularly fond of dhak jungle and any scrub-covered barren land, while I have frequently seen it on *usar* plains. It breeds in May and June, usually laying four eggs on the bare ground.

Average measurement of 6 eggs 1·45 by 1·05 inches.

Measurement of largest egg ... 1·47 ,, 1·08 ,,

Measurement of smallest egg... 1·44 ,, 1·03 ,,

857.—Hoplopterus ventralis, Cuv.

The Spur-winged Lapwing is not common, though it may be, and doubtless is, a permanent resident. In the cold weather I have occasionally seen a few on the Chowka and Gogra

rivers about Byramghat, but nowhere else. It probably also occurs on the Ganges.

858.—*Æsacus recurvirostris*, Cuv.

The Large Stone Plover is fairly common during the cold weather about the Chowka and Gogra rivers in the neighbourhood of Byramghat, where it is usually met with in flocks of 10 to 20 or 30 generally in fallow land or newly-ploughed fields. I have not observed it elsewhere.

859.—*Œdicnemus scolopax*, S. G. Gm.

The Stone or Norfolk Plover, or as many prefer to call it, the Bastard Florican, is a permanent resident, and is fairly common in all dhak jungles. It also frequents groves, a pair or two even visiting the Horticultural Gardens at Lucknow, where, on the 6th May, I found a nest and two eggs at the root of a guava tree. But its favorite breeding place is some lonely mangoe tope, moderately studded with grass tufts. I have never found more than two eggs in a nest, and of eight in my possession, the average measurement is 1·85 by 1·40 inches.

863.—*Grus antigone*, Lin. Native name—*Sarus*.

The Sarus is more generally distributed during the rains than it is in the hot and dry weather, when it appears to collect in small flocks in the vicinity of jhils, in moist and swampy tracts, (though few then exist), and along the banks of rivers. It breeds during the rains in July and August, in the temporary and shallow swamps then so common, making a large platform of mud, grass, and rushes for a nest, (raising it well above water-level), and lays two eggs of a dull white or pale greenish color, generally spotted or blotched with reddish brown, though some few are scarcely marked at all. Another peculiarity about the eggs is, that, while the shells of some are smooth and glossy, others have a chalky appearance and a rough pimpled surface. I have noticed, too, that the latter are generally larger than the former.

Average measurement of 6 eggs 3·90 by 2·51 inches.

Measurement of largest egg ... 4·21 „ 2·51 „

Measurement of smallest egg ... 3·75 „ 2·44 „

864.—*Grus leucogeranus*, Pall. Native name—*Tunhi*.

The Snow-Wreath or Great White Crane is decidedly rare, and is only met with in the cold weather. Last cold season I saw five in a shallow jhil near Sandila, and determined at once to circumvent them. I had only a shot gun with me, so concealed myself in some dhak bushes, feeling certain they

would come in my direction, and within easy range; but alas for human expectations—"bang," "bang," went a couple of guns to my right, before I had been ten minutes in position, and away went the Cranes. My mortification was complete on discovering a couple of natives frantically endeavouring to catch a wounded duck!

865.—*Grus communis*, Bechst. Native name—*Kulang*.

The Common Crane is abundant during the cold weather, and, though not met with every day, may, nevertheless, be seen, occasionally in vast flocks, either on the wing or resting in some of the larger jhils or in river-backwaters, especially on the Gogra, where I have frequently seen it.

866.—*Anthropoides virgo*, Lin. Native name—*Karkarra*.

The Demoiselle Crane appears early in October—often I think in September—generally in vast flocks, either flying in a straight line or in a line which the letter M. represents very well. Occasionally, but rarely, they will settle on large shallow jhils; but on the Chowka and Gogra at Byramghat they are often numerous, particularly during the very cold weather. They migrate in March, going, as they came, in immense flocks.

? 868.—*Gallinago nemoricola*, Hodgs.

I have on several occasions, but not of late years, flushed a large dark solitary Snipe when out wild-fowl shooting. On the occasions referred to it generally rose from amongst the weeds within four or five yards of the jhil side. It surely could not have been *G. solitaria*, though it was certainly either this or *nemoricola*. I should say *G. nemoricola*, the Wood Snipe, from its dark coloration and lazy flight.

870.—*Gallinago sthenura*, Kuhl.

The Pin-tailed Snipe is undoubtedly a cold weather visitor, but is, according to my experience, exceedingly rare. It is possible I may have overlooked this Snipe before I read for the first time (only I think about four years ago) Captain Marshall's paper in STRAY FEATHERS, Vol. I., page 423. I have only, that I am certain of, seen a single specimen, but it was in too mangled a condition to be worth preserving.

871.—*Gallinago gallinaria*, Gm. Native name—*Chaha*.

The Common Snipe begins to make its appearance about the end of September, but it is not until the end of October that

it occurs in any numbers. The majority leave again about the middle of March, though detachments may be met with until the end of April.

Occasionally—during the course, however, of many years—I have seen several large flocks on the wing, and in November last killed seven out of a flock at a single shot. I was at the time—very early in the morning—looking out for wild-fowl, when I heard what I thought was a large gang of ducks approaching from behind. Looking round I found a flock of something coming down from the clouds at a tremendous pace. I had barely time to fire when they were down upon me, past and gone. There must have been close upon a thousand in the flock, and had I had time to change my cartridge for one of smaller shot, instead of seven, I should have bagged a dozen at least.

872.—*Gallinago gallinula*, Lin. Native name—*Chota Chaha*.

The Jack Snipe is numerically rare compared with the last species, but still far from being scarce. Owing to its skulking habits and the consequent difficulty of flushing it, most sportsmen are apt to consider it rarer than it really is. It arrives later and departs earlier than *G. gallinaria*, few, if any, remaining beyond the first week of April.

873.—*Rhynchæa capensis*, Lin.

The Painted Snipe, though rarely seen at any other time, is common about the commencement of the rains, disappearing again in the course of fifteen days or so. Wherever they come from they are evidently migrating to the north of Oudh, where they not improbably breed in considerable numbers.

875.—*Limosa ægocephala*, Lin. Native name—*Jangral* and *Khag*.

The Black-tailed Godwit is common during the cold weather, when it is usually met with in large flocks frequenting jhils. By the beginning of April they have nearly all migrated.

877.—*Numenius lineatus*, Cuv. Native name—*Burra Goolinda*.

The Eastern Curlew is generally met with in small flocks, often singly, from October to the end of April, frequenting swamps, jhils and rivers. Its loud whistle is often heard at night as well as by day. It collects, I think, in large flocks before migrating.

878.—*Numenius phæopus*, *Lin.* Native name—*Chota Goolinda*.

The Whimbrel is quite as common here as the Curlew, which it resembles in habits and appearance, though, of course, it is a much smaller bird.

880.—*Machetes pugnax*, *Lin.*

Ruffs and Reeves are very common during the cold weather, and are almost always seen in large flocks frequenting jhils, and the fields in their vicinity. They arrive early in September and leave in April, having some time previously partially assumed its breeding plumage. Indeed, in some cases, individuals commence to get their summer plumage towards the end of January, and these, it may be expected, assume it entirely before migrating.

882.—*Tringa subarquata*, *Güld.*

The Curlew Stint is only a cold weather visitor, generally found about jhils from October to April, but mostly during these two months, when it is usually met with in considerable flocks. It is probably more of a bird of passage than a winter visitor; but many will always be met with throughout the season.

883.—*Tringa alpina*, *Lin.*

The Dunlin, like the last species, is only a cold weather visitor, and arrives and departs about the same time. In its habits it is much the same, frequenting the same localities.

884.—*Tringa minuta*, *Leisl.*

The Little Stint is very abundant during the cold weather, and is always met with in large flocks, frequenting river sand-banks and the muddy foreshores of jhils.

885.—*Tringa temmincki*, *Leisl.*

The White-tailed Stint is common during the cold season, and frequents jhils and river sides, in fact any pool of water wherever found. It arrives early in September and leaves late, probably not much before, some even after, the beginning of May.

891.—*Rhyacophila glareola*, *Lin.* Native name—*Toot-wari*.

The Spotted Sandpiper is common during the cold weather, about every pool and jhil as well as along rivers. Favorite resorts are the side cuttings, containing water, along the railway.

When flushed it usually utters its sharp sibilant note, and seldom flies far.

892.—Totanus ochropus, Lin.

The Green Sandpiper is common during the cold weather, frequenting the same localities as the last species.

I am inclined to consider this Sandpiper a permanent resident. During the latter part of the hot, and for the first half of the rainy, seasons, it is, no doubt, *exceedingly* rare. I may be wrong, but my impression is decidedly in favor of recognizing it as a permanent resident, though the majority undoubtedly migrate.*

893.—Tringoides hypoleucus, Lin.

The Common Sandpiper is never so abundant as the last species, and is only, so far as I know, a cold weather visitor; usually seen solitary or in pairs about pools of water, jhils and rivers.

894.—Totanus glottis, Lin. Native name—*Tuntuna*.

The Greenshanks frequents the same localities as the last species, and is usually seen alone or in small parties, but only during the cold weather.

895.—Totanus stagnatilis, Bechst.

The Lesser Greenshanks is common during the cold weather. Though usually seen alone or in small gangs, it is occasionally met with in vast flocks, and frequents the same haunts as the last species.

896.—Totanus fuscus, Lin. Native name—*Gutni* or *Soorma*.

My remarks on the last species apply equally to the Spotted Redshanks.

897.—Totanus calidris, Lin.

The Redshanks is a common cold weather visitor, usually seen in flocks, and often very large ones, particularly on shallow jhils, where they seem to congregate if not disturbed.

* It most certainly is purely a cold season visitant to the Lucknow Division. The fact of a few weakly or wounded birds, failing (if this be the fact) to make the regular migration, cannot entitle a species to be considered permanent residents.—*Ed.*

898.—*Himantopus candidus*, *Bonn.* Native name
—*Gaj-paun* and *Tinghur*.

The Stilt or Long-legs is very common during the cold weather, and is usually seen either in small or large flocks frequenting jhils and rivers in the shallow water of which it usually alights, remains and feeds.

900.—*Parra indica*, *Lath.*

Some five or six years ago, the Bronze-winged Jacana was common on many large weedy jhils, where a few may still be found; but owing to the scanty rainfall of recent years, water has not been abundant, and it has, in consequence, made itself exceedingly scarce.

901.—*Hydrophasianus chirurgus*, *Scop.* Native name—*Jhil-Moorgah*.

The Pheasant-tailed Jacana is a common and permanent resident, particularly on jhils covered with vegetation. During the drought of 1877-78 it frequented weedy patches on the Goomti in great numbers, where I am quite sure (though I never took its eggs) that it bred in July, making a nest of aquatic plants on masses of floating vegetation. In years of normal rainfall it invariably nests on suitable jhils.

902.—*Porphyrio poliocephalus*, *Lath.* Native name
—*Khima*.

The Grey-capped Purple Coot is also a common and permanent resident on all rush or weed-covered jhils, particularly on those where the lotus flourishes and clumps of pith trees abound. Though it is said to commit havoc on rice fields, I cannot say that I have ever seen any evidence of its depredations. Indeed, I have never seen it off the water except when perched on bushes or climbing about bulrushes and tall reed grass growing in jhils.

903.—*Fulica atra*, *Lin.* Native names—*Ari*, *Khuskul* and *Thekari*.

The Bald Coot is exceedingly common on all large jhils during the cold weather. It is, however, a permanent resident, though great numbers migrate in the hot weather. Indeed, there has not been in the Division of late years a patch of water sufficiently large to tempt these Coots to remain all the year round.

905.—*Gallinula chloropus*, Lin.

The Water-Hen is a fairly common and permanent resident, though not, I think, so generally spread as the next species. It frequents rush-covered jhils, specially those with plenty of cover, such as long reeds or sugarcane on their banks, and is very partial to streams similarly margined. It swims well, but hides better.

907.—*Erythra phoenicura*, Tem. Native names—*Kinati* and *Bun-morgh*.

The White-breasted Water-Hen is also a permanent resident, not indeed numerous, but very generally distributed. Frequenting the same localities as the last species, it is much more familiar, and a pair or two may, to a certainty, be found about every village tank surrounded by bushes or bamboos. In bamboo brakes, where pools of water exist, it is often very abundant.

909.—*Porzana maruetta*, Leach.

The Spotted Crake is only a cold weather visitor, and is by no means common. It frequents, according to what I have seen of it, rice fields along rivers and beside jhils; is difficult to flush and seldom seen, never venturing amongst the floating vegetation on water.

910.—*Porzana bailloni*, Vieill.

Baillon's Crake is only, I think, a cold weather visitor, and though it may be found in the same localities as the last species, it is oftener seen in small parties on lotus and weed-covered jhils. It swims well and keeps jerking its tail when so engaged.

There are at least two others of the Rail tribe found in the Division during the cold weather, of which I have not yet procured specimens, but believe they will prove to be *P. fusca*, the Ruddy Crake, and *P. akool*, the Brown and Ashy Crake.

915.—*Leptoptilus argalus*, Lath. Native name—*Peda-dhawk*.

During the rains the Adjutant appears to be not uncommon in small parties of from two to eight or so; but during the cold weather it is much more scarce, and is then rarely met with.

916.—*Leptoptilus javanica*, Horsf.

I am inclined to think that this, the Hair-crested Adjutant, is the bird that I have seen so often on the banks of the

Goomti during the rains—*javanicus* is quite BLACK above; *argalus* GREY. Its black back and less erect and stumpier form are the distinguishing features I go by in separating it from *L. argalus*.

917.—*Xenorhynchus asiaticus*, *Lath.* Native name—*Loharjunj*.

The Black-necked Stork or Asiatic Jabiru—a permanent resident—is not often met with, and then only singly or in pairs, frequenting the beds of small rivers and nullahs in the hot and cold seasons. During the rains it may be seen stalking about fields. It also frequents jhils and marshes. On the 15th November last I came across a nest and three-half fledged young ones. The nest was a huge platform of sticks on the top of a pipal tree near a swamp.

919.—*Ciconia alba*, *Bechst.* Native name—*Ghybur*.

The Stork is stated by Captain Irby to be “common, specially in the cold season.” Of course it is *only* a cold weather visitor, but according to my experience is anything but common.

920.—*Dissura episcopa*, *Bodd.* Native name—*Laglag*.

The White-necked Stork is also a permanent resident, usually seen in pairs or small parties, often in fields far away from swampy tracts, though it generally frequents these. It is nowhere common, unless in well-watered localities during the rains.

923.—*Ardea cinerea*, *Lin.* Native names—*Sain* and *Kabud*.

The Heron is both a common and permanent resident, frequenting jhils and rivers; often in great numbers. Though many are usually found together in the same locality, they invariably keep yards apart when standing in shallow water, take wing together when disturbed, and associate in colonies to breed.

924.—*Ardea purpurea*, *Lin.* Native name—*Lal-Sain*.

The Purple Heron is, like the last, a permanent resident, but by no means as common. It is seldom found in any numbers except in rush-covered jhils and swamps, caring less for open shallow water than *A. cinerea*. It usually rests in trees for the night.

924 *bis.*—*Herodias alba*, *Lin.*

I did not at first recognise the difference between this, the White Heron, and the next species, the Indian White Heron, but the one appears to be almost as common here as the other. Both frequent weedy jhils and marshes and creeks of rivers; but may be met with almost anywhere, especially in well-irrigated and cultivated tracts. They roost in trees and make their nests thereon.

925.—*Herodias torra*, *B. Ham.* Native name—*Tur-bagla*.*

See remarks on last species.

926.—*Herodias intermedia*, *Hass.* Native name—*Karchia-bagla*.

The Little White Heron is also common. It frequents the same localities as the last two species, and breeds in colonies in trees.

927.—*Herodias garzetta*, *Lin.* Native name—*Kurchia-bagla*.

The little Egret is a common and permanent resident, and frequents the same localities as the preceding species.

There is another small White Egret with black legs and feet (in contradistinction to this species which has the feet yellow) which I have noticed, though I find I have no specimens—probably *H. melanopus*, which Captain Irby includes in his list.†

929.—*Bubulcus coromandus*, *Bodd.* Native names—*Soorkhia-bagla* and *Badami-bagla*.

The Cattle Egret is common throughout the year. I found it breeding on the 18th August in a village near the Rahimabad Railway Station. Two medium-sized tamarind trees were literally covered with nests, a few only containing eggs, the remainder young in all stages. The nests were made of sticks—small platforms, slightly depressed in the centre.

Average measurement of 12 eggs	1·69	by	1·30	inches.
Measurement of largest egg	...	1·75	,,	1·35
Measurement of smallest egg	...	1·66	,,	1·26

* Name applied also to *H. alba*.

† I have never seen any such bird from Oudh or the North-Western Provinces, and it is no use quoting the name applied by Colonel Irby as evidence, because in those days when he wrote, the greatest confusion prevailed as to the nomenclature of these small White Herons and Egrets—a confusion that even now has not been quite cleared up. Captain Irby's remarks about the breast plumes are not very clear, and it does not seem to me at all certain that this bird was really distinct, as he thought, from *garzetta*.—*Ed.*

930.—*Ardeola grayi*, Sykes. Native names—*Chama-bagli* and *Bagli*.

The Indian Pond Heron is very common, frequenting jhils, rivers and pools of water wherever found. It breeds in July in colonies, generally in and about villages bordering on jhils and rivers, making a small platform of sticks for a nest and laying usually four pale greenish white eggs.

Average measurement of 6 eggs 1·49 by 1·16 inches.

Measurement of largest egg ... 1·56 „ 1·18 „

Measurement of smallest egg... 1·38 „ 1·12 „

933.—*Ardetta cinnamomea*, Gm. Native name—*Lal-bagla*.

In August last a specimen of the Chesnut Bittern was purchased from a local fowler for the Museum. I have not myself noticed it in a state of freedom, but it doubtless occurs, though sparingly, in suitable localities, throughout the Division.

936.—*Botaurus stellaris*, Lin. Native name—*Mergaon*.

The Bittern is not common, and will not be found at all except on large rushy jhils, where, of course, it has to be well looked for in the day-time as it is quite nocturnal in its habits. The only place where I have met with it was in a large reedy swamp close to the Chowka river about three miles up-stream from Byramghat. It is, I believe, only a cold weather visitant here.

937.—*Nycticorax griseus*, Lin. Native names—*Tar-bagla*, *Kokra* and *Wak*.

The Night Heron is common, but somewhat locally distributed, that is, it is most abundant along the Goomti, Ganges and Gogra rivers. During the day it rests in mangoe topes, those bordering on water preferred; but I have not unfrequently, and for weeks together, seen it inhabiting tamarind trees in my own compound here. I have counted as many as 43 in two trees. During the day, without, so far as I could see, anything to disturb them they would occasionally take wing, and for a while fly round the trees, uttering their well-known *wak-wak* call. At sunset they invariably made off to their feeding grounds on the Goomti, returning again very early in the morning when, for a while, they were both noisy and restless.

938.—*Tantalus leucocephalus*, Forst. Native name—*Jhanghil*.

The Pelican Ibis is fairly common and a permanent resident, generally very abundant during the rains, but less so at other

seasons. It is usually seen stalking about jhils in shallow water; occasionally roaming over well saturated cultivated tracts. It is easily tamed, and will answer to its name like a dog.

939.—*Platalea leucorodia*, Lin. Native name—*Chamach-buza*.

The Spoonbill is common during the cold weather, usually seen in small parties feeding about jhils in company with the White Ibis; but it frequently occurs in vast flocks, especially when it arrives in October, though these apparently get broken up into detachments as the season advances. It is rather a pretty sight to see a large flock settle. If the movement commences when the birds are very high, they come whirling down, cork-screw fashion, for some distance, and then, in a commingled mass, sail about with outstretched wings as if troubled to select a suitable settlement, finally indicating by a few more downward zig-zags that they have at last hit upon a spot.

There does not appear to be another species of Spoonbill found in India, yet on one occasion I saw a flock of unmistakable Spoonbills considerably larger than *P. leucorodia*. The difference in size struck me at once; but I could not get a specimen.

940.—*Anastomus oscitans*, Bodd. Native names—*Ghongal* or *Ghongheela*.

The Shell Ibis is very common throughout the year, and during the rains may be found almost anywhere, particularly, of course, about jhils and wet paddy fields. In the cold weather they occasionally assemble in large flocks; at other seasons they are chiefly seen singly or in pairs.

941.—*Ibis melanocephala*, Lath. Native names—*Munda*, *Didhar* and *Safed Buza*.

The White Ibis is common during the cold season, frequenting jhils, marshes and rivers, often in company with Spoonbills. It feeds generally on crustacea and worms; occasionally assembles in great flocks, frequently in small parties, and is often seen singly or in pairs. It is in general a wary bird and consequently difficult to approach.

942.—*Inocotis papillosus*, Tem. Native name—*Bhooja* or *Buza*.

The Black Ibis, or as sportsmen prefer to call it, the King Curlew, is a permanent resident. During the cold weather

it is occasionally seen in large flocks in the vicinity of jhils or on swampy ground ; at other seasons generally in pairs or small parties frequenting ploughed fields, grass meadows, &c., but seldom far away from water.

943.—*Falcinellus igneus*, S. G. Gm. Native names—*Kewari*, *Chota Bhooja* or *Buza*.

The Glossy Ibis is common during the cold weather, usually seen in large flocks, occasionally singly and in small parties, frequenting the edges of jhils and rivers.

944.—*Phœnicopterus roseus*, Pall. Native names—*Hans*, *Bag-Hans* and *Raj-Hans*.

I have frequently seen the Flamingo in vast flocks during the cold weather, particularly on jhils in the Unao district, and about Rahimabad and Sandila. It prefers shallow water as extensive as possible, though I have seen it on small weedless jhils. Some years ago, if I remember rightly, a tame one used to knock about the compound of the Lucknow Museum.

945.—*Anser cinereus*, Mey. Native names—*Hans* and *Raj-Hans*.

The Grey-Goose is exceedingly common during the cold season, coming in about the middle of October and leaving in April, always in vast flocks, though during their stay here they are often met with in small parties. During the night they collect in multitudes on their favorite feeding grounds and break up into companies as they leave them in the morning for the large jhils or rivers, to which they resort for the day. Their feeding grounds, it may be noted, are usually shallow-weedy jhils, with a foreshore of mud and slush and the young green corn fields, upon which they commit great havoc in the vicinity.

946.—*Anser brachyrhynchus*, Baill.

Though Captain Irby records that he saw a specimen killed at Alumbagh on January 5th, I cannot say that I have ever seen the Pink-footed Goose ; but it may, I think, be taken for granted that it occasionally visits the Division.

947.—*Anser albifrons*, Scop. Native name—*Rhai-Hans*.

There are two specimens of this Goose in the Museum here, which the head-stuffer assures me were purchased alive at the door some years ago ; and some fowlers, to whom I shewed the birds, have guaranteed to get me specimens of this and other

rare Geese. They seemed to be perfectly aware of the fact that some two or three different species of *rare* Geese occur, and had names on their finger-ends for them all.

948.—*Anser minutus*, Naum.

The Dwarf Goose, like the last species, may be looked upon as an occasional visitor, and Captain Irby also records it from Oudh. Mr. Hume also has a specimen procured for him near Lucknow by Dr. Bonavia.

Some years ago—I should say about eight or nine—I one morning shot about a dozen remarkably small geese on a jhil near the Ajgaon Railway Station, where I found them in vast numbers and comparatively tame. They most likely were this species, but I have not seen or shot any since.

949.—*Anser indicus*, Gm. Native names—*Hans* and *Kureyee-Hans*.

The Barred-headed Goose occurs in countless numbers, and is, I think, unquestionably the most abundant, though the Grey Lag runs it very close in point of numbers. My remarks on the latter apply equally to this species.

950.—*Sarcidiornis melanonotus*, Penn. Native name—*Nukhta*.

The “*Nukhta*,” or Comb-Duck, or “*Black-backed Goose*,” as Jerdon erroneously calls it, is a permanent resident, common on all grassy jhils, and is easily stalked and shot, being far from a wary bird. I have seen it frequenting mangoe topes, though it was not on any of these occasions breeding. In the early morning it may frequently be seen feeding in recently-flooded paddy fields, and in swamps among the rushes, generally in parties ranging from 4 to 30—never, according to my experience, in larger numbers.

Sir Samuel Baker, in his “*Albert N’Yanza*,” refers to a Comb-Duck which is probably this species, which appears to be common about the Nile.*

951.—*Nettopus coromandelianus*, Gm. Native name—*Girria* or *Ghirra*.

The Cotton Teal is a permanent resident. Though it may be found in large, open jhils, generally in small parties, it prefers those covered with weeds, singhara and lotus plants. It doubtless breeds here, but I have not as yet found any nest.

* This was of course *S. africanus*, but whether this be really distinct from our bird seems doubtful.—*Ed.*

952.—*Dendrocygna javanica*, Horsf. Native name—*Chota Silai*.

Like the last species, the Whistling Teal is a permanent resident, frequenting the same kinds of jhils, but not quite so common. It is in general a very stupid bird, slow on the wing and easily shot, and from a habit it has of circling round the gunner when any of its companions are slain, he may, if he chooses, bag the greater part of a flock—say of ten—before they go away.

953.—*Dendrocygna fulva*, Gm. Native name—*Bara Silai*.

The Large Whistling Teal is decidedly rare, but is, I think, a permanent resident. Though I have not myself shot it lately, there are specimens of it in the Lucknow Museum which were doubtless purchased locally.

954.—*Casarca rutila*, Pall. Native name—*Chakwi-chakwa*.

The Brahminy Duck, a cold weather visitor, is common on jhils and rivers, and is generally met with in pairs and in parties ranging from 4 to 30. I cannot say that, like other observers, I have ever seen it eating carrion; but I have seen it, on two or three occasions, on the Gogra at Byramghat associating with Vultures under very suspicious circumstances. It is fortunately one of the worst ducks for the table, being only fit for a stew—hardly, I think, for that.

956.—*Tadorna cornuta*, S. G. Gm. Native names—*Rararia* and *Safaid-Surkhab*.

The Sheldrake is decidedly rare, and is, of course, only a cold weather visitor. Though I have seen it on several occasions, I have only been able to secure a single specimen.

957.—*Spatula clypeata*, Lin. Native names—*Ghirah* and *Tokarwalla*.

Average, three Females.—Length, 19·25; expanse, 30·50; wing, 9·16; tail, 3·80; tarsus, 1·26; bill from gape, 2·75; weight, 1 lb. 5 oz.

Though seldom seen in very large parties, the Shoveller is, perhaps, the most common duck found in the Division. It is, of course, only a cold weather visitor; delights in shallow water, but does not, I think, evince any marked preference for weedy jhils, though it frequents these in great numbers. It associates much with other ducks, both on the water and when flying, and

it is not an uncommon sight to see an old male leading a flock of Teal across country at a rattling pace. It is anything but a good duck for the table. It is late in leaving the Division, many males before departing having assumed their summer plumage.

958.—*Anas boscas*, Lin. Native names—*Nir-rugi* and *Nilsir*.

The Mallard can only be considered as an occasional and rare cold weather visitor. After years of good rainfall, when the jhils are well filled, it may be met with; but owing to its scarcity at the best of times and the difficulty of getting a shot, sportsmen rarely succeed here in bagging it. Further west, it is probably more common, though I know of only one place—the Sandi lake in the Hurdui district—that it visits with anything like regularity.

Strange as it may seem, *Anas pœcilorhyncha* is, according to what I have both seen and heard, frequently mistaken by “griffs” (wide as the difference is) for the Mallard, and hence the accounts one occasionally hears about the abundance of the latter on particular jhils.

959.—*Anas pœcilorhyncha*, Forst. Native name—*Garm-pai*.

12th December, Female.—Length, 23·25; expanse, 35·50; wing, 10·; tail, 5·30; tarsus, 1·70; bill from gape, 2·40; weight, 2 lb. 12 oz. Legs bright orange red; claws black, webs spotted with black; bill (upper mandible) black, tipped with yellow, with a bright orange red band at base; irides dark brown.

The Grey or Spot-billed Duck is a common and fairly abundant resident. During the rains it is usually seen in pairs frequenting small and weedy jhils or swamps; but in the cold weather, when these patches of water are dry, it is compelled to resort to the larger jhils, and may then be met with in flocks ranging from 6 to 30. It is one of the very best ducks for the table. It breeds during the rains, but I have not seen its nest.

960.—*Rhodonessa caryophyllacea*, Lath. Native name—*Golab Lal-sir*.

There is a specimen of the Pink-headed Duck in the Lucknow Museum which Dr. Bonavia probably procured in the local market. I saw two on a jhil near Rahimabad in December, and there is also a regular net-work of jhils near Mohunlalgunj on the Lucknow and Roy Bareilly road, which it visits in the cold weather. It is, however, then exceedingly

rare; but from enquiries which I have lately made, native shikarees assure me that it is met with more frequently during the rains; probable enough, but I have yet to verify the fact.

961.—*Chaulelasmus streperus*, Lin. Native names—*Bhuar* and *Mila*.

Average measurement of six Males.—Length, 20·8; expanse, 35·37; wing, 11·22; tail, 4·06; tarsus, 1·48; bill, from gape, 2·13; weight, 1 lb. 13 oz.

The Gadwall is only a cold weather visitor, but a very common one, generally associating in small flocks of from 6 to 20; often singly and in pairs. It is fond of paddling in shallow water along the edges of jhils, especially in sequestered nooks, though, as a rule, it prefers to reside in the day-time in open water at a considerable distance from the shore. It is also a good duck for the table.

961 bis.—*Querquedula angustirostris*, Ménétr.

Though I have not myself seen or shot the Marbled Teal within the limits of the Division, last cold season a specimen was captured by a fowler in the neighbourhood of Lucknow and purchased for the Museum. It must, therefore, be included in this list. It is, of course, only a cold weather visitor, and I should think an exceedingly rare one.

962.—*Dafila acuta*, Lin. Native name—*Sirk-phur*.*

Average measurement of two Males.—Length, 28·37; expanse, 37·75; wing, 11·75; tail, 8·70; tarsus, 1·55; bill, from gape, 2·30; weight, 2 lbs. 11 oz. Bill black, with sides of upper mandible bluish; irides dark brown; legs blackish grey.

Throughout the cold weather, Pintails are very abundant on all large jhils. They are generally met with in immense flocks, and are extremely wary and difficult to shoot, ascending, when disturbed, to heights beyond gun shot. In the earlier part of the cold weather, when small weedy jhils and marshes exist, the Pintail almost invariably repairs to them at night for the purpose of feeding, generally leaving the larger jhils long after dark. It is one of the best ducks for the table.

963.—*Mareca penelope*, Lin. Native names—*Chota Lal-sir*, or *Phariah*.

12th December, Male.—Length, 19·30; expanse, 32·75; wing, 10·50; tail, 5·; tarsus, 1·50; bill, from gape, 1·75; weight, 1 lb. 6¼ oz.

* ? *Sirk-pur*; this which means, skewer-feather, is the ordinary vernacular name in the North-West. *Sirk-phur* has no meaning.—*Ed.*

The Widgeon is by no means uncommon, but is, I think, rather erratic in its wanderings, being much more common in some years than others. During the cold weather of 1878-79, when the jhils were much below their average size and many were altogether dry, I did not expect to find it, but, as a matter of fact, it was much more common than I had ever known it to be before.

The result of my experience is, in short, that the Widgeon is fairly abundant in the Division in some years, and exceedingly scarce in others.

964—*Querquedula crecca*, Lin. Native names—*Putari* and *Souchuruka*.

Measurement of five Males.—Length, 15·30; expanse, 24·75; wing, 7·76; tail, 3·34; tarsus, 1·10; bill, from gape, 1·73; weight, 12·40 oz.

The Common Teal arrives in myriads in October and leaves again by the end of March or beginning of April, though stragglers may be met with to the end of the latter month. I have seen flocks of Teal flying about in August, but never having succeeded in then obtaining specimens, I am uncertain whether it is this species or the next that arrives so early. I think the latter, but probably both come in about the same time.

The Common Teal is fond of weedy shallow lakes and large or small swamps, with often but little more than a foot or two of water in them; but as these feeding grounds soon dry up, necessity obliges it to resort to the larger jhils, around the reedy edges of which, often on the mud, sportsmen may slaughter it as they please in the early morning, and continue to do so throughout the day if they care to pick up the stragglers that ever and anon re-visit the shore.

965.—*Querquedula circia*, Lin. Native names—*Khira* and *Putari*.

Average of four Males.—Length, 14·93; expanse, 26·47; wing, 8; tail, 3·52; tarsus, 1·15; bill, from gape, 1·85; weight, 12 oz.

The Blue-winged Teal is quite as abundant as the last species, arriving in countless numbers in September and October, though it is not until the latter month that they seem to settle down on the jhils. The majority, however, do not remain long, and early in November appear to “go down south.” From then until they return again in February, they are not so common as *Q. crecca*, though still far from being scarce. They are shy and wild on arrival, keeping well to the centre of jhils; but as the season advances, they become more civilized, and may

then be found pottering about on the mud in company with the Common Teal and *Spatula clypeata*.

966 bis.—*Querquedula falcata*, Geor. Native name—*Kala Sinkhur*.*

The Bronze-Capped Teal may be accepted as an occasional cold weather visitor, Dr. Bonavia having, I surmise, obtained his specimens in Lucknow—*vide* STRAY FEATHERS, Vol IV. page 225 ; while two years ago I myself saw two or three in the possession of a native fowler, who would not part with them—except at a fancy price—saying he meant to take them, with a lot of others that he had, to the ex-King of Oudh, who would pay him handsomely.

967.—*Fuligula rufina*, Pall. Native name—*Lal-sir*.

12th December, Female.—Length, 21·75 ; expanse, 36 ; wing, 10·25 ; tail, 3·50 ; tarsus, 1·50 ; bill, from gape, 2·40 ; weight, 2 lbs. 5½ oz.

The Red-crested Pochard arrives rather late in the season, probably not much before the end of November, but is then common enough on all large jhils, generally in parties of a dozen or so, though sometimes in vast flocks. One morning in December I came across countless numbers on a jhil in the Fyzabad district, closely packed, and covering nearly the whole surface of the water, with their red heads moving independently, while the breeze kept their crests in motion ; a distant spectator might have mistaken them for a vast expanse of beautiful aquatic flowers.

968.—*Fuligula ferina*, Lin. Native names—*Lal-sir* and *Lal-chouch*.†

The Pochard or Dun-bird is nearly as common and as widely spread as the last species, and its habits are much the same, but I have never seen it in very great flocks. It arrives and departs about the same time as *F. rufina*.

969.—*Fuligula nyroca*, Guld. Native name—*Burna*.

12th December, Female.—Length, 16·25 ; expanse, 26 ; wing, 7·20 ; tail, 3·40 ; tarsus, 1·25 ; bill, from gape, 2 ; weight, 1 lb. 2¼ oz.

The White-eyed Duck is very common throughout the cold weather. Though it may be met with on any jhil, it is never found in great numbers, except on those covered with weeds

* Familiar to the fowlers of Lucknow under that name.

† ? *Lal-chouch*, or red-bill, a name always applied to *F. rufina*, but neither applied nor applicable to *F. ferina*.—Ed.

and rushes. Long after every other duck has left the lake, sportsmen may obtain capital sport by simply "paddling their own canoes" through the weeds, in which this species usually hides, when it will rise, never more than one or two at a time, and all within easy shot.

971.—*Fuligula cristata*, Lin. Native names—*Rahwara* and *Ablac*.

The Tufted Pochard is also common during the cold weather on all large jhils, and, as a rule, keeps well to the centre of these. It also frequents small and weedy lakes in small parties in company with *F. nyroca*; but never appears to occur in very large flocks.

971 bis.—*Clangula glaucium*, Lin.

The Golden-Eye, like *Q. falcata*, must be a rare cold weather visitor. Though I have not noticed it, Dr. Bonavia seems to have had it brought to him by some local fowler—*vide* STRAY FEATHERS, Vol. IV., page 225.

973.—*Mergellus albellus*, Lin. Native name—*Jhalow* (?)

I have seen and shot the Smew on several occasions on jhils in the Unao district. It does not appear to arrive before the very cold weather, nor to remain long, and is generally very wild and difficult to get at, never, according to what I have seen of it, occurring in parties of less than a dozen and seldom in much larger flocks.

974.—*Podiceps cristatus*, Lin. Native name—*Thang* (?)

The Crested Grebe is common during the cold weather on all jhils of any size. Though usually a permanent resident there has not, of late years, been sufficient water in the jhils during the hot months to tempt it to remain with us "all the year round."

This Grebe is usually much sought after for its skin, and from constant persecution becomes quite an "artful dodger" of shots, affording rather exciting sport if pursued in canoes, from the manner in which it evades the pursuer and his frantic endeavours to bag it.

975.—*Podiceps minor*, Gm. Native names—*Pandubie* and *Jhil-dubie*.

The Little Grebe is a common and permanent resident, and may be found on almost any pool of water. I have seen its

nest on several occasions, but have never been fortunate enough to obtain any eggs.

980.—*Larus brunneicephalus*, Jerd. Native name—*Dhomra*.*

The Brown-headed Gull is a cold weather visitor, but is never numerous. I have seen it frequently at Byramghat and on the long narrow jhils about Ajaon, most abundantly in the very cold months. There is another and even larger Gull which I have frequently seen, about whose identity, however, I am not quite sure.

983.—*Sterna anglica*, Mont.

I am doubtful whether the Gull-billed Tern is a permanent resident or not. It is certainly common in September and throughout the cold weather; but I am inclined to think it is only a seasonal visitor and does not breed here. It frequents marshes, tanks, river, creeks, &c., often in great numbers, but generally in small parties.

984.—*Hydrochelidon hybrida*, Pall.

The Marsh Tern is very abundant on all jhils, marshes, rivers, &c. It is a permanent resident.

985.—*Sterna seena*, Sykes.

The Large River Tern is also a permanent resident, and is particularly abundant on the Gogra and Chowka at Byramghat, as also on the Goomti at Lucknow and the Ganges at Cawnpore. It also frequents, though not habitually, tanks and jhils, generally in pairs or small parties, and breeding on river sand banks, though I have not of recent years come across any breeding colonies.

988.—*Sterna minuta*, Lin.

Captain Irby states that he saw this Tern "once or twice on the Gogra, always in the cold season;" but I fancy that it is equally as possible, if not more probable, that the bird he saw was either *sinensis*, *gouldi* or *saundersi*, and until I get specimens to settle the point, it is difficult to say which of these forms actually does occur. Captain Irby's identification, however, entitles *minuta* to a place in this list—at any rate—for the present.

* Applied, I think, to most Gulls.

987.—*Sterna melanogastra*, *Tem.*

The Black-bellied Tern is also a permanent resident, frequenting and breeding in the same localities as the last species.

995.—*Rhynchops albicollis*, *Sws.* Native name—*Pancheera*.

The Indian Skimmer is a permanent resident, very common on the Chowka and Gogra at Byramghat, where it breeds on sand-banks in April and May.

1003.—*Pelecanus javanicus*, *Horsf.*

Captain Irby states that this Pelican is "very common on large jhils and on rivers in the rainy season." According to my experience it is much more common during the cold weather. Last season I came across a jhil literally covered with these Pelicans, packed as close as they could sit, and the "little fishes"—there were lots in the jhil—must have had a lively time of it.

1004.—*Pelecanus philippensis*, *Gm.* Native names—*Chota Howasal* and *Jalasind*.

The Grey Pelican is a permanent resident, most abundant during the rains and the early part of the cold weather, when it may be found on almost any jhil, and indeed on any patch of water, two or three together, and often in vast flocks.

1004 *bis.*—*Pelecanus crispus*, *Bruch.*

The Dalmatian Pelican is represented in the Museum by, I suppose, locally-purchased specimens, and Mr. Hume has obtained it from near Fyzabad. There can, therefore, be little doubt that it occurs in the Division, at any rate on the Gogra—a river very much frequented by Pelicans.

Though I have not included it, I am pretty certain that *P. onocrotalus* also occurs.

1005.—*Phalacrocorax carbo*, *Lin.* Native name—*Pan-kowa*, *Jal-kowa*.

The Cormorant is pretty common during the cold weather on the Goonti, Chowka and Gogra rivers, and is generally found in or about creeks where the banks are high and rugged. It usually associates in large flocks, and is probably a permanent resident. On one occasion I knocked over six at a shot, and wounded many more, so closely were they packed.

1007.—Phalacrocorax pygmæus, Pall.

The Little Cormorant is abundant throughout the year alike on jhils, rivers and streams. From the fact that it is always most common on jhils near rivers, I conclude that it prefers running water and habitually resides within easy reach of streams.

1008.—Plotus melanogaster, Penn. Native name—*Bhanwa.*

The Indian Snake Bird is a common and permanent resident, occurring sometimes singly, in pairs, and in flocks. During the day it is fond of sunning itself on the grassy banks of jhils and on the bare branches of trees on their margin, flying off or darting into the water on the approach of danger. It is capable of moving for considerable distances under water, and usually swims with nothing but its head and neck exposed, though, when danger threatens, everything but its bill disappears, till it considers it has gone far enough to be perfectly safe, when it gradually shows up again.

(Reprint from the "Ibis.")*

A Contribution to the Ornithology of Gilgit.

BY JOHN SCULLY.

THE following notes on the birds of Gilgit are founded on a collection of 1,543 specimens obtained in that country during a residence of nineteen months. Of this period nine months were passed in Major Biddulph's company; and for the rest of the time I was alone.

I have endeavoured to make my remarks quite supplementary to Major Biddulph's interesting paper on the birds of this region, published in this Journal (*republished* STRAY FEATHERS, Vol. IX., p. 301). I have restricted my observations here to the precise limits of country laid down by Major Biddulph, and, as a matter of convenience, have adopted his classification and numbers; the species not preceded by numbers in my paper were omitted in his account. This explanation renders unnecessary a reference to my friend's paper under each species.

My specimens have been carefully compared by me in this country; and with reference to this matter I have to acknow-

* As this paper forms a most important commentary on Major Biddulph's paper, which I reprinted, I am obliged to reprint this also.—ED., S. F.

ledge my obligations to Messrs. Seebohm and Dresser, who have kindly allowed me the freest access to their fine collections.

1.—*Vultur monachus*, *Lin.* (1.)*

I never saw this Vulture in the Gilgit district. Young *Gyps himalayensis*, soaring at a distance, might very easily be mistaken for it. From what we know of the distribution of *V. monachus*, however, it should certainly be found about Gilgit.

2.—*Gyps fulvescens*, *Hume.* (3 bis.)

As already noted (*ante*, p. 38), Major Biddulph's supposed example of this species is probably the young of *Gyps himalayensis*; but the specimen should be carefully compared, as the true *G. fulvescens* is likely to occur in Gilgit on passage to Turkestan, whence Severtzoff seems to indicate it under the name of *Gyps rutilans*.

3.—*Gyps himalayensis*, *Hume.* (3 ter.)

This fine species, as seen on the wing, has the whole body white, sharply contrasted with its black wings and tail; its great size and majestic flight make it a very characteristic adjunct of Gilgit scenery. I have seen it in winter at elevations not exceeding 5,000 feet; but it never seeks its food close to the villages, like the Bearded Vulture. The following are measurements in the flesh of a fine adult female:—Length, 47 inches; expanse, 111; wing, 31; tail, 16·4; tarsus, 4·6; mid toe *s.u.*, 4·3; bill from gape, 3·15.

5.—*Gypaetus barbatus*, *Lin.* (7.)

The Lämmergeyer is held in respect by the natives of Gilgit who have some story to the effect that the bird was a companion of their Prophet. Once I fired at one of these birds as it sailed over a field; and, in its alarm, it dropped a large bare bone, which nearly struck me. An adult male, with the lower surface rusty red, measured:—Length, 46 inches; expanse, 105; wing, 32; tail, 21·7; tarsus, 3·6; mid toe *s.u.*, 3·6; bill from gape, 3·8. Iris bright orange.

6.—*Falco peregrinus*, *Tunst.* (8.)

Peregrines are found in Gilgit in October when migrating southward, and in April on their passage to the north. I doubt whether they "breed in the neighbourhood of Gilgit

* As before, I have added in brackets after the name of each species its Indian Catalogue number.—ED., S. F.

at about 6,000 feet." A male Peregrine, shot on the 25th April, agrees with Sharpe's description of the adult male (Cat. I., p. 377), except that the feathers of the mid abdomen are not cross-barred, but have merely small dart-shaped marks; the flanks are pale grey, cross-barred with black; and the forehead is not whitish, but slate-grey, with black shafts, like the rest of the head. Length, 16 inches; wing, 12·25; tail, 6·5; tarsus, 1·8; mid toe *s.u.*, 2·15; bill from gape, 1·15; weight, 1 lb. 4 oz.

Falco sacer, Gm. (10.)

This species must be added to the list of birds of Gilgit. A specimen was captured in Gilgit in October 1879, when it was doubtless migrating southwards. The bird was immature; but, after careful examination, its large size and large oval spots on the centre tail-feathers left no doubt that it was a true Saker.

7.—Falco subbuteo, Lin. (13.)

The Hobby is very common in Gilgit at 5,000 feet, on arrival, from the end of April to the second week in May, and again on its way southwards from the last week in September to the middle of October.

Out of eleven specimens preserved, only three are fully adult. Two males, shot in autumn, are changing from a dark brown upper plumage to the slaty colour of the adult; they have rich ferruginous thighs and under tail-coverts; and the uropygials are regularly barred across both webs. Six immature birds all want the rich rufous thighs and under tail-coverts of the adult, are more broadly streaked on the lower surface, have the under wing-coverts and axillaries more rufous, and all have pale margins to the feathers of the upper surface; only one of these specimens has faint bars on the uropygials. Of the eleven specimens, therefore, only three have the uropygials barred; and these exceptions are males.

8.—Falco æsalon, Tunst. (15.)

The Merlin, according to my observation, is only found in Gilgit in winter, and is not common. Considerable difference of opinion has prevailed about the plumage of the fully adult female in this species, Mr. Sharpe having stated, in the first volume of the British Museum Catalogue, that the adult female is blue-grey above, like the male, while Mr. Dresser has taken some pains to prove, in his "Birds of Europe," that

this is not the case. The evidence of the Gilgit specimens is entirely in favour of Mr. Sharpe's view, as I shall now show.

It will be noticed that in Major Biddulph's note on this species he mentions a female with the wing 8·85 inches, and says that it is much paler than the male [adult] specimen; he adds, "the blackish tinge on the *grey* of the head and shoulders has almost entirely disappeared." On the 10th December I shot a female, as proved on dissection by myself, of which the following is a description:—Length, 12·25 inches; expanse, 27·2; wing, 9·25; tail, 6·2; tarsus, 1·4 (feathered in front); bill from gape, 0·7; closed wings short of end of tail, 0·8; weight, 6·2 oz. Above, including the secondaries and wing-coverts, pale blue-grey, lighter on rump and upper tail-coverts; all the feathers with distinct black shaft-stripes, most marked on the head, where the crown is lightly tinged with buff; a broad band, including the sides of the neck and the nape, rich rufous, this colour being prolonged narrowly above the ear-coverts to hinder margin of the eye, where it meets the supercilium; all the feathers streaked or shafted black; forehead, lores, supercilium, and sides of face sullied white; a small dark streak downwards from anterior commissure of eye; ear-coverts pale rufescent, margined with grey posteriorly; chin and throat white, bounded on each side by a pale rufous band, with the feathers black-shafted; entire underparts rufous-buff, paler on abdomen, with median blackish shaft-stripes; under wing-coverts white, barred with black, and black-shafted; quills greyish black, barred with white on the inner web, and suffused with bluish grey near the bases of the outer webs; outer web of first primary margined with pure white, and all the quills narrowly margined with greyish white at their tips; tail pale bluish grey, with black shafts, a broad subterminal band of black and a narrow white tip; beneath the inner webs of all but the uropygials crossed by about seven black bands, exclusive of the broad subterminal one.

Mr. Gurney, who has examined the interesting specimen above described, suggests to me that the reason why the stage of plumage it represents is not better known in Europe, is probably due to the fact that this Falcon is here seldom allowed to attain to old age. The female Merlin doubtless takes a considerably longer time to attain the fully adult plumage than the male; but that the plumage I have described is not exceptional is, I think, proved by the fact that of three Merlins shot in Gilgit two are females, both in grey plumage.*

* I think the assumption of the complete blue plumage of the adult must be rare and exceptional in the case of females. I do not think I have ever seen an instance of this, and there is not, I find, a single specimen in our museum of a female in this plumage.—ED., S. F.

9.—*Cerchneis tinnunculus*, *Lin.* (17.)

The Kestrels in my collection from Gilgit are of the common pale form; but two specimens have the black bars on the upper surface rather strongly marked, though not so greatly as in the race called *C. saturatus*, Blyth. A male in transition from immature to adult dress has the change most marked on the rump, next on the head, and least on the tail; the tail is usually considered the first part to undergo change. An old female has the rump and upper tail-coverts blue-grey, with faintly rufous tips; the tail grey, washed with rufous, especially at the margins, and with incomplete black bars, interrupted along the shafts of the feathers.

10.—*Astur palumbarius*, *Lin.* (21.)

Goshawks are not uncommon about Gilgit in autumn, on migration. In the autumn of 1879 many immature specimens were captured in Gilgit itself. The instance mentioned by Major Biddulph of a Goshawk being carried from the valley of the Oxus to Bombay, and many similar cases known to me, should be borne in mind in assigning localities for trained birds of prey. Thus the fact that a Rajah in the Punjab has a trained Falcon of a certain species should certainly not be considered proof that the bird in question was not captured in Central Asia.

11.—*Scelopspizias badius*, *Gmel.* (23.)

A migratory species in Gilgit, passing northwards in April, and southwards in September. It is rare with us, or, at all events, makes a very short stay in the district.

12.—*Accipiter nisus*, *Lin.* (24.)

Common from the first week in April to the second week in December. In seven males the wing measures 8 to 8·5 inches; tail, 6·6 to 7·1; tarsus, 2 to 2·2; weight, 5 to 5·3 oz. Seven females measure:—Wing, 9·3 to 10 inches; tail, 7·9 to 8·5; tarsus, 2·15 to 2·4; weight, 7 to 9·5 oz. Of these fourteen examples, two males and two females have five bars on the uropygials; all the rest have only four bars on these feathers.

14.—*Aquila chrysaëtus*, *Lin.* (26.)

An old male, without any white on the tail, shot on the 3rd April, measured:—Length, 33·5 inches; expanse, 82·5; wing, 25; tail, 15·2; tarsus, 4; mid toe, 3·2; bill from gape, 2·55; weight, 7 lb. 3 oz. Irides *dull yellow*.

15.—*Nisaetus pennatus*, Gmel. (31.)

The Booted Eagle is a summer visitor to Gilgit, and is common from the middle of March to the first week in October; it breeds at an elevation of 5,000 feet. The dark and light forms are about equally common, the difference in colour not being dependent upon sex. The iris seems to be variable in colour, some having it buff marked with darker spots, others orange, and one brownish yellow. In four males the wings varied in length from 14·3 to 15·3 inches; in two females they measured 15·7 and 16·5; a male weighed 1 lb. 10 oz., and a female 2 lb. 9 oz. A nestling, captured on the 12th July, had the underparts pale.

16.—*Pandion haliaëtus*, Lin. (40.)

The Osprey is not common in Gilgit, and probably occurs there only on migration. It has been observed throughout March and during the first week in April, and again in September on its way southwards. I never saw it in winter. A male shot on the 16th September measured:—Length, 22 inches; wing, 17·7; tail, 9; tarsus, 2·1; bill from gape, 1·5; the closed wings extended half an inch beyond the tip of the tail. In this specimen the feathers of the upper surface are margined with white, the bars on the tail are distinct, and the mottling on the breast is mostly fulvous.

17.—*Buteo ferox*, Gmel. (45.)

I preserved 17 specimens of this Buzzard in Gilgit; but my series leaves me still greatly in the dark as to the explanation of the perplexing variations in size and plumage of this species. In the adults the males have the wing 16·15 to 17·4 inches; length of tarsus, 2·8 to 3·4; bare portion of tarsus in front, 1·1 to 1·7. In the females, wing, 17·2 to 18·4; tarsus, 3 to 3·3; bare portion of tarsus, 1·2 to 1·6. The smallest female has the dimensions considerably below what is given for *B. ferox*; but there is no doubt about the determination of the sex, and it cannot be referred to any other species. The colour of the iris is very variable, ranging from brown to yellowish cream-colour. In plumage hardly two specimens are alike; but certainly the oldest bird is the palest in the series, and has the tail salmon-coloured, with only traces of imperfect bars near the tip. Captain Wardlaw-Ramsay's interesting discovery of a nestling of this species in the melanistic phase of plumage (*Ibis*, 1880, p. 47), effectually disposes of the view that the darkest examples are only old birds.

18.—*Buteo plumipes*, *Hodgs.* (47.)

This Buzzard is found in small numbers about Gilgit from December to the end of March. A female, shot on the 23rd February, measured:—Length, 19 inches; wing, 15·8; tail, 9·8; tarsus, 2·6; bare portion of tarsus in front, 1; bill from gape, 1·6; weight, 1 lb. 15 oz. Iris drab; tail with mottling and traces of imperfect barring near the shafts of the feathers only. Another female, shot on the 21st March, measured:—Length, 21 inches; wing, 16; tail, 9·6; tarsus, 2·7; bare portion of tarsus in front, 1. Iris hair-brown; tail barred. Both these specimens are in the phase of plumage to which the title of *Buteo japonicus* is usually applied.

19.—*Circus cyaneus*, *Lin.* (50.)

The Hen-Harrier is a winter visitor, arriving in the last week of September and leaving early in May. Immature males, in the plumage of the female, and adults of both sexes, have the irides yellow; the immature female has the irides hazel-brown.

20.—*Circus macrurus*, *Gmel.* (51.)

This species must, I think, be considered a winter visitor, appearing at the end of August, and leaving about the middle of May. I have shot it in Gilgit early in January, and observed it throughout the winter of 1879-80. Like *Circus cyaneus*, in this species the adults of both sexes and the immature male have the irides bright yellow, while the immature female has the iris dark brown.

21.—*Circus cineraceus*, *Mont.* (52.)

This Harrier passes through Gilgit on migration, being fairly common from the third week in March to the first week in May, and re-appearing on its way southwards about the third week in September. In two adult males the iris was bright yellow; in two immature males the iris was hazel, slightly tinged with yellow in one, and pale straw-colour in the other example.

22.—*Circus æruginosus*, *Lin.* (54.)

In twelve specimens, the males have the wings 14 to 16·1 inches; the females 15·4 to 17. The adult female has no grey colour on the wings or tail. If in this sex the plumage of the adult male is ever assumed, the case must be as exceptional as in the Kestrel. The adults of both sexes have the iris yellow; and the immature birds of both sexes have the iris brown. In the male changing to adult plumage, the tail is

the first part to become grey; and at this stage the iris is of some shade intermediate between brown and yellow.

23.—*Milvus melanotis*, Tem. & Schl. (56 bis.)

The Kite referred to by Major Biddulph under the name of *Milvus govinda*, and which I call *M. melanotis*, is a migratory species in Gilgit, appearing as early as the 2nd February, and passing over the valley in large flocks until the beginning of May. In five males the wings measure 19·25 to 20 inches; tail, 12·7 to 13; tarsus, 2 to 2·2. In a female, wing, 20; tail, 13; tarsus, 2·2.

I cannot agree with Captain Marshall that Mr. Brooks has conclusively shown that *Milvus melanotis* (= *M. major*, Hume) should be called *M. govinda*. Following Mr. Gurney (*Ibis*, 1879, p. 76), it seems necessary to recognize three races of Kites in India, under the names of *M. melanotis*, *M. govinda*, and *M. affinis*. Of course if these three forms are to be considered as constituting only one species, they must all be joined under the title of *M. govinda*.

Milvus govinda, Sykes. (56.)

This medium-sized Kite, which is not included in Major Biddulph's list, appears to be a straggler to Gilgit, probably from some of the valleys to the south, where it may be resident. I obtained two adult females in April, which have the wings 18·8 and 18·9 inches, and the tails 11·3 and 12. These, it will be noticed, are conspicuously smaller than even the males of the race I call *M. melanotis*. I at first thought that these two specimens might be *Milvus migrans*, which has been recorded from Afghanistan; but on comparison with specimens of the latter species from Sarepta, it became evident that the Gilgit birds are distinct.

24.—*Syrnium biddulphi*, Sp. Nov. (66.)

Adult female.—Crown and space between the facial disks uniform blackish brown; occiput, nape and hind neck dark brown, the feathers indented on the margins with greyish white, giving a spotted appearance to this region; back, minor and median wing-coverts, rump and upper tail-coverts greyish brown, profusely vermiculated with greyish white; the scapulars and median wing-coverts with large white spots on their outer webs; primaries and their coverts dark brown, with pale ochraceous-brown bars and tips, which are stippled with dark brown; the bars on the outer webs of the third to sixth primaries creamy white, slightly mottled with brown; secondaries pale brown, freckled with irregular greyish white

bars, which become pure white on the margins of the inner webs; uropygials pale greyish brown, irregularly vermiculated with dark brown, and having only indications of one or two very narrow imperfect bars near the tips; the next pair of rectrices with the outer webs unbarred, and coloured like the uropygials; the inner webs broadly barred with dull brown; the rest of the tail-feathers dark brown, irregularly barred on both webs with pale ochreous, which becomes nearly white towards the margins of the inner webs; all the rectrices tipped with white; facial disk greyish white, the feathers with blackish shafts and two or three narrow bars of dark brown across both webs; the ruff surrounding the disk blackish brown, beautifully barred with white, above the anterior part of the eye, and on the chin the white bars suffused with rufous; underparts white, all the feathers with a central broad streak of blackish brown, and complete transverse bars on both webs of the same colour, the feathers of the fore-neck having one bar, those on the breast two, on the abdomen three, and on the under tail-coverts four; under wing-coverts and axillaries white, irregularly barred and spotted with brown; tibial feathers cream-colour, transversely barred with brown; feathers covering the tarsi and toes white, irregularly mottled here and there with brown; cere green; bill green, yellow at tip; iris black. Length, 19 inches; expanse, 44·5; wing, 13·6; tail, 8·6; tarsus, 1·85; bill from gape, 1·45; cere, 0·7; closed wing short of end of tail, 2.

Adult male.—Similar to the female in colour, but the ear-coverts darker and more strongly barred; cere olive; bill green, yellow at tip; iris dark brown; toe-scales pale green; claws black, slaty at bases. Length, 18·7 inches; expanse, 42·6; wing, 12·7; tail, 8·5; tarsus, 1·8; bill from gape, 1·46; cere, 0·65; closed wings short of end of tail, 1·7; weight, 1 lb. 3¼ oz.

The measurements given above were taken from fresh birds, the wings being measured on the under surface. As this is not the usual practice in measuring wings of large birds, I must mention that, taken on the upper surface with a tape, the wing of the female has a length of 14 inches, and that of the male, 13.

This species differs from *S. davidi* by its smaller size, vermiculated (not plain) rump, and different character of markings. From *S. nivicolum* it differs in being larger, in not having the uropygials barred, and by its colour.* With the ordinary form of *Syrnium aluco* it could not be confounded for a

* As already noticed, S. F., IX., p. 311n, I consider this merely the pale western form of *Syrnium nivicolum*. I have a series of birds from the Himalayas of the Punjab, any one of which might have sat for the figure given by Dr. Scully of his supposed new species, and which answer perfectly to his description.

moment ; from the large grey form of *S. aluco*, of which I have examined fine female specimens from Stockholm and Tangier, with the wing 11·5, it differs in its much greater size (the male Gilgit bird being considerably larger than even the largest female of this race), in its paler and greyer colour, different character of markings, &c.

This fine Owl is probably a permanent resident in the Gilgit district, and seems to keep closely to the forests. I obtained my specimens on the 30th September and 13th November.

25.—*Asio otus*, *Lin.* (67.)

The Long-eared Owl arrives early in March, and is common up to the middle of May. Females are rather darker and more boldly marked than males ; but the difference is not so conspicuous as in *Asio brachyotus*.

26.—*Asio brachyotus*, *Gmel.* (68.)

The Short-eared Owl is found in Gilgit on passage, being fairly common from the middle of April to the middle of May, and again on its way southwards from the beginning of November to the 20th December. The females are much darker than the males, and have the black marks more prominent and the general colour more buff. Major Biddulph's remarks have reference to this sexual difference, I think, as he only had a male from Gilgit before him when his note was written.

The largest specimen I have, and even that is a little smaller than Dr. Scully's measurements, was shot on the Peshawur Mess House on the 17th January 1869, by Captain Nairne, then Brigade Major of Artillery.

Its measurements (as recorded by him in the flesh) compare thus with Dr. Scully's :—

	L.	Ex.	W.	T.	Ts.	B. f. g.
Gilgit	18·7	42·6	12·7	8·5	1·8	1·46
Peshawur	18·0	39·0	12·0	9·0	2·0	1·5

Further east they run smaller. The following are dimensions of specimens, all carefully measured in the flesh :—

	L.	Ex.	W.	T.	Ts.	B. f. g.
Simla <i>Male</i>	16·5	38·0	11·75	7·0	1·9	1·47
Ditto	16·25	39·5	11·25	7·25	2·12	2·0
Ditto	16·5	39·0	12·0	7·4	—	1·7
Ditto	16·25	41·0	12·3	7·1	1·95	1·5
Kussowlie <i>Female</i>	17·5	42·0	13·0	7·9	—	—

No one could possibly separate these from the Peshawur, or this latter from the Gilgit bird. The pale silvery colour holds as far as the Bhagiratti I think ; at any rate the most westerly specimen I have showing colour (though nothing like the deep tints of the Sikhim birds) is from the valley of this river near Mr. Wilson's place at Hursil.

I have repeatedly, during the last seven years, called attention in STRAY FEATHERS to this great difference in the colour of the Eastern and Western races of *nivicolum*, and I think it a pity that Dr. Scully should have given a new specific name to this Western form.—ED., S. F.

27.—*Bubo turcomanus*, Eversm. (68 quat.)

I agree with Messrs. Biddulph and Marshall that this Owl is specifically distinct from *Bubo ignavus*. I did not obtain a specimen of *B. turcomanus* in Gilgit; but, as far as my memory serves me, Major Biddulph's specimen is identical with the Eagle Owl I obtained in Yarkand (STRAY FEATHERS, IV., p. 129, 1876), which is certainly distinct from *B. ignavus*. Eversmann's Eagle Owl is probably only a rare straggler to Gilgit in winter.

***Bubo ignavus*, Forst. (68 ter.)**

A pale form of the Eagle Owl is not uncommon in Gilgit in winter at an elevation of about 5,000 feet. Two males measured:—Length, 24·8 and 25·5 inches; wing, 17·1 and 17·2; tail, 10; tarsus, 2·7; bill from gape, 1·9. One of these examples weighed 3 lb. 5 oz.; the third primary is the longest, the second a little longer than the fourth, and the first primary is intermediate in length between the fifth and sixth.

Compared with a large series of *B. ignavus* these specimens differ greatly in colour, being much paler and less rufous; indeed two high authorities on the birds of prey, on seeing these skins, would not admit that they were to be assigned to *B. ignavus*, and suggested that they should be compared with *B. bengalensis*. But *B. bengalensis* is much smaller, the largest female not measuring more than 16 inches in length of wing (in four specimens I have measured, the wings vary from 14·75 to 15·5); the wing is differently shaped, the fourth quill being the longest, and the second half an inch shorter than the fourth; there is more black on the back and minor wing-coverts; and the toes are less feathered.

My Gilgit birds are specifically distinct from the Yarkand specimens which I refer to *B. turcomanus*, and are doubtless the same as the specimen recorded as follows in P. Z. S., 1860, p. 99:—"Mr. Selater exhibited a specimen of a large Horned Owl shot by Major W. E. Hay, F. Z. S., upon the borders of the Pangkong Lake, in Thibet. He was disposed to consider the bird as a pale variety of *Bubo maximus*." This form of Eagle Owl, which appears to be confined to the interior of the Himalayas, should perhaps be distinguished from *B. ignavus*, at least as a sub-species, and would then probably bear the title *Bubo hemachalanus*, Hume.

28.—*Scops pennatus*, Hodgs. (74.)

In addition to the specimen in my collection mentioned by Major Biddulph, I obtained a female of this Owl in Gilgit on the 4th October, which measured:—Length, 7·9 inches; wing,

6·4 ; tail, 2·8 ; tarsus, 1 ; bill from gape, 0·8 ; closed wings beyond the tip of tail, 0·1. This example is in the dark grey phase of plumage, with only some mottlings of rufous on the breast and shoulders ; the male, the measurements of which are given in Major Biddulph's paper, is about half rufous and half grey. In both specimens the second and third primaries are subequal and longest, and the first is intermediate in length between the fifth and sixth. Some specimens of the variable *Scops giu* are hardly separable from these Gilgit birds.

29.—*Scops brucii*, *Hume*. (74 sept.)

I obtained five specimens of this species in Gilgit, in March, April, and September. Two males measured :—Length, 8 inches ; wing, 6·4 and 6·5 ; tail, 3 and 3·3 ; tarsus, 1·2 ; bill from gape, 0·75 and 0·8. Three females measured—Length, 8 to 8·8 inches ; wing, 6·45 to 6·7 ; tail, 3·3 to 3·6 ; tarsus, 1·1 to 1·15 ; bill from gape, 0·75 to 0·8. One of these examples weighed 3·3 oz. In these five specimens the third quill is the longest, the second and fourth are subequal, and the first is intermediate in length between the sixth and seventh. There is no appreciable variation in colour, all being of the same characteristic brownish-buff tint. After careful comparison with the fine series of *Scops giu* and allies in the British Museum, I do not doubt that *Scops brucii* is a perfectly good and distinct species.

30.—*Hirundo rustica*, *Lin*. (82.)

Three females in my collection, shot in April and May, have the wings 4·5 to 4·7 inches, and the tails 3·1 to 3·65. All have a broad black pectoral band.

31.—*Hirundo rufula*, *Tem*. (84 bis.)

This Swallow is a summer visitor to Gilgit, but never appears to be common. A female measured :—Length, 6·6 inches ; wing, 4·35 ; tail, 3·45 (to fork, 1·7) ; tarsus, 0·45 ; bill from gape, 0·55. From *Hirundo nipalensis*, to which Major Biddulph referred it, the Gilgit red-rumped Swallow is distinguished by its smaller size, faintly striated lower surface, and unstriated ear-coverts. In a note to Biddulph's paper I identified the species as *H. erythropygia*, Sykes ; but on fuller examination I now feel satisfied that it is really *Hirundo rufula*. The difference between these two forms is slight ; *H. erythropygia* is smaller, and has the rump uniform chestnut, while *H. rufula* is larger, and has the chestnut rump paling to nearly white towards the upper tail-coverts ; two females of *H. erythropygia* have the wing 4·1 and 4·3, and a

male 4.35; and five males of *H. rufula* have the wing 4.55 to 4.85, and five females 4.45 to 4.75. Now my Gilgit specimen has the rump paling to white towards the tail, and, though rather small, must be referred to *H. rufula*.*

32.—*Cotile rupestris*, Scop. (91.)

A summer visitor, arriving about the third week in March, and very common in the lower valleys throughout April and May. In the males collected the wings measure 5.1 to 5.4 inches, and in the females 4.95 to 5. Eight specimens shot in spring have dusky streaks and mottlings about the chin; in some this marking is confined to the point of the chin, while in others it extends to the throat and cheeks.

Chelidon urbica, Lin. (92.)

The House-Martin is a summer visitor, and is very common in Gilgit in May and June. A female, shot in Gilgit on the 10th May, agrees with many European examples with which I have compared it in the colour of the axillaries and under wing-coverts, and in all other particulars. Length, 5.5 inches; wing, 4.4; tail, 2.6; tarsus, 0.53; bill from gape, 0.5; the uropygials 0.8 shorter than the outermost tail-feathers. Major Biddulph does not include this species in his list, but gives the closely allied *Chelidon cashmiriensis*, which I did not obtain; the length of the tarsus in his specimen is misprinted 5 for 0.5.

34.—*Cypselus pekinensis*, Swinhoe. (99 quat.)

This Swift is a summer visitor to Gilgit. It was common in the lower valleys throughout May and the first half of June, but in July and August was only found at elevations of over 9,000 feet. Gilgit specimens agree perfectly with the type of *Cypselus pekinensis*, Swinhoe. This form, as has been often pointed out, differs from the European *C. apus* in being paler throughout, with a markedly paler forehead, more white on the chin and throat, and with a white margin above the anterior part of the eye. The difference is doubtless slight; but on actual comparison of specimens it is manifest. Many accepted species do not differ in a greater degree; and it seems that a colouration which is constant in such a range as from Pekin to Gilgit is worthy of some notice in our nomenclature.

* In all the adults of *rufula* that I know of the wing has more or less exceeded 5 inches. Are there two races, a larger and a smaller, included in this species?—Ed., S. F.

35.—Caprimulgus unwini, Hume. (111 bis.)

This Goatsucker is only a summer visitor; it arrives early in May, and is common in the lower valleys at an elevation of about 5,000 feet. A specimen obtained by Mr. Blanford at Saigan, on the Persian plateau, and referred by him to *C. europæus*, is identical in colour, markings, and size with Gilgit examples. *Caprimulgus unwini* is closely allied to *C. europæus*; but on comparison of my specimens with a large series of European birds, I find that they differ in being of a paler silvery-grey colour. It seems desirable to distinguish this eastern form, which is the *C. europæus*, var. *aralensis*, of Severtzoff, under the name of *C. unwini*.

36.—Merops persicus, Pallas. (120.)

This Bee-eater was only observed in Gilgit from the 20th to the 28th November 1879, when several flocks passed over the valley on migration southwards. I secured three immature specimens, two males and one female, with the uropygials only from 0·2 to 0·4 longer than the next pair of rectrices. These birds measured:—Length, 10·3 to 10·5 inches; wing, 5·6 to 5·65; tail, 4 to 4·1; tarsus, 0·47 to 0·5; bill from gape, 2·05 to 2·15. The female has the bill more slender than the males: the chestnut-colour of the throat is paler; and the rump and upper tail-coverts are not so blue.

38.—Coracias garrulus, Lin. (125.)

The Common Roller is plentiful in the hottest valleys of the Gilgit district throughout the summer, and there makes day hideous with its harsh grating cry; it does not appear to ascend above 6,000 feet. In 1880 it made its first appearance in Gilgit on the 30th April. Most of these birds leave us in October; but I have observed stragglers as late as the 11th November. Five specimens, measured in the flesh, gave the following results:—Length, 13·1 to 13·4 inches; wing, 7·7 to 8·25; tail, 5·4 to 5·6; tarsus, 0·9; bill from gape, 1·85; a male weighed $4\frac{3}{4}$ oz. Gilgit specimens agree completely with examples from Asia Minor.

39.—Picus himalayensis, Jard. & Selb. (154.)

This Woodpecker is strictly confined to the pine-forests, and does not straggle down to the lower valleys. Half a dozen adult specimens have the wings 5·3 to 5·4 inches; tails, 3·35 to 3·8; bill from gape, 1·3 to 1·45. The specimens described by Captain Marshall as having the underparts sullied, the lower tail-coverts very pale, and the bill short, are merely the

immature of this species; and I cannot agree with him that they constitute "a very remarkable race."

Adult male *P. himalayensis* differs from the adult male *P. major* in having the whole crown crimson, while the latter has only the occiput thus coloured, and in several other points; but the young males of these two species are very much alike, both having the whole crown crimson and the lower surface yellowish and slightly dark-streaked. The young birds, however, can be readily separated by the colour of the ear-coverts; in *P. major* this part is whitish throughout; in *P. himalayensis* the anterior upper half of the same region, behind the eye, is dusky or blackish.

40.—*Gecinus squamatus*, Vig. (170.)

A permanent resident in the district, found in the lower valleys from November to May, and during the rest of the year at an elevation of about 9,000 feet. In six specimens the wings measured 6.4 to 6.6 inches; tails, 5 to 5.4; bill from gape, 1.77 to 2.1. The specimens mentioned by Captain Marshall as having the neck and back grey were probably birds about a year old, with the feathers worn and faded, and at the next moult would have assumed the usual green colour. A moulting female in my collection, shot on the 4th August, has the hind neck and upper back brownish grey; but a few new feathers, which have appeared on those parts, are quite green. Mr. Blanford, in his "Zoology of Persia," p. 135, describes a parallel stage of *Gecinus viridis* in a specimen which was scarcely mature (probably a bird of the preceding year) and with the plumage worn.

41.—*Iynx torquilla*, Lin. (188.)

The Wryneck is common from the middle of April to the first week in October. A male shot on the 22nd April had the irides hazel. In none of my specimens is there any trace of rufous on the underparts, as mentioned by Major Biddulph; the colour which prevades these parts to a variable extent is buff-yellow.

42.—*Cuculus canorus*, Lin. (199.)

The Common Cuckoo is a summer visitor, and is fairly common from the beginning of May to September. Some of my Gilgit specimens are rather small; but they are all doubtless referable to *C. canorus*. Two adult males have the wing 8.6 to 8.8 inches; four full-grown females have the wing 8.1 to 8.7; and two females in hepatic plumage have the wing 7.5 and 7.7.

43.—*Cuculus himalayanus*, Vigors. (200.)

I did not obtain any specimens which can be referred to this species; nor did I ever hear its cry in the Gilgit district. Major Biddulph's specimens, which I think were immature, may have been merely rather small examples of *C. canorus*.

45.—*Certhia himalayana*, Vigors. (243.)

A permanent resident; common at an elevation of 5,000 feet from the third week in October to the end of March, and during the rest of the year in the pine-forests above 8,000 feet. In seventeen specimens the wing measures 2.6 to 2.95 inches; tail, 2.2 to 2.95.

46.—*Certhia hodgsoni*, Brooks. (243 bis.)

This species is rare in Gilgit. Specimens were only obtained in June and July, in the pine-forests, at an elevation of over 9,000 feet. In *Certhia hodgsoni* there is no pale spot on the outer web of the first four primaries. In a large series of *C. familiaris* I find that only the first three primaries are unspotted, a pale spot being constantly found on the outer web of the fourth quill. There are some other distinctions; but the one mentioned suffices for the discrimination of the Kashmir Creeper from its European ally.

47.—*Tichodroma muraria*, Lin. (247.)

A winter visitor; common at an elevation of about 5,000 feet from the middle of October to about the end of March. Specimens obtained from October to the middle of February have the head brown; towards the end of February and in March the brown cap is replaced by grey.

48.—*Sitta leucopsis*, Gould. (249.)

I only obtained this Nuthatch from the beginning of April to September; it was never seen in the lower parts of the valleys away from pine-forests. Ten specimens measure—Wing, 2.95 to 3.15; tail, 1.7 to 1.9; tarsus, 0.7 to 0.73; bill from gape, 0.8 to 0.86. The colour of the feet in fresh specimens varies from slaty to black.

49.—*Upupa epops*, Lin. (254.)

I obtained the Common Hoopoe in Gilgit as early as the 25th February. Five specimens have the wing 5.6 to 5.9 inches; bill at front, 1.75 to 2.3, and agree well in colour with examples from Asia Minor.

50.—*Lanius homeyeri*, Cab. (256 bis.)

This Grey Shrike is rare in Gilgit, and is only found on migration in spring and autumn. I obtained a male on the 27th November, which measured:—Length, 10·4 inches; expanse, 14·6; wing, 4·65; tail, 4·5; tarsus, 1·15; bill from gape, 1·14; culmen, 0·75; closed wings short of end of tail, 3; outer tail-feathers, 0·85 shorter than uropygials. I proceed to give a description of this specimen, by which the species may be discriminated from its numerous allies.

Forehead sullied white; lores white, with fine black shafts to the feathers; rump grey, the same colour as the back; basal part of upper tail-coverts white, the terminal halves of these feathers a paler grey than the rump and back; minor wing-coverts grey; chin, upper throat, lower wing-coverts and axillaries, and lower tail-coverts white; rest of lower surface pinkish white, with faint cross bars on the breast and upper part of abdomen, formed by narrow pale-brown margins to the feathers; all the primaries white on both webs at the bases; the secondaries white on both webs at the bases, except the innermost two, the white on the inner webs running narrowly down to the tips of the feathers; from the eighth primary to all but two of the innermost secondaries with conspicuous white margins to the tips of the feathers; outermost pair of rectrices wholly white, the central part of the shaft alone black; next pair white on outer web, the inner web white, with a large black patch about the middle of the feather; third pair white at base and tip, the intermediate part black on both webs; fourth pair with more black than the preceding on both webs, especially towards the tip, where only half an inch of white remains; fifth pair with only a small spot of white at tip, and little more white at base than on the uropygials; uropygials black, white at base for 1·2 inch.

This specimen is, I believe, correctly referred to *L. homeyeri*. It differs from *L. lahtora* in many particulars, too numerous to mention. From *L. excubitor* it differs in having more white on the lores, wings, and tail, the size of the feet and the breadth of the tail-feathers being the same as in that species.

51.—*Lanius erythronotus*, Vigors. (257.)

In my collection are specimens of this Shrike shot in Gilgit from the 18th April to the 28th December; but the last bird must be considered very late in migrating, as this species leaves us, I think, in October.

52.—*Lanius cristatus*, Lin. (261.)

This species must be expunged from the Gilgit list. In the rufous-tailed Shrikes there are two distinct sections,

characterized by the shape of the tail:—One (A) embracing *cristatus*, *phœnicurus*, and allies, in which all the rectrices are narrow, the outer pair decidedly more narrow than the next, and over three-quarters of an inch shorter than the uropygials; and another (B), which includes *isabellinus*, *phœnicuroides*, *speculigerus*, and *collurio* (female and young), in which the tail-feathers are broad, with the outermost pair as broad as the next, and not more than half an inch shorter than the centrals. Now I examined the specimen secured by Major Biddulph, and identified in his list as *L. cristatus*. It certainly belonged to section B, and was one of the three following species; but which of these, I am not prepared to say without further examination.

Lanius isabellinus, Hemp. & Ehr. (262.)

Lanius arenarius, Blyth.

This Shrike only passes through Gilgit on migration. I obtained an adult specimen on the 27th April, which measured:—Length, 7·4 inches; wing, 3·5; tail, 3·1; tarsus, 0·94. Third and fourth quills equal and longest, second intermediate in length between the sixth and seventh; fifth, sixth, and seventh primaries with a small spot of white on both webs at base; head and back pale sandy; lower surface cream-coloured, slightly tinged with rufous; lores white, with a small dark spot in front of the eye.

Mr. Dresser, in his “Birds of Europe,” has figured *L. phœnicuroides* under the name of the present species, on the assumption that *L. phœnicuroides* merely represents the full breeding-plumage of *L. isabellinus*. That this is an error I can assert, as I obtained many specimens of *L. isabellinus* in breeding-plumage, in Yarkand, not differing in colour at all from winter examples common in collections from the north-west of India. I may here mention that the young of *L. isabellinus* differs altogether from the young of *L. phœnicuroides*, the former being even paler isabelline above than the adults, and very slightly cross-barred on the lower surface, while in young *L. phœnicuroides* the colour above is dark rufous-brown, and the underparts are prominently cross-barred.

Lanius speculigerus differs from *L. isabellinus* in having the whole lores black, and it has a large white patch on the wing. A difference in shape of bill has also been insisted on; but in the few examples of *L. speculigerus* I have examined there seemed to be hardly any variation in this respect.

Lanius phœnicuroides, Severtzoff. (262 bis.)

Lanius phœnicuroides, Severtzoff, STRAY FEATHERS, III., p. 430 (1875).

This species was only observed during the autumn migration. An immature specimen shot on the 8th September measured:—Length, 7·5 inches; wing, 3·5; tail, 3·15; tarsus, 0·85; bill from gape, 0·8; culmen, 0·75. Third and fourth primaries longest, second intermediate in length between the fifth and sixth; head, rump, and under tail-coverts rufous, barred with black; rest of upper surface dark rufous-brown, unbarred; lower surface white, cross-barréd with dark brown.

The adults of this species differ from *Lanius isabellinus* in having a differently shaped wing and tail, in the wing-speculum being larger, the lower surface white, the whole lores black, the head more rufous than the back, and the quills more black. To *phœnicuroides* must be referred:—Mr. Dresser's figure of *L. isabellinus* before mentioned; Lord Walden's figure and description of *L. isabellinus* in *The Ibis*, 1867, pp. 224, 226, pl. v., fig. 1; Schalow's supposed young *L. arenarius*, J. f. O., 1875, p. 143; Nos. 1 and 15 of the specimens mentioned by Mr. Blanford in his "Zoology of Persia," p. 140; and the specimen referred to as a fully adult male by the same author in his "Zoology of Abyssinia," p. 339.

Severtzoff's name of *L. phœnicuroides* is happily chosen; for his species does bear a great resemblance to *L. phœnicurus*; but, as I mentioned under *L. cristatus*, it belongs to a different section according to the characters of its tail.

Lanius collurio, Lin. (260 bis.)

The Red-backed Shrike is found in Gilgit only on passage. I obtained three immature examples, on the 4th and 16th September and 2nd November, during the autumn migration, but never observed it at any other time. This Shrike is recorded by Severtzoff as breeding in Turkestan, and is a rare autumn straggler to the plains of India in the north-west. My specimens measure:—Length, 7·2 to 7·4 inches; wing, 3·7; tail, 3·2 to 3·5; tarsus, 0·8 to 0·95; bill from gape, 0·8 to 0·85; culmen, 0·68 to 0·7. They agree perfectly with a series of young English examples of *L. collurio* with which I have compared them. Young *L. collurio* is very like young *L. phœnicuroides*, but can easily be distinguished from it thus: in *L. collurio* the second primary is intermediate in length between the fourth and fifth, and the distance between the longest secondaries and longest primary is about equal to the length of the tarsus; in *L. phœnicuroides* the second primary is inter-

mediate in length between the fifth and sixth, and the distance between the tips of the secondaries and the point of the wing is less than the length of the tarsus. There are also some minor differences in colour, amount of cross-barring beneath, and in the relative lengths of the uropygials, and second primary.

53.—*Pericrocotus brevirostris*, Vigors. (273.)

This species seems to be only a winter visitor to the lower valleys of the Gilgit district; it is not uncommon from the last week in October to the beginning of February. All the flocks I saw consisted exclusively of females and young males in grey and bright yellow plumage, the gorgeous black and crimson adult males being conspicuous by their absence. Six specimens measured:—Length, 7·3 to 8·3; wing, 3·5 to 3·7; tail, 4 to 4·7; bill from gape, 0·72 to 0·76. These examples agree well with a series of *Pericrocotus brevirostris* from the Himalayas further east, but have the ear-coverts paler grey.

54.—*Buchanga longicaudata*, Hay. (280.)

This species is only a straggler to Gilgit, probably from some of the lower and hotter valleys further south. A female shot in Gilgit on the 2nd of September measured:—Length, 10·8 inches; wing, 5·3; tail to fork, 4, to end of outermost rectrices, 5·9; tarsus, 0·65; bill from gape, 1·05. This was an immature bird with whole lower surface dull black without gloss, the under wing-coverts barred and tipped with white, and the irides dark brown.

55.—*Muscipeta paradisi*, Lin. (288.)

This Flycatcher is rare in Gilgit, and appears to visit us only on migration. I obtained a male on the 11th May, in chestnut plumage and with the short tail; the crest was well developed, and the chin and throat glossy black. An immature specimen procured on the 25th August is also in chestnut plumage, but with the crest short, and the neck and breast dull ashy. Severtzoff records this species as migratory to Turkestan, where it breeds; so the examples obtained at Gilgit may have been on migration to and from that country.

56.—*Hemichelidon sibirica*, Gmel. (296.)

This Flycatcher appears in Gilgit as early as the 11th May, and leaves for the south in September. From the middle of May to the first week in June it is common in the lower valleys, principally in orchards, at elevations of 5,000 to 7,000 feet; in the latter part of June and throughout July and

August it is only found in the forest above 8,000 feet, where it breeds. A young but full-grown bird, shot on the 6th August, differs a little from Mr. Sharpe's description of the young of this species (Cat. IV., p. 121). Head sooty, narrowly streaked with white; back brown, streaked and mottled with buff; rump and upper tail-coverts margined and spotted with rufous buff; lower tail-coverts rufescent, edges of quills as in adult; gape bright yellow, base of mandible yellow; iris black.

57.—*Muscicapa grisola*, *Lin.* (299 *bis.*)

This species is common from the middle of May to the end of September. In May, and during the last three weeks of September, it is found in the lower parts of the valleys; but from the beginning of June to the first week in September it is only met with in the pine-forests, at elevations of over 8,000 feet, where it breeds. Examples shot in September have the wing-coverts and secondaries broadly margined and tipped with pale fulvous; in midsummer these feathers are narrowly margined with white.

58.—*Siphia ruficauda*, *Swains.* (307.)

A summer visitor only, arriving about the 10th May, and doubtless breeding in the pine-forests. The sexes do not differ in any way in colour. The maxilla is dark brown and the mandible pale horny.

59.—*Troglodytes neglectus*, *Brooks.* (333 *bis.*)

This Wren is a permanent resident in the district, and in winter is one of the commonest and most familiar birds in the lower parts of the valleys. Four specimens measured:—Length, 3·5 to 3·8 inches; wing, 1·8 to 2·05; tail, 1·15 to 1·35; tarsus, 0·65 to 0·7; bill from gape, 0·57 to 0·6. Compared with specimens of *T. nipalensis* from Sikkim, I find that the distinctions on which Mr. Brooks separated the Kashmir Wren from the Eastern-Himalayan form are fairly borne out. The Gilgit birds are paler in colour, and have the feet smaller and more slender, with the claws shorter and less powerful than in *T. nipalensis*.

60.—*Myiophoneus temmincki*, *Vig.* (343.)

Gilgit specimens are identical with examples from Kashmir. In males the wings measure 7·1 to 7·6 inches; in females, 6·7 to 6·8.

61.—*Cinclus asiaticus*, Swains. (347.)

This Dipper is a permanent resident, being common in summer along the small streams at elevations of 6,000 to 9,000 feet, and frequenting the larger rivers in winter at an elevation of less than 5,000 feet. In ten specimens the wing measures 3·55 to 4·1 inches; tail, 2·4 to 2·65; tarsus, 1·05 to 1·2; and culmen, 0·9 to 1.

62.—*Cinclus cashmiriensis*, Gould. (348.)

The Kashmir Dipper was only found by me on the stream of a valley near Gilgit at an elevation of about 9,000 feet. The species was rare there, and only one male (a moulting and immature bird) was secured, which measured:—Length, 7·8 inches; wing, 3·9; tail, 2·4; tarsus, 1·1; bill from gape, 1; culmen, 0·9; bastard primary, 0·9. The following is a description of my specimen, shot on the 14th October:—Head, sides of face and neck, hind neck, and upper back mixed slaty grey and dark brown, the latter being the colour of the new feathers and marking the adult dress; minor and secondary wing-coverts dusky grey, with black margins to the feathers; greater coverts and quills dusky grey, with narrow white margins to their tips; lower back and rump dark grey, the feathers with narrow black margins; upper tail-coverts and tail slaty grey; chin, throat, breast, and centre of abdomen white, with faint narrow brown undulations on the throat and breast, and a few new brown feathers on the abdomen; flanks dark brown, with narrow pale tips to the feathers; lower tail-coverts slaty grey, pale-tipped.

63.—*Monticola cyanus*, Lin. (351.)

Common at an elevation of 5,000 feet from the third week in April to the third week in May, and again from the middle to the end of October on migration. In the series collected none of the males have any trace of chestnut on the abdomen; and in fifteen specimens, the sex of which was carefully determined, no female was met with in the blue plumage of the adult male.* In the males the wings measure 4·5 to 4·8 inches; and in the females, 4·4 to 4·65.

64.—*Monticola cinclorhyncha*, Vigors. (353.)

The only specimen of this species observed in Gilgit was shot by me on the 28th September; it may have been on migration, or possibly was only a straggler from some of the

* I believe that this is a precisely similar case to that of the Merlin. In rare cases the old females in both species assume the perfect plumage of the adult male. Normally they do not.—ED., S. F.

neighbouring valleys to the south. The bird, a young male, is profusely spotted, but has the minor coverts blue, and the tail edged with the same colour. Length, 7·25 inches; wing, 3·95; tail, 2·7; tarsus, 0·95; bill from gape, 1. Bill dusky; gape pale yellow.

65.—*Monticola saxatilis*, *Lin.* (351 *ter.*)

Common in Gilgit, on migration, from the 20th August to the 30th September. The adults seem to make no stay in the district; all the birds observed and shot are immature. In thirteen specimens, in immature barred and spotted plumage, the wings vary from 4·7 to 4·9 inches.

67.—*Merula atrogularis*, *Tem.* (365.)

This species is common at an elevation of about 5,000 feet from the first week in October to the middle of May. In thirteen examples from Gilgit the wings vary in length from 4·9 to 5·3 inches. My specimens do not bear out Major Biddulph's observation that, when the black on the throat is fully assumed, the axillaries and under wing-coverts become earth-brown, uniform with the flanks.*

68.—*Turdus viscivorus*, *Lin.* (368.)

I only met with this Thrush in the Gilgit district in summer, at elevations of over 9,000 feet, where it breeds. My specimens agree perfectly in colour with examples from Asia Minor. An adult bird has the wing 6·45; and a young bird, shot on the 28th July, has the wing 6·15.

69.—*Trochalopteron simile*, *Hume.* (418 *bis.*)

This fine species is, with us, singularly local. I never saw it in Gilgit, but it is common and a permanent resident in Sharot and Bargo, 15 miles higher up the valley, at an elevation of about 5,500 feet. It is only found in places densely covered with trees and bushes. In eleven specimens the wing varies in length from 4 to 4·25 inches; all these have the outer webs of the quills and the subterminal band on the tail pure grey, without any shade of yellow, red, or olive. The ear-coverts are ashy, not dark brown; the grey band on the uropygial varies in depth from 1 inch to 1·2, and this grey band increases on the lateral tail-feathers, encroaching more on the outer web; the outermost pair of rectrices are not marked at all with black.

* *Vide my note, S. F., IX., p. 319.* This is clearly some accidental mistake or misprint in Major Biddulph's paper.—ED., S. F.

70.—Trochalopteron lineatum, Vigors. (425.)

A permanent resident, common and widely distributed in the district, wherever bushes and trees are found, at elevations of from 4,600 to 9,000 feet; it breeds in June. Gilgit examples are identical with specimens from the Kashmir valley, and are rather larger and paler* than the birds from the more eastern parts of the Himalayas.

71.—Oriolus kundoo, Sykes. (470.)

This Oriole is found throughout the summer about orchards in the lower valleys, and apparently does not ascend above 7,000 feet; it migrates southwards from Gilgit in September. It is remarkable that this species, which is widely spread and sedentary in many parts of the plains of India, should be a summer migrant to the valley of Nepal, Gilgit, and even to Yarkand in Central Asia. Specimens from these three localities, however, are quite identical with examples from the plains of India.

Pratincola caprata, Lin. (481.)

Of this species, which is not included in Major Biddulph's list, I shot a single specimen in Gilgit on the 10th December 1879, when it was doubtless on migration; this was the only occasion on which it was observed. The bird, a female, measured:—Length, 5·05 inches; wing, 2·64; tail, 1·95; tarsus, 0·8; bill from gape, 0·63. Bill, feet, and claws black; irides dark brown; upper tail-coverts deep ferruginous, lower tail-coverts buff. *P. caprata* has been found as far west as the valley of the Atreck (Seeböhm, P. Z. S., 1879, p. 764).

72.—Pratincola maura, Pallas. (483.)

This species is common in Gilgit from the last week in March to the middle of May, and again from the first week in September to the beginning of November. It probably breeds in the district at high elevations. In seventeen specimens the wings vary from 2·55 to 2·97 inches, and the tails from 1·93 to 2·3. The specimens mentioned by Captain Marshall with striated upper tail-coverts and rump are, I think, certainly not *P. rubicola*; the streaks referred to are much less pronounced than in female *P. rubicola*, and apparently indicate a phase of plumage of the immature *P. maura*.

* As in the case of *Syrnium nivicolom*.—ED., S. F.

73.—*Pratincola robusta*, *Tristram* apud *Marshall*,
Ibis, 1881, p. 55, nec *Tristram*. (483.)

Pratincola robusta cannot be included in the list of Gilgit birds. Canon Tristram's type of that species, from Mysore in the south of India, has recently been shown (STRAY FEATHERS, IX., p. 133, 1880) to be quite distinct from the birds referred to by Captain Marshall under that name. The form mentioned by Captain Marshall would, if distinct from *P. maura*, require a new name; but with a large series of these birds from Gilgit, and after examining the specimens in Mr. Seebohm's collection and in the British Museum, I cannot agree that the proportional length of the tail or any of the other points brought forward will justify the splitting of *Pratincola maura* into two species.

74.—*Saxicola opistholeuca*,* *Strickl.* (488.)

This species is rare in Gilgit, and perhaps only occurs there on passage to Turkestan, whence Severtzoff records it, under the name of *S. syenitica*, as breeding. According to my observations it appears in Gilgit, in small numbers, in April and May on its way north, and passes southwards again late in autumn. I have the following notes of a bird of this species shot in Gilgit on the 23rd December:—Length, 6·5 inches; wing, 3·7; tail, 2·9; tarsus, 0·95; bill from gape, 0·85. Bill, feet, and claws black; gape yellow; iris brown; the head and nape ashy, forming an ill-defined cap. The young bird described by Major Biddulph is possibly the young of *Saxicola morio*.

75.—*Saxicola picata*, *Blyth*. (489.)

Saxicola capistrata, Gould.

A summer visitor to Gilgit, and exceedingly common from the middle of March to the middle of September. Of fifty specimens in my collection, thirty are males, and these show every possible gradation between the form with the greyish-white cap (*capistrata*) and the one having the whole head pure black (*picata*); it is quite impossible to separate my series into two species. I have observed and shot examples with the white cap throughout the breeding-season in company with brown females quite undistinguishable from those of *picata*, so that the females of both forms are certainly alike. With reference to Major Biddulph's remarks on this

* Throughout I have allowed the specific names to stand in the feminine, but *saxicola*, framed on the model of *agricola*, ought, I think, to be treated as masculine.—ED., S. F.

subject, I do not now believe that the white head "is assumed in the spring of the first year only;" in a large series examined (including the type) there is no satisfactory evidence that the white cap is dependent upon age. *Saxicola picata* is said to have a wider range than *S. capistrata*, and this question merits further investigation; but I find that about half of the specimens usually called *S. picata* show, on close examination, some slight traces of white about the sides of the head.

Messrs. Blanford and Dresser, in their Monograph of the genus, confused *Saxicola capistrata* with *Saxicola morio*, and described a male of the former from Lahore as *S. morio*. *S. capistrata*, male, differs from *S. morio*, male, in breeding-plumage, in having the bill and feet much larger and coarser, the white on the head not extending to the interscapular region, a different pattern of black on the tail-feathers, and the wing-formula never the same; in *Saxicola capistrata* (= *picata*) the second primary is intermediate in length between the sixth and seventh; in *S. morio* the second primary is intermediate between the fifth and sixth. In the flesh the two birds could not be mistaken, *S. capistrata* being much more bulky than *S. morio*.

76.—*Saxicola albonigra*, Hume. (489 bis.)

This fine species is, according to my experience, only a winter visitor to the Gilgit district, and is common there, at an elevation of about 5,000 feet, from the beginning of November to the end of February. I never saw it in summer, and the specimen procured by Major Biddulph in June may have been only a straggler. The sexes are precisely similar in plumage, but the female is smaller than the male. Twelve males measured:—Length, 7 to 7·4 inches; wing, 4·1 to 4·35; tail, 2·9 to 3·1; tarsus, 1 to 1·1; bill from gape, 0·95 to 0·96. Five females measured:—Length, 6·7 to 6·85; wing, 3·9 to 4·02; tail, 2·5 to 2·8; tarsus, 0·9 to 1; bill from gape, 0·85 to 0·95. The black band on the lateral tail-feathers varies in depth from 0·5 to 0·85; the second primary equals the sixth in length.

Saxicola albonigra is distinguishable from *Saxicola picata* by having the sexes coloured alike, by being much larger, and by having a differently shaped wing.

From the male of *S. picata*, with which alone it could be confounded, its large size, different wing-formula, brighter colours, and less extended black on breast and back at once separate it.

77.—*Saxicola morio*, *Hemp. & Ehr.* (490 ?)81.—*Saxicola hendersoni*, *Hume.**

This species is common in Gilgit from the third week in April to the end of June, and again from the beginning of September to the first week in October. Most of the birds that visit us in spring go further north, but a few probably breed in the district. I preserved fifty-five specimens of this species, and after comparison with the types in the British Museum, I entertain no doubt that *Saxicola hendersoni* is merely a synonym of *S. morio*. *S. hendersoni* was described from specimens in autumn plumage; but I for some time thought that even in breeding-plumage it could be distinguished from typical *S. morio* by having more white on the lateral tail-feathers. Every intermediate stage, however, is represented in my collection, from a broad black band on the ends of the feathers next to the uropygials to the form in which the white runs right down to the tips of these rectrices. Major Biddulph has correctly pointed out that the female of this species is quite unlike the male in colour. In my series the length of the wings varies from 3.35 to 3.8, and the second primary is intermediate in length between the fifth and sixth.

78.—*Saxicola vittata*, *Hempr. & Ehr.* (491 b.)

This rare species appears in Gilgit in very small numbers, and probably on migration only. I obtained two males, of which one, shot on the 11th of May, is in full breeding-plumage, and measures:—Length, 6 inches; wing, 3.7; tail, 2.5; tarsus, 0.87. This specimen only differs from the adult male *S. morio*, in breeding-plumage, in having the chin, throat, and breast pure white instead of black. The other male, mentioned in *The Ibis*, 1881, p. 59, is probably immature, as the black feathers of the upper surface are narrowly edged with brown. The female referred to this species by Major Biddulph, on page 60, I find, on re-examination, to be really a female of *Saxicola picata* and not of *S. vittata*.

79.—*Saxicola isabellina*, *Rüpp.* (491.)

This species is fairly common in Gilgit on migration, from March to the third week in April, and again from the last week in September to the first week in November.

Mr. Blanford, in his "Zoology of Persia," p. 148, remarks that the length of the black tip on the lateral tail-feathers of

* I very much question this identification; but unfortunately I cannot get at my specimens until the summer, when I will take the question up. Till then I must ask my readers to suspend their opinion.—ED., S. F.

S. isabellina is $\frac{1}{2}$ to $\frac{3}{4}$ inch. This does not at all accord with my experience. In sixteen specimens of this species now before me, the length of the black tip on the lateral tail-feathers varies from 0.9 to 1.05 inch. Mr. Blanford, in the passage above cited, seems to have confounded female *Saxicola œnanthe* with *S. isabellina*. I should say that in the former species the black tip to the outer rectrices does not exceed $\frac{3}{4}$ of an inch, while *S. isabellina* always has more than $\frac{3}{4}$ of an inch of black at the end of the lateral tail-feathers.

80.—*Saxicola œnanthe*, *Lin.* (491 a.)

This Wheatear passes Gilgit on migration, and is found there in small numbers from the 20th of March to the 22nd April. I did not secure any specimens of this species during the autumn migration. Gilgit examples have the wings 3.7 to 3.9 inches, and the amount of black on the lateral tail-feathers varies from 0.6 to 0.7; they do not seem to be separable from European examples of *S. œnanthe* with which I have compared them.

82.—*Ruticilla rufiventris*, *Vieill.* (497.)

This Redstart passes Gilgit on migration, being common in April and May, on its way northwards, and passing down again late in September. Out of fourteen males procured in spring no less than six were in the plumage of the female.

84.—*Ruticilla erythronota*, *Eversm.* (498 bis.)

This Redstart is a winter visitor to Gilgit, and is common at an elevation of 5,000 feet from the middle of October to the first week in March. In eleven males the wings vary in length from 3.4 to 3.6, and in five females from 3.3 to 3.35. The females have two whitish wing-bars formed by the pale tips of the coverts.

R. alaschanica, Prjevalsky, which is allied to this species by its chestnut back and wing-markings, appears, nevertheless, to be quite distinct. *R. erythronota*, male, has a broad band, comprising the lores, ear-coverts, and sides of neck, black; while in *R. alaschanica* these parts are grey, like the head and nape. In *R. erythronota* the second primary is intermediate in length between the seventh and eighth, but nearer to the seventh; in *R. alaschanica* the second primary is equal to the eighth. The females of the two species are probably very similar in colour, but the difference in shape of wing will doubtless help to distinguish them.

85.—*Ruticilla erythrogastra*, *Güld.* (499.)

A winter visitor, and common at an elevation of about 5,000 feet, from the middle of October to the middle of April. The males in autumn have the head bluish white; in January and February the cap becomes whiter, and is pure white in the latest-killed April birds. In fifteen males the wings measured from 3.95 to 4.25 inches, and eleven females have the wings 3.7 to 4.1.

Major Biddulph mentions a specimen of which the sex is doubtful; but there should never be any doubt about the sexes in this species, as the young male, even in first plumage, has a large snow-white patch on the wing, which is never seen in the female.

86.—*Ruticilla frontalis*, *Vigors.* (503.)

Not uncommon at an elevation of 5,000 feet on first arrival in April. The female of this handsome species may be readily distinguished from the other brown-coloured hens of the genus by the black band, nearly half an inch deep, on the tips of the lateral tail-feathers. *Male*.—Length, 6.4 inches; wing, 3.53; tail, 3; tarsus, 0.94; bill from gape, 0.7. *Female*.—Length, 6; wing, 3.15; tail, 2.7; tarsus, 0.8; bill from gape, 0.65.

87.—*Ruticilla cæruleocephala*, *Vigors.* (504.)

Common in the forests from the third week in March to the end of September. In the immature spotted plumage the males can be readily distinguished from the females by the former having snow-white outer margins to the inner secondaries.

88.—*Ruticilla leucocephala*, *Vigors.* (506.)

There does not seem to be any variation in the plumage of this species due to season. Six males have the wings 3.75 to 4 inches; tail, 3.2 to 3.26; and bill from gape, 0.78 to 0.8. A female measures:—Wing, 3.4; tail, 2.9; bill from gape, 0.7. One of the male birds has a single chestnut feather on the black nape.

89.—*Tarsiger rufilatus*, *Hodgs.* (508.)

Nemura rufilata. Hodgson, P. Z. S., 1845, p. 27.

A summer visitor, and breeds in the pine-forests at an elevation of about 10,000 feet. This species is quite distinct from *T. cyanurus*, Pallas, under which name it is entered in Major Biddulph's list. In the male of *T. cyanurus* the lores

and eyebrow are white, surmounted by a narrow line of cobalt-blue, and the under-surface is cream-coloured; while in *T. rufilatus* the lores and eyebrow are brilliant cobalt, and the under surface is greyish white. The female *T. cyanurus* is easily distinguished from the same sex of *T. rufilatus* by being more brown on the upper surface, cream-coloured on the abdomen, and by having the lores paler.

Gilgit examples of *T. rufilatus* are paler than specimens from Sikkim with which I have compared them. The specimen from which Major Biddulph took his description of "the plumage before the first moult" was probably not correctly referred to this species, in which the tail is never "hair-brown."

The immature male of *T. rufilatus* is precisely of the same colour as the adult female, and, as has been several times recorded, breeds in that plumage. The immature female differs from the adult in having the feathers of the head pale-centred, the blue on the rump and tail paler, the white throat-stripe only faintly indicated, and the rust-colour on the flanks less extended.

A nestling obtained on the 14th of August is profusely spotted on the body above and below, and the head is streaked. The upper surface is olive-brown, each feather with a yellowish central spot or streak and a dark brown margin; the under surface is pale yellowish, the feathers with complete dull-black margins; the wings are coloured as in the adult female; the tail, which is under an inch in length, dull greyish blue on the upper surface; bill pale brown, brown on culmen; feet and gape pale fleshy; claws brown, pale at tips.

90.—*Calliope pectoralis*, Gould. (513.)

A summer visitor only. An adult male has the wing 2.9, and a female 2.65. The very distinct *C. tschebaiewi* of Prjevalsky does not extend so far to the west as Gilgit.

91.—*Cyanecula suecica*, Lin. (514.)

This species is very common with us throughout March and up to the third week in April; and again during the autumn migration, from the third week in August to the third week in September. I doubt its breeding in the district; but Severtzoff records it as breeding in Turkestan, and it certainly breeds in Yarkand. In nineteen specimens the wings vary in length from 2.6 to 2.95.

92.—*Cyanecula leucocyanea*, Brehm. (514 bis.)

Lest any one should doubt the correctness of identification of the bird in my collection referred to by Major Biddulph

under this head, I may mention that I have carefully compared it, and that it is undoubtedly an example of the white-throated form of *Cyanecula wolfi* in full breeding-plumage. I did not obtain another example, unless a female, shot on the 1st of September, ought to be assigned to this species.

93.—*Acrocephalus dumetorum*, *Blyth*. (516.)

A summer visitor only, leaving the district in September. In seven specimens the wings measure 2·4 to 2·5 inches; tail, 2·15 to 2·33; tarsus, 0·84 to 0·9; culmen, 0·64 to 0·68; second primary intermediate between the fifth and sixth.

94.—*Dumeticola major*, *Brooks*. (519 *quat.*)

A summer visitor only. In ten specimens the total length varied from 5·9 to 6·45 inches; wing, 2·2 to 2·35; tail, 2·4 to 2·65; bill from gape, 0·75 to 0·85. The third or fourth primaries are longest, the second equals the seventh or eighth, and the exposed portion of the bastard primary averages 0·55.

96.—*Phylloscopus tristis*, *Blyth*. (554.)

Common in the lower valleys on arrival from the first week in March to the middle of April, and again from the third week in September to the end of November, on its way to the south; in summer only found above 8,000 feet. I cannot detect any difference between several of my skins and examples of *P. sindianus*, Brooks, described in STRAY FEATHERS, VIII., p. 476 (1879).*

97.—*Phylloscopus lugubris*, *Blyth*. (558.)

I have no specimen in my collection which can be referred to this species. The example obtained by Major Biddulph may perhaps have been *P. magnirostris*, which is closely allied to *P. lugubris*. The latter has hitherto been considered quite an Eastern form, not occurring in the north-west of India; while *P. magnirostris*, according to Mr. Brooks, breeds in Kashmir, and is therefore more likely to occur in Gilgit.

* No superficial examination suffices to distinguish many of these small sylvine birds. The eye must be regularly trained to the group. When one has not been looking at these *Phylloscopi* for a few months, it is extremely difficult to separate many of the species which after a week's work, when the eye has become habituated to their minute differences, are manifestly distinct. I in like manner doubted the validity of *sindianus* when Mr. Brooks sent me his first specimen, but a careful comparison of all the types with our enormous series of *tristis* showed me (S. F., IX., 99) that it was quite distinct.

As a rule the colour suffices to separate it from *tristis*, but occasionally *tristis* itself approaches closely to the *neglectus*, *rama* and *sindianus* type of colouring, and then the shape of the little first primary must be looked to, but I have never seen a *tristis* quite the colour of *sindianus*.—ED., S. F.

98.—*Phylloscopus viridanus*, *Blyth*. (560.)

I secured specimens as late as the 23rd September at Gilgit, on migration south.

***Phylloscopus nitidus*, *Blyth*. (559.)**

This species must, I believe, be added to the Gilgit list on the evidence of a single example shot there on the 23rd September. This specimen, a female, has wing 2·4 inches; tail, 1·85; bill from gape, 0·53; exposed portion of bastard primary, 0·55, one (lower) wing-bar. Compared with several specimens of *P. viridanus* shot on the same day, its brighter green colour above, and considerably more yellow underparts, seem to decide in favour of its being referred to *P. nitidus*; and this view is strengthened on comparison of the specimen with Mr. Seebohm's fine series of both species; but unfortunately the Gilgit skin is in bad condition.

100.—*Phylloscopus affinis*, *Tickell*. (561.)

A summer visitor, arriving early in May, and migrating southwards about the end of September. In May, part of June, and September it is found in the lower valley; but in the intermediate months it is confined to the forests at high elevations, where it breeds.

101.—*Phylloscopus indicus*, *Jerdon*. (562.)

I found this species less common than its ally *P. affinis*. A specimen was obtained as late as the 14th October, which shows that *P. indicus* is rather late in leaving the district.

102.—*Reguloides occipitalis*, *Blyth*. (563.)

I obtained specimens of this species as early as the 11th May, and young birds in July. Major Biddulph appears to be right in not admitting *P. trochiloides* or *flavo-olivaceus* to the Gilgit list.

103.—*Reguloides humii*, *Brooks*. (565 *bis*.)

Common from the 21st March to the end of September. Young birds are more green above than adults, have the secondaries conspicuously margined and tipped with buff, and have two prominent greenish-yellow wing-bars.

104.—*Reguloides subviridis*, *Brooks*. (566 *bis*.)

This species arrives in Gilgit as early as the 19th March, and leaves in the beginning of October. It has a very marked cry, and can always be distinguished from other allied species by its note.

105.—Regulus cristatus, Koch. (580.)

A summer visitor, only found in the forests at high elevations, and apparently not common. A male with wing 2·15 inches, bill at front 0·37, has two distinct whitish wing-bars.

Sylvia jerdoni, Blyth. (581.)

This Eastern long-billed race of *Sylvia orphea* appears to have been accidentally omitted from Major Biddulph's list, as he had obtained a specimen in Gilgit before his paper was written. It only passes through Gilgit on migration, in May and June, and again early in September.

106.—Sylvia affinis, Blyth. (582.)

I have only three specimens, obtained in April, May, and September, which can be referred to this form. The wings measure 2·6 to 2·63, and the second primary is intermediate between the sixth and seventh. The September specimen has the upper parts more brown than the other two, and this is probably due to its having freshly moulted.

107.—Sylvia althæa, Hume. (582 ter.)

A summer visitor, and common from the 25th April to the end of September; it breeds at an elevation of about 9,000 feet. In males the wings vary from 2·73 to 2·83; in a female the wing measures 2·7. There can be no doubt about the identification, as my skins have been compared with a typical specimen in Mr. Seeborn's charge.

108 —Sylvia rufa, Bodd. (582 quat.)

So far only obtained during the autumn migration. Two specimens measured:—Wing, 2·8 inches; tail, 2·6 and 2·7; tarsus, 0·85 and 0·86.

109.—Henicurus scouleri, Vigors. (587.)

A permanent resident, at elevations of 5,000 to 7,000 feet. It is nearly confined to the small streams, but is occasionally found in winter on the banks of the larger rivers, and has for associates *Ruticilla leucocephala* and *Cinclus asiaticus*. I cannot detect any difference between Gilgit examples of *H. scouleri* and a specimen from Moupin in Eastern Thibet.

110.—Motacilla hodgsoni, Gray. (589 bis.)

Two males of this Wagtail, shot on the 20th May, measure:—Length, 8·1 and 8·2 inches; wing, 3·8 and 3·84; tail, 4 and 4·2; tarsus, 0·9 and 0·93; bill from gape, 0·73; culmen, 0·67 and 0·7. A female, shot on the 16th May—Length, 7·8; wing,

3·6; tail, 3·8; tarsus, 0·9; bill from gape, 0·75; culmen, 0·7. These specimens are in full breeding-plumage, and have the whole back black. A comparison of the above measurements with those which I give of the next species will show that *M. hodgsoni* is not constantly larger than *M. personata*, although on the average it may be a heavier bird. The black back of *M. hodgsoni* seems to be the only constant difference between the two forms; but that is certain, and proves that it is specifically distinct from *M. personata*.

111.—*Motacilla personata*, Gould. (591.)

Major Biddulph mentions that he did not preserve any specimens of this Wagtail during the summer months; but I have a number of specimens, shot towards the end of May, with pure grey backs; certainly in both sexes of this species the back is always grey. Thirty-four adult specimens, shot in Gilgit, measure:—Length, 7·4 to 8·2 inches; wing, 3·3 to 3·9; tail, 3·5 to 4·1; tarsus, 0·8 to 1·03; bill from gape, 0·65 to 0·76; culmen, 0·63 to 0·7.

112.—*Motacilla alba*, Lin. (591 bis.)

This Wagtail only passes through Gilgit on migration; it is not uncommon in April, when I secured a specimen as early as the 13th, and again from the third week in September to the first week in November. A comparison of six specimens from Gilgit, with twenty European specimens of *Motacilla alba*, shows that the Gilgit birds are of a paler grey colour on the back, and have more white on the wing; moreover winter specimens of the European bird are tinged with yellow about the face, while the Gilgit examples do not show any trace of this colour. Those who maintain that *M. dukhunensis* of Sykes must be distinguished from *M. alba*, would class the Gilgit specimens under the former title.

113.—*Calobates melanope*, Pallas. (592.)

Common from March to November, and breeds from May to July, at elevations of 6,000 to 9,000 feet. Females shot on the 26th April, when the males had fully assumed the black on the throat, had the whole chin and throat pure white.

114.—*Budytes viridis*, Gmel. (593.)

This species seems only to pass through Gilgit on the spring and autumn migrations, and is never common. Two adult males, shot on the 9th May, have the head and nape dark bluish grey; the lores, cheeks, and ear-coverts black, and do not show any trace of a pale supercilium.

116.—Budytes calcaratus, Hodgson. (594.)

A summer visitor, and breeds in Gilgit. In nine specimens the wings measure 3·15 to 3·5; the adult female has the back coal-black, as in the male, but is smaller and has less white on the wing.

117.—Budytes citreolus, Pallus. (594 bis.)

This Wagtail is a summer visitor, and breeds in the Gilgit district. I obtained specimens from the 6th March to the 6th June, and again from the 18th August to October. I can confirm Major Biddulph's observation that the fully adult female of this species is coloured precisely like the adult male in breeding-plumage; but many of the females appear to breed in a younger stage of plumage, when the head is olive, with a bright yellow supercilium and dark ear-coverts. In twenty-two males the wings vary from 3·3 to 3·7 inches, and in twelve females the wings measure 3·1 to 3·2.

118.—Anthus trivialis, Lin. (597.)

A summer visitor, arriving about the middle of April, and migrating southwards in September; it breeds at an elevation of about 9,000 feet. In the series collected, every stage of plumage can be exactly matched by European specimens procured at like seasons. The Eastern form, *A. maculatus* of Hodgson, is quite distinct from this species.

120.—Anthus rosaceus, Hodgs. (605.)

Common on passage from the 22nd April to the end of May; not observed during the autumn migration. Ten specimens, in full breeding-plumage, have the wing 3·3 to 3·7 inches; and tail, 2·6 to 3·1; minor wing-coverts green; edge of wing and axillaries sulphur-yellow.

122.—Anthus blakistoni, Swinhoe. (605 quat.)

Common from the middle of October to the beginning of April. In the males the wings vary in length from 3·4 to 3·7 inches, and the tails from 2·75 to 2·9; in females the wings measure 3·25 to 3·45, and the tails from 2·5 to 2·9. Birds shot in Gilgit in November agree perfectly with Mr. Swinhoe's type of *Anthus blakistoni* from Amoy, with which I have compared them.

124.—Leptopœcile sophiæ, Sev. (633 bis.)

The occurrence of this interesting species in the Indus valley, at an elevation of little over 5,000 feet, shows how little this region has been explored by Indian ornithologists.

Had this portion of our territories been worked, we should have secured this bird long before M. Severtzoff, who has so accurately described it. The following are measurements of an adult pair of *L. sophie*, shot in the Gilgit district in January at an elevation of about 5,500 feet:—*Male*.—Wing, 2·02 inches; tail, 2·13; tarsus, 0·75; culmen, 0·4. *Female*.—Wing, 2 inches; tail, 2·1; tarsus, 0·74; culmen, 0·4. The outermost tail-feather, 0·4 shorter than the uropygials; exposed portion of first primary, 0·65; fourth, fifth, and sixth primaries equal and longest; third primary equal to seventh in length.

125.—*Ægithaliscus leucogenys*, Moore. (634 bis.)

This species is a permanent resident in the district, but is very local. I only found it along the course of the main valley above Gilgit, in a tract about sixteen miles in length, from Bargo to Singal, at elevations of from 5,500 to 7,000 feet; there it was fairly common in summer and winter in the forests and among the tamarisk bushes along the banks of the river.

In the adult the bill is black; irides pale creamy or white; feet pale orange; claws dusky or brown. The young are out of the nest by the middle of May. In a young bird, obtained on the 19th of that month, the stripe down the throat is pale pinkish, with dusky bases to the feathers; the head is paler than in the adult; the wing-feathers are margined on the outer webs with pale rufous, and the flanks and abdomen are buff. In more advanced birds the throat-stripe is dusky.

126.—*Parus melanolophus*, Vig. (638.)

Confined to the pine forests from 7,000 to 12,000 feet. The sexes are alike, the female only averaging slightly smaller than the male. In fresh specimens the tarsi and toes are always a bluish leaden colour.

127.—*Parus rufonuchalis*, Blyth. (640.)

This Tit is also a denizen of the pine forests, where it breeds; but it is occasionally found low down in the main valleys after heavy weather; thus I shot a specimen in Gilgit itself (4,900 feet) on the 21st April. A young bird, obtained on the 20th July at an elevation of 9,000 feet, has the parts that are velvet-black in the adult replaced by dull sooty, the back and abdomen are suffused with olive-colour, and the axillaries and under tail-coverts are pale buff.

128.—*Parus nipalensis*, *Hodgs.* (645.)

This is one of the most familiar birds in the Gilgit district, where it abounds throughout the year in all the lower valleys. In winter it is quite gregarious, and may be constantly seen feeding on the ground after the manner of a Sparrow. The young, which differs greatly from the adult, has been fully described (S. F., IX., 338). In five adult specimens the wings measure 2·85 to 2·93 inches; tail, 2·6 to 2·8; tarsi, 0·64 to 0·75.

129.—*Accentor nipalensis*, *Hodgs.* (652.)

According to my experience this *Accentor* only occurs in small numbers in the district in mild or ordinary winters. I never saw it in such numbers as Major Biddulph records for the exceptionally severe winter of 1877-78. Gilgit specimens are decidedly paler above and less rufous than most specimens of *A. nipalensis* from Sikkim; but that species is so close to *A. alpinus*, Bechst., that it is impossible to insert an intermediate species between them. The Gilgit bird agrees best with *A. nipalensis*, and is, no doubt, properly referred to that form.

130.—*Accentor altaicus*, *Brandt.* (653.)

A rare cold-weather visitor, except in severe winters. A male shot in January at an elevation of 8,000 feet measured:—Wing, 3·8 inches; tail, 2·4; tarsus, 0·9; culmen, 0·6.

131.—*Accentor jerdoni*, *Brooks.* (654 bis.)

Gilgit specimens of this *Accentor* are identical with an example from Dharmsala, obtained and named by Mr. Brooks. This species seems to be perfectly distinct from the eastern *A. strophiatius*, Hodgson. The differences are pointed out by Mr. Brooks in his original description (J. A. S. B., 1872, p. 327). In *A. jerdoni* the head, between the lateral black streaks, is quite plain, while in *A. strophiatius* the head is boldly streaked exactly like the back. I note, however, that the bill is variable, and that there is no constant difference between the two species in this respect. I have examined a specimen of *Accentor multistriatus*, David, from "Yangkyonpo," in Mr. Seeböhm's collection; and it seems to me the same in every respect as *A. strophiatius*.

132.—*Accentor atrogularis*, *Brandt.* (655.)

A winter visitor only to the main valley, arriving about the middle of October and leaving in the third week in March. The birds are usually found in pairs, and are not very shy.

I have shot specimens of this *Accentor* in orchards, where they were running about on the sward near rose-bushes; when alarmed in such situations they occasionally seek shelter on the lower branches of small fruit-trees.

133.—*Accentor fulvescens*, *Severtzoff*. (655 *ter*.)

This species is a winter visitor to Gilgit, and is common there from the first week in October to the third week in March; it comes to us from the north. I have now forty-five specimens of this *Accentor*; and I have no hesitation in saying that it is a good species, thoroughly distinct from *Accentor montanellus*, Pallas, with which Mr. Dresser confounds it. Gilgit examples are identical with Turkestan specimens named by M. Severtzoff, and with birds collected by myself in Eastern Turkestan. The differences between *A. montanellus* and *A. fulvescens* are carefully pointed out by Col. Prjevalsky (Rowley's Orn. Misc., Vol. II., p. 186).

134.—*Corvus corone*, *Lin.* (659.)

This Crow appears to be rare in Gilgit. I procured only a pair, one bird on the 22nd May and the other on the 2nd October, both being adult. The male measured in the flesh:—Length, 21·5 inches; wing, 13·4; tail, 8·65; tarsus, 2·6; culmen, 2·3; depth of closed bill at nostrils, 0·75. And the female:—Length, 20·4; wing, 13·1; tail, 8·2; tarsus, 2·4; culmen, 2·2; depth of closed bill at nostrils, 0·7. The outermost tail-feathers are 1·2 shorter than the middle ones. The specimens agree perfectly with a series of the European *C. corone* with which I have compared them. They are sharply distinguished from *C. levaillanti* by having a much smaller bill, by the throat-hackles extending further down towards the breast (these feathers being large and glossed purple in *C. corone*, smaller and green-coloured in *C. levaillanti*), and by the whole lower surface and hind neck being glossed with purple, while in *C. levaillanti* these parts have a greenish steel gloss.

135.—*Corvus cornix*, *Lin.* (659 *bis*.)

A winter visitor only, and fairly common in the valleys from the middle of November to the third week in March. All the specimens secured are thoroughbred *C. cornix*, not showing any signs of interbreeding with *C. corone* or any other stranger. The Gilgit birds are paler than European examples, but do not otherwise differ.

136.—*Corvus leuallanti*, Less. (660.)

I cannot concur with Major Biddulph in his view that there are two species of Crows of this type in Gilgit.* On the contrary, I am satisfied that we have only one species—the Long-tailed Hill-Crow, so common in the Himalayas. The supposed difference in habit referred to is merely due to season: in winter these Crows affect the lower valleys, are gregarious, and circle about in the air in a fashion that has often been described; in summer they are found at higher elevations, and then, of course, mostly associate in pairs, as they are breeding. As to the small size of some of Major Biddulph's specimens, I suggest that these were females, and possibly with the wings and tail not fully grown. It is singular that a large proportion of these Crows in collections are moulting the wing and tail-feathers, so that, without a careful examination of these parts, some examples may easily be considered so small as to represent a distinct race.

My series of this Crow from Gilgit agrees perfectly with Mr. Sharpe's description of *Corone leuallanti* (Cat. III., p. 39). I do not think that the separation of *Corone* and *Corvus* as genera, as advocated by Mr. Sharpe (Cat. III., p. 5) can be maintained on the shape of the wings. I find two specimens of *C. sinensis* (which is the same as *C. leuallanti*, and should be referred to *Corone*, according to Sharpe) with the wing of *Corvus*, i.e., first primary equal to longest secondaries; while the type of *C. culminatus* (which is *Corvus*, apud Sharpe) has the first primary about an inch shorter than the longest secondaries, and would therefore fall under *Corone*.

138.—*Corvus umbrinus*, Hedenb. (660 bis.)

I think it very improbable that this species occurs in Gilgit. *C. umbrinus* is essentially a bird of the desert and of low elevations, and is therefore not at all likely to be found in a highly mountainous country at an elevation of 12,000 feet. I never saw any true Raven in the Gilgit district; but some examples of *C. corax* may possibly stray there occasionally.

139.—*Corvus frugilegus*, Lin. (664)

The Rook is common in the district from the third week in October to the third week in April. It keeps aloof from the Crows, but associates amicably with the Jackdaws and Starlings, the two latter being often found in a flock of Rooks. The Gilgit birds agree perfectly with specimens from England and Turkestan.

* Vide S. F., IX., p. 341 n.—ED., S. F.

140.—Colceus monedula, Lin. (665.)

The Jackdaw is not uncommon from the middle of October to the first week in December, and again from the beginning of March to the third week in April. It does not breed in the district; and I never noticed it during the season of extreme cold.

Colceus collaris, Drummond. (665 bis.)

Two specimens, both females, procured in March and October, are referable to this sub-species or race. They have a marked white half-collar extending from the sides of the neck and above the interscapular region; and the breast and abdomen are paler and more grey than in *C. monedula*. The measurements are:—Wings, 9·3 inches; tail, 5·3; tarsus, 1·5 and 1·6; bill to gape, 1·35 and 1·4. The second primary is about 0·4 shorter than the fifth, instead of being equal as in my examples of *C. monedula*.

141.—Nucifraga multipunctata, Gould. (667.)

Two young birds, obtained in the third week in July at an elevation of 9,000 feet, have the head and nape much paler brown than in adults, the tippings to the wing-coverts are fulvous (not white), and on the under surface of the body the feathers are pale fulvous, with narrow central streaks of white. Two adults, shot in the middle of May, are moulting, the body-feathers and the primaries being equally in process of renewal.

142.—Pica rustica, Scop. (668 bis)

The Gilgit Magpie is quite identical with European specimens of *P. rustica*. In none of my examples does the white on the inner webs of the quills extend to the tip, as in the race called *P. leucoptera*; the tips of the primaries are blackish for about three-quarters of an inch.

143.—Fregilus graculus, Lin (679.)

In seven specimens the wings vary from 11·2 to 12·3 inches. After an examination of a large series of these birds from various parts of the Himalayas and from Europe, I quite agree with Mr. Sharpe (Cat. III., p. 147) that *F. himalayanus*, Gould, cannot be separated from *F. graculus*.

144.—Pyrrhocorax alpinus, Vieill. (680.)

This species is far less common in the district than *F. graculus*. I only found it twice near Gilgit, at the end of December and in January.

145.—*Sturnus vulgaris*, *Lin.* (681.)

This Starling is not uncommon on passage south in October, and again on its way north from the middle of March to the middle of April; a few birds remain in the valley throughout the winter. In six specimens preserved the upper parts from hind neck to tail are green.

146.—*Sturnus purpurascens*, *Gould.* (681 *ter.*)

This species is found in Gilgit at the same season as *S. vulgaris*, and in about equal numbers. I have killed examples of the two species at one shot. In the five skins preserved the upper parts from the hind neck downwards are purple.

147.—*Sturnia pagodarum*, *Gmel.* (687.)

The occurrence of this species so far north as Gilgit is noteworthy. A male shot there on the 26th August measured in the flesh:—Length, 8 inches; wing, 4·35; tail, 2·85; tarsus, 1·05; bill from gape, 1. Gape and base of bill cobalt-blue; ring round bill at nostrils green; anterior half of bill Indian yellow; irides bluish white; feet and claws greenish yellow.

149.—*Passer indicus*, *Jard & Selb.* (706.)

This Sparrow is mainly a migratory species with us, being a summer visitor, and breeding in the lower valleys; but in the winter of 1879-80, I observed it in small numbers throughout the winter, and preserved specimens in November, December, January, and February. I suspect that it only leaves the district completely in severe winters, and does not migrate very far. In my series the males have the wings 3 to 3·2 inches, and the females 2·9 to 3·05.

150.—*Passer hispaniolensis*, *Tem.* (707.)

A rare winter visitor. I shot only a pair, about the end of November, when it may have been merely passing southwards.

151.—*Petronia stulta*, *Gmel.* (711 *bis.*)

A winter visitor, and common from the third week in November to the third week in March. In thirteen males the wings varied in length from 3·9 to 4·2 inches, and in four females from 3·7 to 3·9.

152.—*Emberiza leucocephala*, *Gmel.* (712.)

The Pine-Bunting is tolerably common in the main valley in mild winters; it often associates with *Emberiza stracheyi*,

but can always be distinguished from that species by its note. In the males the wings measured 3·6 to 3·8 inches ; in the females 3·4 to 3·5. One male bird had the mandibles crossed as in *Loxia*, the maxilla to the right.

153.—*Emberiza stracheyi*, Moore. (714.)

This can hardly be regarded as a very good species. Gilgit specimens are in many respects intermediate in colouration between *Emberiza cia* and *E. stracheyi* from Simla.

A nestling, obtained on the 22nd July at an elevation of 9,000 feet, had the head, mantle, and back rufous brown, all the feathers with broad central black streaks ; rump and upper tail-coverts rufous, with narrow central black streaks ; two well-marked rufous-buff wing bands formed by the tips of the coverts ; inner secondaries broadly edged on outer web with rufous ; rest of wings and the tail as in the adult ; supercilium pale fulvous ; lores, cheeks, and ear-coverts dusky, the feathers with pale-buff margins ; chin greyish white ; rest of under surface buff ; the throat, breast, and flanks boldly streaked with blackish ; lower tail-coverts unstreaked rufous buff.

154.—*Emberiza hortulana*, Lin. (715.)

This species is rare in Gilgit, and only occurs on passage. I obtained a male on 9th May which measured :—Wing, 3·5 inches ; tail, 2·75 ; tarsus, 0·85 ; culmen, 0·5. This specimen agrees completely with examples of *E. hortulana* from Norway, with which I have compared it. I have examined the type of *Emberiza shah*, Bonap., from Persia, in the Paris Museum ; it is certainly nothing but an example of *E. hortulana*.

155.—*Emberiza huttoni*,* Blyth. (716.)

Fairly common on passage throughout the month of September ; not obtained in spring. Gilgit specimens are identical with examples from Kandahar, whence the specimens originally described by Blyth were collected.

156.—*Emberiza stewarti*, Blyth. (718.)

Common in the lower parts of the Gilgit valley, from Gakuch to the Indus ; it arrives during the first week in April, and leaves for the south again about the middle of September. Eight males have the wings 3 to 3·25 inches, and four females 2·8 to 2·87. A young male shot in the first week in September only differs from the adult female in having rufous margins to the outer webs and tips of the latter secondaries, and

* Must stand as *E. buchanani*, Bly.—ED., S. F.

in showing a faint indication of the chestnut breast-band of the male bird.

157.—*Emberiza schœniclus*, *Lin.* (720 *ter.*)

A winter visitor in small numbers from December to March. A male shot in Gilgit on the 15th December measured:—Length, 6·3 inches; wing, 3·3; tail, 3; tarsus, 0·75; bill to gape, 0·42. Gilgit examples of this species agree completely with specimens from Eastern Turkestan, Kandahar, and Asia Minor. As to "*E. schœniclus*, var. B. Pallas," mentioned S. F., IX., 346, this has been shown by Mr. Seebohm (*Ibis*, 1879, p. 39) to be *E. passerina*, Pallas, a species quite distinct from *E. schœniclus*, Lin.

158.—*Euspiza luteola*, *Sparrm.* (722.)

Merely a bird of passage with us; obtained from the third week in August to about the middle of September, when it was doubtless on its way south. In *The Ibis*, 1880, p. 66, Capt. Wardlaw-Ramsay gives an interesting account of the nidification of this species. He had not then met with any account of its breeding-habits, having overlooked my note on the subject in STRAY FEATHERS, 1876, p. 167. I found the bird breeding abundantly about Yarkand in 1875.

Euspiza, *Sp.**

A single immature bird of this genus, a male, shot in Gilgit on the 28th August, differs so much from examples of *E. luteola* of the same sex and age, that it probably represents a distinct species. The following is a description:—Head, hind neck, and back with all the feathers broadly streaked down the centre with brownish black, and their margins buff, suffused with greenish yellow; rump and upper tail-coverts greenish yellow, with narrow dark-brown shaft-streaks; rectrices dark brown, the outermost pair paler, and all with pale yellowish margins to the outer webs and tips; wing-coverts, primaries, and secondaries brown, all margined on the outer webs and tips with sullied white; lores and chin buff; cheeks and ear-coverts sandy brown, faintly washed with yellow; whole lower surface dull yellow; the throat, breast, and flanks boldly striped down the centres of the feathers with dark-brown; axillaries pale yellow, with greyish-white bases; under wing-coverts greyish white, spotted with brown near the edge of the wing. Longest secondaries 0·8 shorter than longest primary, intermediate in length between the eighth

* This possibly belongs to the *spodocephala*, *personata*, *sulphurata* group. Though too large for this, the plumage seems to be very close to that of immature *spodocephala*.—ED., S. F.

and ninth quills. Length, 6·5 inches; wing, 3·3; tail, 2·7; tarsus, 0·77; culmen, 0·52.

This bird differs from immature *E. luteola* in having the throat and breast striped with brown, and in the wing being differently shaped. In *E. luteola* the difference between the longest secondaries and longest primaries averages 0·57, the longest secondary being intermediate in length between the sixth and seventh quills. In the British Museum there is an undetermined specimen of a Bunting, received from the Moscow Museum, coloured exactly like my Gilgit bird. It measures:—Wing, 3·4 inches; tail, 2·8; culmen, 0·53; secondaries short of point of wing, 0·85. This bird is certainly not any stage of *E. aureola*. I do not propose any name for it, as I have only examined specimens in immature plumage.

159.—*Euspiza melanocephala*, Scop. (721.)

This species merely passes through the district on migration, and is rare. I obtained only one immature specimen, on the 17th September. In immature dress this Bunting can only be distinguished from the same stage of *E. luteola* by its superior size and notably larger bill and coarser feet.

160.—*Mycerobas carnipes*, Hodgs. (728.)

I have compared Gilgit examples of this species with others from Kansu and Thibet, and cannot detect any difference in size or colours. There cannot be any doubt that *Coccothraustes speculigera*, Brandt., from Northern Persia, is merely a synonym of *C. carnipes*, Hodgson.

161.—*Pyrrhula aurantiaca*, Gould. (732.)

The following are measurements of eight specimens of this Bullfinch:—Length, 5·7 to 5·9; wing, 3·1 to 3·3; tail, 2·4 to 2·53; tarsus, 0·65; bill to gape, 0·44 to 0·5; culmen, 0·35 to 0·4. The adult female has the head, nape, ear-coverts, and sides of neck ashy, the hind head being tinged with dark grey; back and mantle olive, with a faint tinge of red; fore neck and breast reddish ash, rest of lower surface dull yellow; the remaining parts as in the male. Young males, in the middle of October, closely resemble the female in colour; but the head, hind neck, and ear-coverts are overlaid with the olive hue of the back.

162.—*Carpodacus mongolicus*, Swinhoe. (732 bis A.)

Erythrospiza incarnata, Severtzoff.

Very common in large flocks throughout the winter, at an elevation of little less than 5,000 feet; from May to October

it is only found at higher elevations, where it breeds. I have compared Gilgit specimens of this bird with Swinhoe's type of *Carpodacus mongolicus* (in Mr. Seebohm's collection), and find that the species is identical. The Chinese bird is not darker than Gilgit or Turkestan examples; neither does it differ from them in any respect whatever. The adult female only differs from the male in being slightly smaller and in having the rose colour less intense. The following are the extreme dimensions of sixty-eight specimens of this species:—Length, 5·3 to 6·15 inches; wing, 3·35 to 3·8; tail, 2·2 to 2·5; tarsus, 0·63 to 0·7; bill to gape, 0·4 to 0·43.

164.—*Carpodacus erythrinus*, Pall. (738.)

Common from the 18th April to the middle of September. In twenty adult specimens the wings in the males measure 3·25 to 3·5 inches, and in the females 3·15 to 3·3.

165.—*Propasser rhodochlamys*, Brandt. (741.)

This species is very common, and is found at 5,000 feet and less throughout the winter; in summer it occurs up to an elevation of about 9,000 feet. I cannot detect any difference in colour, in either sex, due to season; and, in fact, in my series of this bird there is less variation among individuals than in any other species of which I have examined equal numbers. Females are rather smaller than males, but not constantly so; young males are absolutely inseparable from adult females in size and colour. I did not obtain any immature males showing the transition from the female to the male plumage. The following are measurements taken from thirty fresh specimens:—Length, 6·9 to 7·4 inches; wing, 3·4 to 3·8; tail, 2·8 to 3·2; tarsus, 0·75 to 0·9; bill to gape, 0·62 to 0·7.

168.—*Carduelis caniceps*, Vigors. (749.)

This Goldfinch, which is the same as *C. orientalis*, Eversmann, is very common at an elevation of about 5,000 feet from the first week in November to the first week in March; in summer it is only found in the district at higher elevations, where it breeds. In twenty-four specimens the males have the wings 3·15 to 3·3 inches, and the females 3 to 3·1.

169.—*Metoponia pusilla*, Pall. (751.)

A permanent resident in the district, and common; found at 5,000 feet throughout the winter. Birds shot in April, when they must have been about nine months old, have only one or two red feathers on the head. In twenty-four specimens, of both sexes, the wings vary from 2·75 to 3·05 inches.

170.—*Linaria brevirostris*, Gould. (751 bis.)

Extremely common at an elevation of about 5,000 feet from the first week in November to the first week in April; it probably breeds in the district at high elevations. In spring it is found about Gilgit in huge flocks; on the 7th March I picked up thirty-four specimens after one shot. Young males resemble the adult females in not having any pink colour on the rump; but the pale tips to the wing-coverts and the margins of the inner secondaries are broader. Sixty-six males measured:—Length, 5·3 to 5·8 inches; wing, 2·93 to 3·2; tail, 2·4 to 2·85; tarsus, 0·6 to 0·7; bill to gape, 0·39 to 0·43. And thirty-two females—Length, 5·15 to 5·4; wing, 2·83 to 3; tail, 2·3 to 2·5; tarsus, 0·6 to 0·65; bill to gape, 0·38 to 0·4.

171.—*Linaria cannabina*, Lin. (751 ter.)

Fairly common in winter at an elevation of 5,000 feet, from the beginning of November to the end of February. Gilgit specimens differ considerably from English ones, as noted *ante*, p. 87, but agree well with examples from Persia and Asia Minor. Many of my male birds are red on the rump, and have a red streak on the throat. If this pale eastern form of *L. cannabina* is to be separated, it should apparently bear the name of *L. bella*, Ehrenberg, with *L. fringillirostris*, Bonap., as a synonym. Thirteen males shot at Gilgit measured:—Length, 5·4 to 5·9 inches; wing, 3·1 to 3·3; tail, 2·3 to 2·54; tarsus, 0·6 to 0·67; bill to gape, 0·44 to 0·47. And twelve females—Length, 5·5 to 5·8 inches; wing, 3·05 to 3·25; tail, 2·3 to 2·42; tarsus, 0·6 to 0·65; bill to gape, 0·43 to 0·45.

172.—*Fringilla montifringilla*, Lin. (752.)

The Brambling only occurs on passage, and is not common. I have compared my Gilgit specimens with a large series of European ones; and they do not differ in any respect. In European specimens the white bar does not extend right across the wing; it begins on the outer web of the fourth quill, precisely as in the Gilgit specimens.

174.—*Fringillauda sordida*, Stoliczka. (753 bis.)

Very common at an elevation of about 5,000 feet from November to the first week in April; obtained in the third week in June at 9,000 feet. In nineteen males the wings measure 3·9 to 4·1 inches, and in nine females 3·64 to 3·83.

175.—*Calandrella brachydactyla*, Leisl. (761.)

The Short-toed Lark is found in Gilgit in March on its way northwards, and is common again from the third week in

September to the first week in November on its way south. In a dozen specimens the males have the wings 3·5 to 3·85 inches, and the females 3·4 to 3·6.

176.—*Melanocorypha bimaculata*, Ménétr. (761 ter.)

This Lark passes through the district in small numbers on migration in October and March; a few pairs may remain with us in mild winters, as a specimen was shot in Gilgit on the 9th December.

177.—*Calandrella pispoletta*, Pall. (762 quat ?)

This Lark is of rare occurrence in Gilgit, and has only been secured during the autumn migration. I obtained one specimen, a female, on the 14th November, of which I noted the following particulars:—Length, 6·3 inches; wing, 4; tail, 2·7; tarsus, 0·82; hind claw, 0·33; culmen, 0·47; secondaries short of longest primaries 0·75. In colour and markings this example is identical with the specimen described and figured by Dresser in the “Birds of Europe” as *C. pispoletta*, Pallas; but it is to be noted that, according to Herr v. Homeyer (J. f. O., 1873, p. 197), this form is not the true *Alda pispoletta* of Pallas, but should stand as *Calandritis heinii*, Homeyer.

178.—*Alaudula adamsi*, Hume. (762 ter.)

This species is *not* found in Gilgit. I was wrong in my surmise (quoted by Major Biddulph) that I had obtained specimens of this Lark.

179.—*Otocorys penicillata*, Gould. (763.)

Very common at an elevation of 5,000 feet, from the end of October to the middle of April. The following are measurements of a dozen fine males:—Length, 7·3 to 7·8 inches; wing, 4·55 to 4·85; tail, 3·2 to 3·7; tarsus, 0·8 to 0·9; bill from gape, 0·64 to 0·73.

I wish to notice, in connexion with this species, the very distinct *O. longirostris*, Gould, which has been considered identical with *O. penicillata* by Messrs. Hume and Dresser. The accompanying woodcuts of the adult males in breeding-plumage of these two species will, I think, show that the birds are quite different.

Otocorys longirostris does not occur in Gilgit, but is common at the head of the Astor valley, about eighty miles, in a direct line from Gilgit. The following are measurements of males of *O. longirostris*, for comparison with those given above of *O. penicillata*:—Length, 8·25 to 8·5 inches; wing, 4·95 to

5.2; tail, 3.6 to 3.75; tarsus, 0.92 to 0.95; bill from gape, 0.8 to 0.82. I will now mention the main distinctions between these two forms, premising that I refer to adult males in breeding-plumage. *O. longirostris* is a conspicuously larger bird than *O. penicillata*; it has no black band on the forehead, while *O. penicillata* has a broad one; the black band on the side of the neck is separated from the black patch on the breast by an intermediate white bar a quarter of an inch in width, whereas in *O. penicillata* the black on the side of the neck is quite continuous with the breast-patch; the sincipital tufts are shorter in the larger bird, and the bill is longer, more slender, and more curved. There are other minor differences in the plumage; and the females are easily distinguishable. The habits of the two species are quite different. *C. longirostris* is a strictly alpine bird, never quitting the mountains; *O. penicillata* swarms in winter in the Gilgit valley and about Yarkand and Kashghar; and of all the large number of larks of this type shot by Major Biddulph and myself in the localities just mentioned, not one can be referred to *O. longirostris*.

The fact that the validity of *O. longirostris* has been questioned is probably due to several causes. In the first place, the name *O. longirostris* at once raises a prejudice against the species; in a group like the Larks, where the bill is so variable, the title selected is rather unfortunate. *O. penicillata* certainly has the bill very variable in size; and some Persian specimens especially have a large and deep bill, but still never quite like that of the species I am endeavouring to defend, which, moreover, by no means depends on its bill alone for recognition. Again, *O. penicillata* in winter has the black of the neck and breast much concealed by pale tips to the feathers; and thus, in some specimens, the breast and neck-patches seem to be quite separated, as in *O. longirostris*; the bases of the feathers, however, will be found to be black in these examples; and such cases are really no reason why these two species should be united. Due regard being paid to sex, age, and season, the two forms are readily separated. Mr. Blanford (STRAY FEATHERS, 1879, p. 183) maintains the distinctness of *O. longirostris* and *O. penicillata*; and I quite agree with him.

180.—*Alauda dulcivox*, Hodgs. (766.)

This large Sky-Lark, so common in Gilgit in winter, is distinct from the next species (*A. guttata*), but only doubtfully so from *A. arvensis*. After comparison of my birds with a large series of *A. arvensis* from Europe, I find that the Gilgit

examples average larger and paler, but I cannot make out any perfectly constant differences. In eighteen males the wings measure 4·5 to 4·85 inches, and in seven females 4·1 to 4·25.

181.—*Alauda guttata*, Brooks. (? 767 bis.)

It is difficult to decide whether our summer Sky Lark should be referred to *Alauda gulgula*, Frankl., or considered distinct from that species; it seems to be merely a large pale race of *A. gulgula*. In ten males the wings measure 3·9 to 4·1 inches, and in four females 3·6 to 3·7.

182.—*Galerita cristata*, Lin. (769.)

The Gilgit race of this common species is small and very grey-coloured. In the males the wings measure 4 to 4·1 inches, and in the females 3·75 to 3·85.

183.—*Alsocomus hodgsoni*, Vig. (783.)

A summer visitor only to the forests, not found in the main valley. A male example from Gilgit agrees completely with an adult male from Moupin in Mr. Seebohm's collection.

The female differs from the male in having all the colours more dull; the cap is ashy, there are fewer white spots on the coverts, the ruddy triangular marks on the feathers of the lower parts begin on the chest only, and do not extend to the fore neck; the flanks are more invaded by dusky ash-colour; and the sides of the neck are more uniform grey.

In none of the specimens I have examined are there any white spots on the flanks.

184.—*Columba casiotis*, Bonap. (784.)

This Wood-Pigeon is a fairly common summer visitor; it arrives about the middle of April, and leaves in the middle of November. It breeds in the forests above 8,000 feet, and is found in the main valley at about 5,000 feet, on arrival in April and May, and again in October and November on its way down south. Adults of this species are well distinguished from the European *C. palumbus* by having a buff instead of a pure white neck-patch; but young birds, before the assumption of the neck-patch, are precisely similar in both forms.

186.—*Columba livia*, Bonap. (788 bis.)

I cannot agree with Major Biddulph that we have two species of Pigeon of this type in Gilgit. I paid much attention to these birds, shot scores of them, and preserved the

palest and darkest specimens; and after careful comparison of my series, I have no hesitation in saying that the dark typical *C. intermedia* does not occur in the district. But, on the other hand, our birds are not typical *C. livia*; they vary greatly in tint, but are always a little darker than European *C. livia*; the colour of the rump ranges from pale grey to white. Specimens showing every gradation of colour between *C. livia* and *C. intermedia* have been recorded, and several names have been proposed for these intermediate forms; but as it is admitted that there is no constancy in the colouration of these races, it seems best to retain only two names for the extreme forms. I class the Gilgit Pigeon as *C. livia*, seeing that it is nearer to that form than to *C. intermedia*.

187.—*Columba rupestris*, *Pall.* (789.)

This Pigeon is not uncommon in the lower valleys in winter, but in summer is only found at high elevations. I have shot it at an elevation of 5,000 feet as late as the 9th April. Neither in my Gilgit examples, nor in a large series from Thibet, China, &c., can I detect any white shoulder-patch, such as is mentioned by Major Biddulph (*ante*, p. 92). Gilgit specimens agree perfectly with the type of *C. leucozonura*, Swinhoe, in Mr. Seebohm's collection.

188.—*Columba leuconota*, *Vig.* (790.)

I obtained a specimen in the middle of October at an elevation of about 8,000 feet.

189.—*Turtur ferrago*, *Eversm.* (792.)

This Dove is common in the district in summer, and breeds there; it arrives in the third week in April.

In *The Ibis*, 1880, p. 68, Captain Wardlaw-Ramsay has discussed the question of the distinctness of the present form from *T. orientalis*, Lath., and has shown clearly that the only difference between the two supposed species lies in the colour of the lower tail-coverts and tips of the rectrices, *T. ferrago* having these parts white, while *T. orientalis* has them of various shades of grey. Now, in STRAY FEATHERS, 1879, p. 340, I mentioned that in a series of these Doves obtained in Nepal there was every possible gradation of colour in the parts supposed to be diagnostic, and therefore that the differences alluded to were certainly not constant. It is possible, however, that *T. ferrago* and *T. orientalis* may interbreed in a common meeting-ground such as Nepal; and it will perhaps be more convenient to give a distinct name to the extreme forms. On this view the Gilgit specimens must all be referred to *T. ferrago*.

As to the difficulty experienced by Captain Wardlaw-Ramsay in reconciling Eversmann's description of the tail of *T. ferrago* with the Dove now under consideration, I think all becomes plain if we suppose a misprint of one word: for "albis" substitute "fuscis," and the description will be quite correct—thus, "rectricibus apice albis, exceptis duabus medis totis fuscis."

190.—*Turtur auritus*, Gray. (792 bis.)

This species appears to be a summer visitor only, and is much less common than *T. ferrago*. I did not secure a specimen. Its occurrence in Gilgit is very interesting; it is not found in any other portion of British India, except Quetta.*

191.—*Turtur cambayensis*, Gmel. (794.)

I also only obtained one specimen of this Dove in Gilgit, on the 27th January; it is evidently very rare with us. This species, which has been supposed to be the same as *T. senegalensis*, differs from examples of the latter which I have examined in its smaller size, less bright colours, and brown rump and upper tail-coverts, which are precisely the same colour as the back. *T. senegalensis* has a dark grey rump; but I do not know that these differences are constant.

192.—*Turtur suratensis*, Gmel. (795.)

According to my observation this Dove is only found about Gilgit from November to March; I never met with it in summer.

193.—*Tetraogallus himalayensis*, Gray.

A fine male of this species measured in the flesh:—Length, 27·1 inches; wing, 12·1; tail, 8·7; tarsus, 2·65; bill to gape, 1·5; it weighed 5 lb. 11 oz. Examples from Eastern Turkestan, which have been referred to *T. himalayanus*, differ considerably from my Gilgit specimens; the former are paler and more brown, with not nearly such strong contrasts of colours. Five eggs of this species, taken in the Gilgit district on the 28th April at an elevation of about 10,000 feet, measure in length 2·57 to 2·65 inches, and in breadth 1·84 to 1·85.

* This is not quite correct, for in April 1874, Mr. Mandelli obtained a fine specimen of this species from Native Sikkim, now in our Museum, and I have seen a specimen obtained in the Sind Valley, Cashmere. Both were, of course, mere stragglers.—ED., S. F.

194.—*Caccabis chukar*, Gray. (820.)

The Gilgit Chikore agrees exactly with the race from Ladak (*C. pallescens* of Hume). This form ought possibly to be separated from *C. chukar*; it is not merely a pale form of that species, as the name might lead readers to infer, but is distinguished by an appreciably different colouration. In the Gilgit specimens the upper parts and wings are very grey, a rufous-brown tinge being only present on the hind head and as a band across the interseapular region; the breast is pure French grey; and the black bars on the flanks are wider than in typical *C. chukar*. The Chikore of Eastern Turkestan (*C. pallidus* of Hume), however, is only slightly paler and more sandy-coloured than *C. chukar* from the southern slopes of the Himalayas, and should not be separated from the latter.

195.—*Coturnix communis*, Bonn. (829.)

The Common Quail is a summer visitor to Gilgit, and breeds there in small numbers. It arrives about the end of March, and leaves at the end of September. I never saw it in winter.

196.—*Otis tetrax*, Lin. (836 *ter.*)

This species appears to be merely a straggler to Gilgit; and it seems to me certain that it does not breed in the district.

197.—*Charadrius fulvus*, Gmel. (845.)

This species appears merely to pass through the district in spring; in autumn it occurs in small numbers, and hardly makes any stay. I secured two specimens, both males, on the 27th September and 3rd October; the wings measure 6·2 and 6·7 inches; and the axillaries are dark grey.

199.—*Ægialitis curonica*, Gmel. (849.)

This Plover is common in Gilgit on passage from the end of March to the first week in May, and from the third week in September to the middle of October. Eight specimens preserved have the wings 4·5 to 4·7 inches, and agree completely with European examples.

200.—*Ægialitis hiaticula*, Lin. (849 *bis.*)

This species seems to be only a rare straggler to Gilgit in autumn. I obtained but one specimen, a female in immature plumage and lacking the black frontal band, on the 11th October 1879. This example agrees completely with English

specimens of the same age, and measures:—Length, 7 inches; wing, 4·9; tail, 2·25; tarsus, 0·93; mid toe and claw, 0·85; bill from gape, 0·58. *Ægialitis hiaticula* has only once, with certainty, been recorded from the plains of India (STRAY FEATHERS, VIII., p. 198, 1879).

201.—*Vanellus vulgaris*, *Bechst.* (851.)

Common in spring and autumn on passage; but a few remain in favourable spots throughout the winter; they do not leave the district for the north, until about the first week in April. As to the note about the colouration of the sexes (*ante*, p. 94), it is certain that the adult female has the lores, chin, and throat black as in the male; the specimens having these parts white were probably immature. The adult female in breeding plumage only differs from the male in having a shorter crest and the colours less vivid.

202.—*Chettusia gregaria*, *Pallas.* (852.)

This species passes through Gilgit on migration in spring and autumn, without making any stay. Occasional specimens were secured between the 4th March and 8th April.

203.—*Lobivanellus indicus*, *Bodd.* (855.)

Apparently only a straggler to Gilgit in spring. I heard its unmistakable cry once, in June 1879, but neither saw nor heard it afterwards until the following year, when I secured a fine specimen on the 24th April.

204.—*Grus virgo*, *Lin.* (866.)

A flock passed over Gilgit on the 21st March, flying northwards.

205.—*Scolopax rusticula*, *Lin.* (867.)

The Woodcock is found about Gilgit, in ordinary winters, only in very small numbers. It may breed in the district, in the mountains at high elevations, but certainly not in the Gilgit valley. A pale-coloured female, shot in December, had the wing 7·6 inches in length, and weighed 9·75 oz.

206.—*Gallinago solitaria*, *Hodgs.* (869.)

I found this fine Snipe in fair numbers about the middle of October, in a small valley near Gilgit, at an elevation of 9,000 feet. It very rarely occurs in the main valley.

207.—*Gallinago scolopacina*, *Bonap.* (871.)

My dates for the arrival and departure of the common Snipe quite agree with those given by Major Biddulph. Very

few birds remain about Gilgit throughout the winter; but they are found in fair numbers in autumn and spring, on passage.

208.—*Limosa ægocephala*, *Lin.* (875.)

This species is found in Gilgit on migration only, in spring during the first half of April, and in autumn in the third week in September. The following are dimensions of a male in summer plumage, and of a female in winter-dress:—

Male.—Length, 17·1 in.; wing, 8·45; tarsus, 3·15; bill at front, 4·15.

Female.—Length, 19·7 „ „ 8·9 „ 3·85, „ „ 4·8.

209.—*Machetes pugnax*, *Lin.* (880.)

Not uncommon on passage; in spring observed in the third week in March, and in autumn obtained from the first week in September to the middle of October.

211.—*Tringa minuta*, *Leisl.* (884.)

The Little Stint is common in Gilgit on passage: in spring it was found during the first week in April; and I shot it on its way southwards from the 12th September to the 26th October.

212.—*Tringa temmincki*, *Leisl.* (885.)

Temminck's Stint is also common in Gilgit during the season of migration. I obtained it on its way north from the 14th to the 22nd May, and while it was passing southwards from the 10th September to the 23rd October.

213.—*Totanus glareola*, *Lin.* (891.)

This species is less common in Gilgit than *T. ochropus* or *T. hypoleucus*. On its northward migration it is found with us from the 23rd April to the middle of May. It is never seen between May and September. On its autumnal migration it appears about the 12th September, and remains in the district only a very short time.

214.—*Totanus ochropus*, *Lin.* (892.)

Very common on migration from the beginning of April to about the middle of May; and again from the middle of August to the end of September. A few rare stragglers pass the winter in the district, as I shot a specimen once on the 3rd January.

215.—*Tringoides hypoleucus*, *Lin.* (893.)

Common on passage to the north from the 12th April to the 23rd May; on its way southwards it first appeared on

the 4th September; and I shot a straggler as late as the 29th December.

216.—Totanus glottis, Lin. (894.)

This species is tolerably common in Gilgit on its northward and southward migrations. I obtained a number of specimens during the latter half of April and in the first half of September.

218.—Totanus calidris, Lin. (897.)

The Redshank only occurs on passage, and then in very small numbers. I shot a specimen on the 10th April, and saw others in the first week in September.

219.—Himantopus candidus, Bonnat. (898.)

Passes through the district, in small numbers, in spring and autumn. Specimens were shot on the 18th April and 15th September.

Hydrophasianus chirurgus, Scop. (901.)

This species, not included in Major Biddulph's list, seems to be merely a straggler to our district. The only specimen seen in Gilgit, an adult male in breeding-plumage, was shot on the 26th April; it was found on a pool of water near the Gilgit river, and was solitary. The following are measurements of this example:—Length, 17 inches; wing, 7·8; tail, 8·9; tarsus, 2; mid-toe and claw, 3·1; hind claw, 1·15; bill to gape, 1·24.

220.—Fulica atra, Lin. (903.)

Common in spring and autumn on passage. I never observed it in winter. Many specimens were obtained from the first week in March to the middle of April.

221.—Gallinula chloropus, Lin. (905.)

I found this species common on passage, throughout April and October only.

222.—Porzana maruetta, Leach. (909.)

My specimens of this Rail were obtained from the 12th to the end of April. Some birds breed in the district; but, owing to their shy disposition, I failed to ascertain the date of their departure in autumn.

223.—Porzana bailloni, Vieill. (910.)

A summer visitor in small numbers to the main valleys, especially where rice is cultivated. A few pairs breed about Gilgit.

224.—Porzana parva, Scop. (910 bis.)

This species appears merely to pass through the district in spring and autumn. It is found in Sindh in winter; and the birds that visit us probably breed further north. I shot three specimens in Gilgit between the 5th October and 2nd November; and these agree perfectly with European examples of this Rail with which I have compared them.

225.—Crex pratensis, Bechst. (910 quat.)

I obtained only a single specimen of the Corncrake at Gilgit, on the 8th October; the bird was found on a small watercourse which ran by the side of a field of Indian corn. The species was never observed on any other occasion. My example, a female, measured:—Length, 10 inches; wing, 5·4; tail, 2·25; tarsus, 1·5; middle toe and claw, 1·5; bill from gape, 1. The bill was flesh-coloured, grey at the tip; irides brown; feet drab; claws pale brown. The specimen agrees perfectly in plumage with English examples with which I have compared it.

226.—Rallus aquaticus, Lin. (914 bis.)

A migratory species in Gilgit, occurring in small numbers from the middle of March to the end of April. I did not ascertain the date of its passage in autumn; but it does not seem to breed in the district, and certainly is not found there in winter. My specimens agree perfectly with European examples of this species. *Rallus indicus*, of which I have examined Chinese, Japanese, and Indian examples, is distinguished from *R. aquaticus* by having a dark brown or dusky stripe continued from the lores under the eye and over the upper part of the ear-coverts; but there is apparently no other constant difference.

227.—Ciconia nigra, Lin. (918.)

The Black Stork is found in Gilgit only on migration in spring and autumn. On its passage north it was observed from the middle of February to the third week in April, sometimes in large flocks of over one hundred birds; in autumn it seems to pass over without halting in the district. A fine adult male shot on the 16th April measured:—Length,

43.5 inches; wing, 22.5; tail, 10.3; tarsus, 8.5; bill from gape, 8.25; weight, 7 lb.

228.—*Ardea cinerea*, Lin. (923.)

This Heron is common in Gilgit, according to my observation, throughout March and April, when on its way to the north, and from the middle of August to the beginning of October, when repairing southwards. I have no evidence of its breeding in the district. My specimens agree completely with European examples, and consequently do not accord with the description of *Ardea brag* from Cashmere.

229.—*Ardetta minuta*, Lin. (935.)

I only secured one specimen of the Little Bittern in Gilgit; it was captured in a rice-field on the 20th September. The example, an immature male, agrees well in plumage with specimens of a similar age from Holland. Length, 14.3 inches; tail, 1.9; tarsus, 1.6; mid-toe and claw, 2.1; bill from gape, 2.5. Iris bright pale yellow; orbital skin pale green; bill pale grey, dusky along culmen; feet green; claws black.

230.—*Nycticorax griseus*, Lin. (937.)

The Night-Heron is a summer visitor to Gilgit, but is only found there in very small numbers; a few pairs probably breed in the district. An adult female, obtained on the 5th May, with a wing 11 inches, had a crest 6 inches long, and weighed 14 oz.

233.—*Spatula clypeata*, Lin. (957.)

The Shoveller is not uncommon in Gilgit on migration in spring and autumn. I shot specimens from the middle of April to the first week in May, and again throughout September. A female, shot on the 30th September, is remarkable in having precisely the plumage worn by the adult male from July to October; the lesser wing-coverts are glossy grey-blue, and the inner half of the speculum bright green.

234.—*Anas boscas*, Lin. (958.)

Although some specimens of the Mallard are to be obtained throughout the winter in Gilgit, it is most common there in October and November, and again in March and April, the greater number of the birds that visit us evidently wintering further south.

235.—*Anas strepera*, Lin. (961.)

This Duck merely passes through the district in spring and autumn, hardly making any stay in Gilgit, which is not a

favorable locality for the duck tribe. I obtained specimens of the Gadwall in the first week in October, and observed it again in March.

236.—*Anas acuta*, Lin. (962.)

I obtained this Duck in Gilgit from the third week in September to the end of October, and from the first week in February to the middle of April, but never observed it in November, December or January. A male, shot on the 28th September, is in summer plumage, with the uropygials only 0.3 longer than the next pair.

237.—*Anas penelope*, Lin. (963.)

The Wigeon evidently only passes through Gilgit on migration. I shot a solitary example, the only one I ever saw there, on the 23rd March.

238.—*Anas crecca*, Lin. (964.)

Fairly common in October and November, and in March and April; a few stragglers only seem to remain with us throughout the winter. On the spring migration I obtained specimens of this Teal as late as the 26th April.

239.—*Anas circia*, Lin. (965.)

This Teal is more scarce with us than *A. crecca*, and is only found during the autumn and spring migrations. I obtained it throughout September, and from the first week in March to the 21st April.

241.—*Fuligula nyroca*, G \ddot{u} ld. (969.)

A through-passer in spring and autumn; specimens were secured on 28th March and 4th October.

242.—*Fuligula cristata*, Lin. (971.)

This species also merely passes through the district on migration. I obtained only one specimen in Gilgit on the 5th March.

244.—*Podiceps fluviatilis*, Tunst. (975.)

Rare, and only seen on passage. I obtained a female near Gilgit in nearly full breeding-plumage on the 5th April.

***Larus ridibundus*, Lin. (981.)**

The Black-headed Gull, which is not included in Major Biddulph's list of Gilgit birds, is a rare visitor to the district, apparently on migration. I obtained only one specimen, a male in winter plumage, on the 2nd May.

247.—Hydrochelidon hybrida, Pall. (984.)

This Tern is tolerably common about Gilgit in spring and autumn. I shot many specimens from the 22nd April to the 13th May, when on its way to its breeding-haunts, and again from the 23rd August to the 8th October, while it was passing southwards.

248.—Hydrochelidon nigra, Lin. (984 ter.)

This species must be expunged from the list of birds of Gilgit. Major Biddulph misunderstood my remarks about the five Terns I had shot. I was referring to something that had been published about the diagnosis of the three species of *Hydrochelidon*; and I intended to say that, if measurements alone were to be relied upon, some of my specimens might be *H. leucoptera* or *H. nigra*. As a matter of fact all the examples referred to are immature *H. hybrida*. It is to be hoped, therefore, under these circumstances that Gilgit will not be quoted as a locality for the Black Tern.

249.—Phalacrocorax carbo, Lin. (1005.)

This Cormorant is tolerably common along the larger rivers in the district. It is a summer visitor to Gilgit, and doubtless breeds there. I observed it continuously from the first week in March to the middle of September, but never saw it in winter. The following are the measurements and weight of a female in the plumage of the first year, shot on the 21st April:—Length, 30·5 inches; wing, 12·7; tail, 7; outer toe and claw, 3·6; tarsus, 2·1; bill from gape, 3·6; weight, 3 lb. 13 oz.

Phaeton indicus, Hume. Phaeton ætherius, Lin.

IN STRAY FEATHERS, Vol. I., p. 286, I fully described the common *Phaeton* of the Indian Ocean, Persian Gulf and Red Sea and Bay of Bengal.

In Vol. IV., p. 481, I gave further dimensions and particulars of this species, which I separated as *P. indicus*, on the grounds that it was altogether a smaller bird than *P. ætherius*, with a wing always under 12, against a wing of over 13 in *ætherius*; central tail feathers always under 13, against 20 to 30; a bill not exceeding 2·3 at front, against a bill of 2·5 to 2·7 in *ætherius*, and a smaller tarsus, &c. Also on the grounds that it never assumed the pure white plumage attributed to the perfect adult *ætherius*. I showed also that

Heuglin's measurements and experience entirely confirmed my view.

In Vol. V., p. 302, further particulars were given, and both Captain Butler and Mr. Davison from independent observations confirmed my view of the distinctness of our Asiatic bird.

Quite recently, despite all this, I find in a newly published work, *P. indicus* calmly treated as a synonym of *P. aetherius*. Under the circumstances, this is simply indefensible, and were it not that it may mislead others, who have not had the opportunity of examining both species, I should not have noticed it. As it is, a few additional remarks on the subject may perhaps prevent the further propagation of this misconception.

I have now obtained and examined 23 specimens of the Asiatic species, some of which were shot in every month of the year, except April and September.

I have also obtained, though with great difficulty, a specimen of the Atlantic bird, procured, *I believe*, at Ascension Island.

All the differences, in size of wing, length of central tail feathers, length of bill, size of tarsi, above pointed out, held good in all the 23 specimens of *indicus*, and in the single specimen of *aetherius*.

Further, comparing the specimens, I notice the following additional differences. Whether invariably constant, having only one specimen of *aetherius*, I cannot of course say; but they are such as can be easily verified where numerous specimens of *aetherius* exist. The differences in dimensions and tail development are alone sufficient to separate the two species, but these further differences, if constant, will conclusively demonstrate their distinctness:—

First as to bills: Though longer, the bill in *aetherius* is perceptibly slenderer, and has the angle of the gonys distinctly marked, whereas in *indicus* there is practically no angle. In every specimen of *indicus*, the bill was when fresh (and is so still) a dull red, more or less orange towards the base of the lower mandible, and there was, and is, a dark line distinctly marked along the entire commissure; the bill is bright coral red, and there is no trace of this line in my *aetherius*.

Second as to plumage: In *indicus*, there is a distinct, though very narrow, black line from the nostrils to the gape along the margin of the feathers; there is nothing of this in the *aetherius* before me. In *aetherius*, all but the first two primaries have a conspicuous white margin to the outer webs, while in *indicus*, the fifth or in some birds the sixth, primary is the first to show this. In *aetherius* the central tail feathers are black or dusky shafted for fully

seven inches beyond the tips of the longest upper tail-coverts, while in *indicus* this is the case for less than two inches (in some specimens for less than *one* inch). The barrings on the upper surface, specially on the scapulars of *ætherius*, are a sort of dusky slatey, while in *indicus* they are jet black in some specimens, and all but black in the rest. A similar difference in colour is noticeable in the white margined tertials of the two species, and even in that of the subaxillary flank tufts.

Third as to feet. There appears to be more black on the feet of *indicus*; in *ætherius* the inner long toe is only black on the nail and small terminal joint, whereas in *indicus* the black covers the second joint also.

How far, as I have already said, these *minor* differences would prove constant in a large series of *ætherius*, I cannot say; but the differences in the colour of the plumage and bills, at any rate, would certainly seem so, to judge from the following remarks by my friend Major Butler, contained in a letter recently received from him:—

“A word now about tropic birds. I think I remember your discussing the subject of plumage, *length of tail*, &c., in STRAY FEATHERS in the diagnosis of *Phaëton indicus* of the Mekran Coast, and on that account I made a point of examining two or three skins of the St. Helena bird, which I take from memory (no books on board) to be *P. ætherius* with the following results:—

“*Firstly*.—The central tail feathers seemed to me greatly to exceed the length of any of the Indian specimens I have seen, *viz.*, $2\frac{1}{2}$ feet from vent to tip of the longest pair I measured; the feathers were much worn and showed scarcely any traces of the web towards the tips.

“*Secondly*.—The color seemed to me to differ from that of the Indian specimens, *viz.*, (extract from my note book):—‘Plumage above beautifully pencilled with *dark slatey grey*, extending to the thighs on either side of the body. Lower parts pure glossy white like satin. Bill bright coral red.’

“Now, as far as I recollect, in the birds I shot along the Mekran Coast the markings above were black or nearly so, and the tail *very much* shorter. As regards the colour of the bill, too, there may be some difference; they did not seem the same somehow, but this can be easily settled by reference to the tickets of your birds and those I sent you.”

It is to be hoped that henceforth no one will place *P. indicus* as a synonym of *P. ætherius* without specifying clearly why they reject the former species, or without a careful comparison of a series of both forms.

A. O. H.

Note on the Nidification of *Ardea goliath*.

BY MAJOR E. A. BUTLER, *R. I. Rifles*.

ON the 17th October 1881 I found a nest of the Giant Heron in Natal, about 10 miles east of Newcastle. I had visited the spot about the 7th of the month when the birds were just commencing to build, and as they rose upon that occasion very wild I mistook them for *Grus (Paradisea) stanleyanus*. On re-visiting the place, however, on the 17th instant, accompanied by my friend, Captain Reid, R.E., we approached the nest under cover of a low undulation in the ground which enabled us to get within about 70 yards of one of the birds which proved to belong to the present species.

The nest was situated in the centre of an open valley, and placed on the top of a patch of green sedge beaten down by the wind and rain, and forming, as it were, a sort of small island some 40 or 50 yards from the side of the tank, being raised about two feet above the level of the water. It consisted of a dense mass of dry sedge and reeds lined with dark-colored sedge and a species of aquatic creeper, being about two feet in diameter and very flat on the surface and exposed to view from all sides. The *male* bird was sitting, and as we approached raised himself off the nest and walked slowly away in an erect attitude for a few yards before taking flight. After settling for a few minutes on a patch of open ground some hundred yards or so from the nest, watching our movements as we separated and tried to conceal ourselves in the low rushes close by, he rose and flew towards us, when R. fired a long shot, but without effect. He then flew off to a distance of 500 or 600 yards, alighting fortunately within gun-shot of the river bank, and affording an opportunity for a stalk, which R. promptly seized and brought him to bag. The shot only winged him, and as he became very savage, tearing up the grass with his bill, and showing every intention to fight to the last, R. had to despatch him with another cartridge. It was a fine bird measuring as follows:—

Sex	L.	W.	T.	Bf.	Bg.	Exp.
♂	60	25½	8½	7½	10	87½

Legs and feet black; iris bright yellow; orbital skin, plumbeous.

We did not see the hen bird at all, but another Heron (*A. cinerea*) was feeding within a few yards of the nest when we first approached it. The eggs, three in number and quite fresh, were very large, but in other respects like the eggs of *A. cinerea*, though perhaps slightly coarser in texture, being broad ovals, slightly chalky in texture and of a pale bluish white or skim milk color.

Novelties?

Picus pyrrhоторax, Sp. Nov. ?

Like *P. cathpharius*, but differs in both sexes having an intense red gorget, in the much greater amount of white on its quills and lateral tail feathers, and in the female also having a broad crimson occipital band, &c.

At Aimole, in the Eastern Manipur hills, I procured two specimens of a most lovely little Woodpecker which I believe to be new.

At any rate, it is none of our hitherto recorded Indian Burmese or Malayan species; it is not one of the Chinese species included by Peré David and Oustalet; nor is it any Palæarctic species included by Dresser; nor is it in Malherbe, the P. E. or P. C., the Fauna Japonica, or any other book I can think of.

It more resembles *P. cathpharius* than any other species, but differs, *inter alia*, in its intense red gorget, present in both sexes; in the much greater amount of white on the quills and lateral tail feathers; in the female also exhibiting a huge, broad, fiery crimson occipital band, &c.

The following are particulars of my two specimens:—

	Length.	Expanse.	Tail.	Wing.	Tarsus.	Bill from gape.	Weight.
♀	6·8	11·7	2·85	3·72	0·6	0·8	0·95 oz.
♂	6·8	12·0	2·4	3·85	0·71	08·2	0·95 „

Female.—Legs and feet dusky lavender; claws brown; bill blackish horny, greyish at base of lower mandible; irides lac red.

Male.—Legs and feet dull sap green; claws horny dusky; bill leaden dusky, paler at base of lower mandible; irides lac red.

The female, which I procured on the 18th April, and of which I quote my full description written before the bird was skinned, has the frontal band rusty white; the rest of the forehead and crown black; lores, a band over and below the eye, cheeks, and ear-coverts silver white; a broad black mandibular stripe down the sides of the neck to the breast; chin and upper throat white; lower throat buffy.

Upper breast between the ends of the mandibular stripes intense crimson; from the lower margin of this crimson patch, and the ends of the mandibular stripes, strongly marked streaks of black radiate out over the entire breast, the ground of which is white, more or less tinged with rusty, and this is the colour of the abdomen and sides, though most of the feathers are dark shafted, and there is a decided reddish tinge on the lower abdomen, just above the vent; lower tail-coverts white, tipped and tinged with rather dull crimson.

Back of neck black ; sides of neck, between this and mandibular stripe, pale crimson, the white bases of the feathers showing through ; entire occiput intense crimson, the feathers lengthened so as to form a short full crest.

Rest of upper surface black, (a little brownish on primaries and rectrices,) with the following white markings :—(1), secondary, greater and median coverts pure white ; (2), all the quills, but the first abortive one, with white spots on both webs, forming in most cases imperfect bars, but there is only one white spot, quite at the base, on the outer web of the second (first long) primary, and on the next three there are no white spots on the inner webs corresponding with the one, two, or three terminal ones on the outer web ; (3), only ten visible tail feathers, the fifth on each side tipped with white, and with two white bars above this, the upper one more or less imperfect ; fourth similar, but with only one bar ; third with only a trace of a tipping.

Axillaries and wing lining (except a black patch about the shoulder of the wing) white.

I was sitting at the door of my hut, when the bird above described came and perched, or rather clung, on about the level of my eye near the top of a small tree growing down the slope. My gun was on my lap and I instantly shot it. After that I hunted high and low for others, and on the 26th I shot another, a male.

The male only differs in having the black mandibular stripes still broader, and in having the black streaking, which, in the female, is confined to the breast, denser, and extending over the upper abdomen, sides and flanks ; in having the ground of the lower surface slightly darker ; in the white spots on the quills being smaller and less conspicuous ; and in having less white on the lateral tail feathers.

This may be a young bird, and the adult male *may* prove to be somewhat different, but the specimen seems adult.

Certhia manipurensis, Sp. Nov. ?

Like C. discolor, but with a longer bill ; (0·82 against 0·75) with a pure buff throat and breast, and a dingy buffy grey lower abdomen, &c.

This was the only Creeper I met with in Manipur, and that only in the Eastern hills, where from 5,000 to 6,000 feet it was not very uncommon, though by no means abundant.

	Length.	Expanse.	Tail.	Wing.	Tarsus.	Bill from gape	Weight.
♂ ...	6·2	8·2	2·72	2·76	0·64	0·76	0·36 oz.
♀ ...	6·1	8·0	2·85	2·6	0·64	0·7	0·32 ,,

Male.—Legs and feet pale fleshy brown; upper mandible blackish; lower mandible very pale fleshy pink; irides hazel.

Female.—Legs and feet brown, with a fleshy tinge; upper mandible dark brown; lower mandible pale horny pink; irides brown.

This Creeper belongs to the unbarred-tailed section (*vide* S. F., V., 79). In this section *C. nipalensis* has the tail plain brown, the other three *stoliczkae*, *discolor* and *manipurensis* all have the tail distinctly rufous.

A glance at the lower surfaces will suffice to distinguish the three:—

	<i>Throat and Breast.</i>	<i>Lower abdomen.</i>
<i>C. stoliczkae</i> ...	White, with a warm buff tinge.	Rich ferruginous brown.
<i>C. discolor</i> ...	Dingy earthy olive brown, with a faint yellowish shade.	Dirty brownish grey.
<i>C. manipurensis</i> ...	Pure buff.	Dingy buffy grey.

This species is nearest to *discolor*, with which I cannot help thinking it may have hitherto been confounded. The upper surface of the two are almost the same, only the pale markings are less buffy, and the bar on the outer webs of the primaries, which is a warm buff in *discolor*, is almost white in *manipurensis*. Moreover, the bill in this latter is longer, running to 0.82 (though several are less) from forehead to tip straight, against 0.75 as a maximum (the majority are rather less) in *discolor*.

No detailed description is necessary. The upper parts might be mistaken for *discolor*, the lower never, when specimens of the two species are compared. Even in a much worn weathered specimen, in which the buffy throat and breast are become dull and somewhat greyish, the contrast between the colour of these parts in the two species at once attracts notice.

Pomatorhinus austeni, Sp. Nov. ?

Like P. ochraceiceps, but with the upper surface olive brown and the flanks olivaceous.

There is a sub-group of three species of this genus, all characterized by long, compressed slender bills, of which one species has now to be described for the first time. They may be thus diagnosed:—

	<i>Upper surface Breast and Upper Abdomen.</i>	<i>Flanks.</i>
(1.) Olive brown.	White.	Olivaceous. <i>P. austeni</i> .
(2.) " tinged ochraceous.	Fulvous buff.	Fulvous. <i>P. stenorkynchus</i> .
(3.) " very strongly tinged ochraceous.	White.	Ochraceous. <i>P. ochraceiceps</i> .

The first I only know from the Eastern Manipur hills. The second I only know from the easternmost parts of the Debru-

garh district. I got my specimens from Tipook. Godwin-Austen his on the Manbum Tila on the Tenga Pani river near Saddia. The third has only been produced in the Central and Northern Tenasserim hills, and their offshoot the Karen hills.

The following are particulars of the only two specimens of *austeni* that I measured in the flesh:—

Sex.	Length.	Expanse.	Tail.	Wing.	Tarsus.	Bill from gape.	Weight.
♂ ...	10.2	10.7	4.5	3.66	1.26	1.47	1.3 oz.
♂ ...	10.0	11.0	4.75	3.5	1.3	1.53	1.31,,

Legs and feet pale grey brown with a dull green shade, or greyish olive; claws light brown or horny yellow, brownish towards tips; soles yellowish; bill coral red to orange vermilion; irides pale buff, or very pale orange, or white, with an orange tint.

Lores, cheeks, and ear-coverts black, brownish on the latter; a long narrow pure white supercilium from the nares nearly to the nape; entire upper surface a dull earthy olive brown, only on the head, and just behind the ear-coverts, a faint ochraceous tinge; chin, throat, breast, and abdomen pure white; flanks, sides, vent, and lower tail-coverts the same dull earthy olive brown, with a faint buffy tinge on the sides of the breast.

Utterly different *looking*, as, owing to the great difference in colour, it is, this species is a washed out nonrufous edition of *ochraceiceps*, but this striking difference in colour is constant between all our Tenasserim and all our Manipur birds, and it is impossible to overlook or ignore it. The two birds are related to each other precisely as are *P. horsfieldi* and *P. obscurus*.

This species has a more than usually loud chuckling call, which it emits perched up on some branch or sloping bamboo, some five or six feet from the ground, in the midst of dense forest jungle. As soon as I learnt its note, it proved to be common enough about all the higher forests of the Eastern hills, but I neither saw nor heard it elsewhere.

Trochalopterus erythrolæma, Sp. Nov.?

Like T. erythrocephalum, but with the cheeks and throat uniform with the crown.

There is a small subgroup of *Trochalopterums* characterized by having more or less chestnut about the crown, occiput, or nape, the tail and wings conspicuously margined with unbroken golden olive or yellow, and a conspicuous wing-patch

formed by the greater secondary coverts being a more or less rich and pure maroon red. This sub-group divides into two; the first division has the plumage of the neck all round, upper back and breast, uniformly colored, *i.e.*, unspotted. Of this division *T. melanostigma*, Blyth, is the type, and with this division we need not at present concern ourselves further.

The second division always has the plumage of the neck all round, and more or less of the upper back and breast, more or less marked with darker subterminal lunules or spots. This sub-division includes at least four species:—

I.—Entire top and back of head red.	}	Cheeks and throat blackish ...	1	<i>T. erythrocephalum</i> , Vig.
		Cheeks and throat uniform with crown	2	<i>T. erythrolæma</i> , Hume.
II.—Hinder part of crown, occiput and nape red.	}	Chin and ear-coverts grey ...	3	<i>T. ruficapillum</i> , Bly.
III.—Occiput only red			Chin black, ear-coverts black, margined silvery ...	4	T. chrysopteron, Gould.

I only obtained one specimen of this new species, which, though coming from the Eastern hills of Manipur (near Matchi), is far more nearly allied to the Western Himalayan *erythrocephalum* than to the Eastern Himalayan *chrysopteron*, or the Assamese hill *ruficapillum*.

The following are the dimensions and other particulars of my specimen:—

Male.—Length, 10·3; expanse, 11·8; tail, 4·5; wing, 3·7; tarsus, 1·5; bill from gape, 1·07. Weight, 2·36 ozs.

Legs and feet fleshy brown, pinker on feet; bill blackish brown; irides grey.

The lores blackish dusky; the extreme tip of the chin dusky; rest of chin, entire throat, cheeks, ear-coverts, upper neck all round, forehead, crown, occiput and upper part of nape, deep chestnut red, a little brighter on top of head, a little duller on the throat; upper breast similarly colored but paler; lower breast and upper abdomen paler again, and much yellower and rustier; most of the feathers on these parts with subterminal blackish spots, beyond which the tips are fringed paler; middle of lower abdomen pale ferruginous, unspotted.

Sides of body and abdomen, flanks, vent and lower tail-coverts a dull olivaceous earth brown; tibial plumes much the same, but with just a faint touch of the colour of the middle lower abdomen; wing lining grey, but some of the feathers just tipped with reddish or orange ferruginous; interscapular region a pale greenish olive grey, all the feathers with large blackish brown subterminal spots, succeeded by a paler fringe; space between interscapular region, and where the uniform red of the nape ends, similar and similarly spotted to the

former, but more or less overlaid with the bright red of the crown, and with a yellower tinge of this; lower back, rump, upper tail-coverts, tertiaries and tail, where not tinged with golden, the same pale greenish olive grey, as the ground of the interscapulary region. All the tail feathers tinged and margined on their outer webs, most strongly towards their bases, with a somewhat olivaceous golden; outer webs of primaries and secondaries a brighter shade of this same golden; inner webs deep hair brown; primary coverts mostly golden; secondary and tertiary greater coverts rich maroon chestnut; their median and lesser ones a paler tint of this mingled with yellow.

The British Museum Catalogue of Birds, Vol. V.
By Henry Seebohm.

I HAVE too long already delayed to notice this valuable addition to Ornithological Literature, and yet even now I find it impossible to make the time to review it alike as its merits deserve, and as in the interests of our favourite science would be desirable.

To delay any longer, however, in calling attention to the mass of honest painstaking labour which this volume represents, would be an act of ingratitude to one to whom all ornithologists are greatly indebted; and I must, therefore, *faute de mieux*, content myself with such brief remarks as shall induce brothers of the craft in India to study it for themselves, and leave to a time of greater leisure the detailed review that to my mind this volume specially demands.

In Volume V. we are presented with a catalogue of the known species of the Family of the TURDIDÆ, as defined by Mr. Sharpe—a definition which I cannot but agree with Mr. Seebohm fails to synthesize a natural group, and on the contrary includes parts of two quite distinct groups. To avoid, as far as possible, the confusion that would result from this arrangement, Mr. Seebohm divides all the species falling within Mr. Sharpe's definition into two sub-families—the SYLVINÆ or Warblers, and the TURDINÆ or Thrushes. Of course this only partially meets the difficulty, for the definition of the *Turdidæ*, being such as it is, many of the most closely allied genera find themselves in *different* families, while united in the *same* family with many but distantly related ones.

It is, however, only fair to recall that Mr. Sharpe himself was fully cognizant of the difficulties which his modification of

Sundevall's system, equally with this latter, involves. He remarks (Vol. IV., p. 6):—

“In attempting to draw a hard and fast line between groups which nature has connected by intermediate forms, the difficulty of dealing with the connecting links has to be faced. I have preferred to accept a line which is capable of definition even in cases where forms, apparently nearly allied, must be separated, being convinced that any line, wherever drawn, must be subject to the same objection.”

This is equivalent to the assumption that the line in question is as good as any other that *can* be drawn; but when I find that line, to give two instances, uniting a ground feeding Thrush like *Cochoa*, with *Hemipus* and *Tephrodornis*, and these again with *Platylophus* and *Hypocolius*, and on the other hand dividing off into different families *Cettia* and *Prinia*, I confess that I, personally, think but poorly of that line, and look forward to the drawing of a very different line, open to much less serious objections.

Mr. Sharpe's work is admirable, but, to my idea, the frame in which he has placed it is most artificial and *unnatural*.

But to return to the present volume. In a most interesting preface Mr. Seeböhm gives some idea of the *principles* by which he has been guided in his work. He explains that he has rejected the old-fashioned axiom that genera must be founded upon structural characters, because he is convinced that these so-called structural characters have no generic value at all, and has fallen back for *his* generic characters upon colours, or pattern of colour, as a character which in fact dates further back than the shape of the wings, tail, or bill.

Without stopping to enquire for the proof on which this last assertion is based, I may say that to my mind the results of this novel system appear in the highest degree unsatisfactory; and that, for instance, each of Mr. Seeböhm's genera *Geocichla*, *Turdus* and *Merula* constitute a melancholy jumble of discrepant forms. If we are to have *citrina*, Lath., *monticola*, Vig., and *wardi*., Jerd, in one genus, then at least let us return to the simplicity of Linué, and keeping only *Turdus*, discard, along with all the other genera, *Geocichla* and *Merula*. There is no logical standpoint between *Turdus*, *solus* and some fifteen or seventeen genera.

But the idea of structural characters for genera is not the only old-fashioned notion that Mr. Seeböhm has felt impelled to reject. He feels equally bound to reject those rules of the British Association Code of scientific nomenclature, which do not meet his approval. Of course he gives very weighty reasons for his violations of the law—reasons that, if considered only with reference to the particular instance, might well be allowed to

carry a favourable verdict. But the fact is that, in such cases, references to particular instances are inadmissible.

The question must be looked at as a whole if we are to arrive at any sound conclusion.

Now, taking the question as a whole, it is obvious that the most important point, from a purely scientific point of view, where nomenclature is concerned, is to ensure uniformity. Uniformity can only be secured in such a case by general adherence to fixed rules—by a code in fact. But a code, however good, is useless if every individual, nominally subject to its sway, is to be allowed to disregard it in such particulars as he pleases. If Mr. Seebohm would disregard the code in certain particulars, others would wish to do so in others, *e.g.*, I should wish to adopt all good binominal names, whether prior to 1766 or not. If *one* may violate, all may violate; if *one* rule may be broken, all may be broken; the code becomes obsolete, each naturalist acts in accordance with his personal predilections, and hopeless confusion replaces orderly uniformity. It is childish for any one ornithologist to dream that he may make amendments in the law, and that others will adopt these and read them, as the lawyers say, as part of the code. Let him be ever so wise, his emendations lack authority. I have met men who conceived that they could profitably rewrite and amend sundry chapters in the Bible. One very pious and learned man who has done so is still living; but could any individual learning, eloquence or virtue give authority to such “revised versions?” So it is with the code; the emendations that one man approves carry no weight, no authority with others, and if they follow him at all, it will only be in his bad example of transgressing the code, whose rules they will violate, probably in a precisely contrary direction.

There is no half-way house. You must either have a code rigidly obeyed and with it uniformity, or each left to his own devices and chaos.

I am no blind admirer of the British Association Code, which modern science has sadly outgrown. I have persistently urged a conference of the most distinguished naturalists to revise and repromulgate it; but until this is done, and so long as that old code remains unrepealed, I cannot but esteem every naturalist who knowingly violates its provisions as one who wilfully obstructs uniformity, and thus, *pro tanto*, impedes progress.

But though it seems to me impossible to approve Mr. Seebohm's *principles*, we can scarcely do otherwise than appreciate and extol what may in contradistinction be called his *practice*. The work before me contains the most abundant evidence

of long and patient toil, and will prove of the greatest service to every ornithologist. An immense mass of intricate synonymy has been disentangled, a wonderful number of facts have been collected and carefully arranged; and though of course on a vast number of points of detail every ornithologist is sure to differ, very few, if any, could pretend to believe that they themselves could, on the whole, have produced equally satisfactory results.

A. O. H.

Notes.

IN VOL. VIII., p. 456, I recorded the capture, by Colonel O. St. John, of a pair of White-faced Stiff-tail Ducks (*Eristamta leucocephala*) in the neighbourhood of Khelat-i-Ghilzi, and I predicted the occurrence of this species as a straggler in the Punjab and Sindh.

In Vol. IX., p. 296, I had the pleasure of recording that Mr. F. Field had actually procured a specimen of this species about a mile from the civil station of Loodhiana, Punjab.

Now, much further east, a specimen, a male (immature, like the three other previously obtained specimens) has been procured at the Najafgarh Jhil near Dehli; it is almost needless to say by Mr. W. N. Chill, to whom I have owed more rarities in the way of water birds than to any other collector in India.

ANOTHER rare Duck, an immature female Scaup (*Fuligula marila*) was kindly sent me by Mr. R. M. Stoker, who procured it on the 3rd of November, on the Indus, near Attock.

He recorded the following particulars in the flesh:—

Length, 14·75; expanse, 27·0; tail from vent, 2·65; wing, 7·6; tarsus, 1·3; bill from gape, 1·75. Weight, 15·25 oz. Irides yellow.

Hodgson, I believe, sent home one specimen, or perhaps more, from Nepal. Whether this or any of these were adult I do not know; the only other three specimens that I know to have been procured within our limits are this present specimen, and two others from Cashmere, all immature. It is much to be regretted that no adult has ever been procured, for the small size of all our specimens leads to the suspicion that they may possibly, after all, not be assignable to the true *Fuligula marila*, but rather to the smaller little known *F. mariloides*, Richardson, of which Mr. Swinhoe sent home live

specimens in 1873 to the London Zoo, but of which I have hitherto been unable to procure specimens for comparison.

MR. J. STRIP writes to say that he flushed a Woodcock in one of the Kurrachee gardens, though he was unable to procure it, as, owing to the number of men, women, and children all around, it was too risky to fire. It will be remembered that some winters ago, Major Butler bagged a Woodcock in the Lyaree Gardens, Kurrachee.

THE question of the occurrence of *Buteo desertorum* in the British Asian Empire has been already a good deal discussed in this journal (c. f. IV., 359, V. 65, &c.) and the conclusion arrived at both by Mr. Gurney and myself was that Jerdon's *B. rufiventer* was *B. plumipes*, and that the occurrence of *B. desertorum* at all in India was extremely doubtful. Now, however, while no doubt need be entertained as to the first conclusion, it seems almost certain that *desertorum* does occur, as well as *plumipes*, in the hills of Southern India.

On the 16th April 1881 my friend Mr. Davison shot a small Buzzard on the Brahmagari hills, of which he recorded the following particulars:—*Male*.—Length, 19·0; expanse, 44·0; tail, 7·4; wing, 13·4; tarsus, 2·6; bare portion of front of tarsus, 1·6; bill from gape, 1·5. Weight, 1¼ lbs. Legs, feet, cere and gape yellow; claws and bill black, plumbeous at base of lower mandible; irides whitey brown.

Now, with a wing of only 13·4, I could make nothing of this but *desertorum*; it could not be *plumipes* with a wing of only 13·4, and moreover, though it is difficult to describe in words, the plumage was unlike that of any of the specimens of *plumipes* that I have examined.

A very important question of distribution being involved, I sent the specimen to my kind friend Mr. Gurney, our last appeal when in doubt as to any Raptorial birds, and I now subjoin his decision:—

“Your curious little Buzzard has reached me safely; it is, I think, either an undescribed species, or an abnormally short-winged specimen of *B. desertorum*. We have 23 specimens of *B. desertorum* in the Norwich Museum, but all of them with the wing over 14 inches. The following are the measurements of one of the smallest, a male, from the Volga:—Wing, 14·3; tarsus, 2·8; mid-toe, 1·4.

“At the same time it will be remembered that at pages 65 and 66 of STRAY FEATHERS, Vol. V., I gave measurements considerably below this, *viz.*, 13·75, 13·9, 13·8 and 13·7, and quoted from Dresser one of only 13·5.

“The plumage of this Volga specimen on the upper parts is almost exactly like yours, including the barring on the tail, but on the under surface there is more white on the breast and abdomen than in your bird, and the brown patches on these parts are smaller; but this does not go for much, as in *B. desertorum* it is rare to see two individuals exactly alike in the markings of the under surface, and I, therefore, do not attach much importance to the fact that all our Norwich specimens differ more or less in this respect from your bird, some being more white coloured on the under surface and some less so, besides many variations of tint or of the shape of the markings. I incline to think that your bird may be a very small example of *B. desertorum*, but if others should be hereafter obtained equally small, I should look upon it as a distinct sub-species. I may add that females of *B. desertorum* usually measure in the wing over 15 inches, and we have one that measures over 16 inches. So far as I can judge from our specimens, the style of colouring and markings in your small bird comes nearer to *B. desertorum* than to *B. plumipes*.”

Letters to the Editor.

SIR,

I WRITE to inform you that a very fine *Likh Florican*, in full breeding plumage, has just been shot in the lowland by the race course below my house. A pair were flushed together, but the hen escaped. I am in one sense very sorry that the bird was shot, as they were doubtless breeding; but *imprimis*, the business may have been concluded, and the female may now carry it on alone; and *in secundis*, I doubt if the brood could be reared in the locality, as it will be put under water next month. I have begged the sportsmen to spare the bird if she be flushed again. But the Rain Quail are in thousands there, and there are half a dozen guns out morning and evening, so I fear she has but little chance if she stays on this side.

The ear-plumes are fully five inches long.

A. M. MARKHAM.

ALLAHABAD, 16th July 1881.

SIR,

As the distribution of the Painted Francolin is still a little uncertain, I think it may be worth recording that I came across a good lot of them this year at Karli in the Western

Ghats, in the valley of the Indrayani, immediately below the celebrated Buddhist excavations. Karli is not above five miles from the "Great Divide" of the range. As the species generally avoids forest country, I should not have expected it to occur so near the Ghat edge. I found the birds however, and looked in vain for the forests. The country hereabout has much more of a plains facies than one would expect from its close proximity to the Ghat watershed. Here and there is a tiny patch of thick jungle which has escaped the axe, only because it is sacred to a rustic deity. But the hill sides generally are bleak and bare, while in the valley below lie rice and wheat fields, alternating with stretches of desiccated flats riddled all over by burrowing land crabs, and covered in patches with coarse hummocky thatch grass. This grass and the bushes and hedges round the fields provide all the cover wanted by the Partridges. I flushed a few, however, in a temple grove with thick undergrowth where possibly they had nests, which I failed to discover.

G. VIDAL.

May 2nd 1881.

P. S.—Having kept the above till now I am able to add that I have since found Painted Francolins at one or two other localities near the Western Ghats, *viz.*, at Khadkalla on the G. I. P., ten miles east of Karli, and in the same valley, and again in the valley north of the Karli caves, at a point rather nearer the edge of the Ghats than Karli.

G. V.

June 27th, 1881.

SIR,

I SEND a few further notes in regard to birds mentioned in your GAME BIRDS :—

THE LESSER FLORICAN OR LIKH, *Vol. I., page 33, et seq.*

Mr. W. G. Probyn, C.S., in 1872, shot a Likh near Koomarheira, in the Saharunpore district. I never heard before or since of the Likh having been met with in the Saharunpore or any adjacent district.

THE GREAT INDIAN BUSTARD, *Vol. I., page 7, et seq.*

I have been informed that this bird was seen during the cold weather of 1879-80 in the Budaon district. It is said to breed in this district. My informant was a native, however, and I cannot be certain as to whether he has not mistaken a

Florican for a Bustard. My informant was very positive that the bird does come into the Ganges Kadir to breed.

In my note on this bird, which is published in Vol. III. of the "GAME BIRDS," I told you that the Bustard was not uncommon in the Mozuffernuggur district. During the cold weather of 1879-80 a Bustard was shot in that district and brought into Roorkee.

THE BENGAL FLORICAN, *Vol. I., page 25, et seq.*

In a late number of the *Asian* Mr. A. M. Markham states that "the Bengal Florican is very common in the Kadir of the Ganges (right bank) in the Mozuffernuggur and Saharunpore districts, especially in the former."

I must beg to differ from Mr. Markham. The bird is occasionally met with in Mozuffernuggur, but it is very rare in the Saharunpore district. I shot from 1871 to 1879 steadily in the Ganges Kadir of the Saharunpore district, and never once came across the bird in it. During this long period I repeatedly shot in the Ganges Kadir of the Mozuffernuggur Tehsil, and on only one occasion did I kill, or even flush, a Florican. I shot too for three weeks one year in the Jansut Tehsil (Mozuffernuggur) which adjoins the Meerut district. I know the Ganges Kadir well from Hurdwar to Bhokaheri, fairly well from below that to the edge of the Meerut district. I have frequently shot over this country with two, three, and four guns. During all these years that I was in the Saharunpore district, this tract was steadily shot too by the officers of the Roorkee garrison, and ridden over both by them and by the officers of the Meerut garrison, yet I never heard of a Florican having been killed by an officer of either garrison. I know that a brace or two of Florican are yearly killed in the Ganges Kadir somewhere between Hurdwar and the edge of the Aligurh district in the Kadir of the Ganges, but the bird cannot be said in this tract to be anywhere "very common," or even common.

I saw a brace of Florican killed in the Doodla swamp, or rather near it, on the left bank of the Ganges in the Bijnore district. Colonel J. T. Watson of the Bengal Army killed a brace of Florican in the Ganges Kadir of the Saharunpore district, some ten or twelve years ago. I have heard of three or four brace of Florican having been killed by a party some years ago near the Seekree jheel, which is below Bhokaheri, in the Mozuffernuggur district. I have twice flushed Florican myself in the Saharunpore district, once near Bussee, and once near Deobund. Neither place is in the Ganges Kadir or near it.

THE PAINTED SANDGROUSE, *Vol. I., page 59, et seq.*

I saw twice these birds being hawked about for sale last rains at Jubbulpore in the Central Provinces. A Gond told me that these birds were not uncommon on the tops of the jungle covered hills adjacent to the station.

THE GREY LAG GOOSE, *Vol. III., page 56, et seq.*

This bird is called in the upper part of the Doab "*bud-bay*" with heavy dal. The dental sound is clearly pronounced to distinguish the bird from the pig, commonly called in those parts "*bud.*" The Grey Lag is very common in the Saharunpore and Mozuffernuggur districts. I have never shot any other kind in them. I never heard the word Sona applied to a goose in those districts.

THE WHISTLING TEAL, *Vol. III., page 109, et seq.*

This bird is common in Saharunpore along the Ganges and Eastern Jumna canals from May to October. The bird here disappears.

F. W. BUTLER, *Major.*

ETAH, *March 30th, 1881.*

SIR,

I SEE that you have no correspondent from this part of Sylhet, and I, therefore, send you a few notes. I shall deal chiefly with the Wild Fowl, as that is the chief shooting we get here.

The Grey Lag Goose occurs here in great numbers in a favourable year, that is to say, when there is plenty of water in the bheels. The last season, 1880-81, there have been very few. The season before, 1879-80, they were in great numbers. They are very difficult to get near.

The Barred-headed Goose is rare here. I have killed one this season. There was a flock of seven. I saw the remaining six several times afterwards, but did not succeed in killing another. From the little I have seen of them I should say they were not nearly so wild as the Grey Lag.

The Cotton Teal is common here all through the year. They are in the greatest numbers at the beginning and end of the rains. In the months of November, December and January, when the bheels are swarming with other kinds of Teal, Duck, and Geese, you hardly see any of the Cotton Teal. I don't know the reason of this, but such is the fact.

The Whistling Teal is also common here throughout the year, and breeds, though not in any great numbers. They breed here chiefly in the thick grass on the bheels, and do not, I think, frequent trees much—at least I have never seen one on a tree. This season, owing to there being little water on the bheels, all the Whistling Teal disappeared about the end of November, and have not put in an appearance again yet. In 1879-80, the Whistling Teal were in enormous numbers in November and December.

I have seen flocks of at least 2,000. They were very wild, and the only way we could get at them was by standing up to our waists in water, and sending boats round to drive; in this way they gave very pretty shooting.

The larger Whistling Teal is by no means uncommon here. The season of 1879-80, self and a friend used to shoot on an average at least once a week all through the season, and we frequently killed the larger Whistling Teal; for twenty common Whistling Teal we would get about three or four larger Whistling Teal. This last season we have not killed any, though we have shot regularly all through the season. Whether or not they breed here I am unable to say, but I expect a few do.

The Ruddy Sheldrake is fairly common here, usually seen in pairs or small parties of four or five. I have never seen them in large flocks, though a friend tells me that in the cold weather of 1878 he frequently saw them in large flocks here. They are fearfully wary birds, chiefly frequenting small pools, and in a flat country like this you may imagine they are not very easily circumvented. They arrive here about the end of October, and leave about the end of March.

The Common Sheldrake is, I fancy, a very rare bird here. I have killed one this season, and the boatmen who were with me said they had never seen a duck like that before. I have seen altogether five. Upon the first occasion, upon which I saw this duck, there were four of them, and I managed to kill one at very long range. (This was on January 9th, 1881). The remaining three settled about a quarter of a mile off on the *mud*, but I could not get within shot again. On March 6th, I saw one of these birds. He was swimming about on a small pool, with some Common Teal, but was very wary, and though I did my best, I could not get a shot.

Shovellers, Pintails, Common and Blue-winged Teal are all fairly numerous from December to about the beginning of March. Here they are all very wild—the Shoveller, I think, being least so.

With regard to Snipe I think the Fantails predominate in the early part of the season, and the Pintails at the end. The Snipe we are getting now in scrub jungle are all Pintails almost

without exception. Out of 63 Snipe killed by self and a friend, within the last few weeks (end of March and beginning of April) 59 were Pintails, 3 Fantails and 1 Painted Snipe. However, this next season I will keep an account carefully, and let you know the result.

Painted Snipe are rather rare. We have only killed six altogether all through the season, shooting every week, and I have only seen one more, so that I think they cannot be very common.

Jack Snipe are not at all uncommon. I see from my diary that on November 21st last year, out of 22 Snipe I killed, four were Jacks, and in the early part of the season, from October to the end of November, every time we went out we used to get a few Jacks, though, excepting the day I have mentioned, we never got more than three in one day.

Golden Plover occur here in enormous quantities throughout the cold weather. I mention this as I hear they are rather scarce in Cachar.

I fancy many other kinds of Wild Fowl occur here, but I have only mentioned those I have been able to identify. For instance I fancy the Grey Duck and Gadwall must occur here, but I have not as yet been able to identify them.

MIRZAPORE TEA ESTATE, SYLHET,

M. EDEN.

6th April 1881.

SIR,

By same post I send you a skin just received from a friend in Bombay for identification. Is it not male *Excalfactoria chinensis** ?

I think you have never heard of it in these parts.

Some years ago I got one in a gram field quite surrounded by high and well irrigated sugarcane crops here in Poona.

This one was procured near the Vehar Lake, Bombay.

POONA,

H. WENDEN.

13th November 1881.

SIR,

I WRITE to inform you of my having succeeded in getting a *Sula*, which, from your description of the Boobies in Volume V of STRAY FEATHERS, I believe to be *cyanops*.

The measurements agree fairly with Captain Butler's in page 307, and the only differences I find are that the irides in my specimen were *lemon yellow* and not pale green; and instead of the plumage of head, back, and underparts being

* Yes.—ED., S. F.

entirely white, the hind neck and round to below the nude pouch are mottled with dusky, as is also the lower back and rump and the lesser coverts.

The following are the measurements:—

Male.—Length, $32\frac{1}{2}$; bill at front, 4; gape, $4\frac{7}{8}$; tail from vent, 8; tarsus, $2\frac{1}{4}$. Irides lemon yellow; bill horny, blackish at base; both mandibles denticulated or serrate for one-half their length from tip; head, neck, upper back, breast, abdomen, and lower tail-coverts white, with a very slight yellowish tinge; the feathers of the neck all round from below the nude pouch, and also a small space behind each eye, tipped with dusky brown, also those of the lower back and rump, but broadly; the primaries were cut by the fisherman who brought in the bird, and as much as can be seen are chocolate brown, and also are the secondaries, tertiaries, scapulars and greater coverts; the bases of all white; lesser coverts white, with tipplings and broad dashes of the same chocolate brown; the outer webs of some of the scapulars are white; tail chocolate brown, or a shade darker than the primaries; legs and feet slaty blue.

Can this be a young* bird? It was got on the 9th July. The fisherman who brought it in said there were three flocks of about 30 in each, about three miles out of the harbour, and that the specimen I have entangled itself in his net. The man also said it was the first of its kind ever seen in or about the Kurrachee Sea.

KURRACHI,

JAMES A. MURRAY.

26th August 1881.

SIR,

I BELIEVE that *Glareola lactea* has not yet been recorded from Sind. I found them very common at Kotri. My first specimens were obtained on the 20th February. On dissection I found that they were about to breed. Early in March I unfortunately sprained my knee, and was unable to go after them, but on the 10th I managed to drive along the banks of the Indus, and about a mile downstream I found a small island literally swarming with birds, evidently breeding. They comprised the following kinds:—*Sterna seena*, *Rhynchops albicollis*, *Glareola lactea*, and a pair of *Esacus recurvirostris*. I made arrangements next day to have the eggs taken. I could not go myself as I could scarcely put my foot to the ground, so I sent a Bheel shikaree with my gun, but he was arrested before he had gone half a mile for carrying arms, and the gun taken from him, and it was only after a deal of bother that I got it back. On the 15th I again drove down, but found that during the

* Yes, clearly an immature bird.—ED., S. F.

night the river had unexpectedly risen, and my island had disappeared. On the 3rd April I again went down, and crossing the river made as thorough a search as was possible. On the sandy bank just below Kotri, I found it very trying work, as my crutches (I could not dispense with them) sank several inches into the mud at every step. My diligence was rewarded by finding three nests (or holes would be the more correct term) containing, respectively, two, two, and one egg, all hard set, not so much, but I made decent specimens of them. The two pairs were of the usual type, but the single egg was very deficient in color, and densely clouded at the larger end with pale underlying patches of purple. I attribute the fact of there being but one or two eggs in each batch to the birds having commenced to lay on the island before it was flooded, and were forced to finish laying in the nearest suitable place. The spot where I procured these eggs was not an unfrequented one, neither was it a spit of land running into the water, and scores of people passed it daily, yet the eggs were not in any way concealed. This, I believe, is contrary to their usual habits.

I can only find a record of one specimen of *Tchitrea paradisi* having been obtained in the province. I shot a second one in a babool grove to the east of the camp. There seems also a doubt of the occurrence of *Gallicrex cinereus*. I flushed one from a caper thicket in 1879 during the inundation. I was not aware at the time of its rarity, so did not preserve the skin; there is no mistake, I know the bird well, having examined specimens in the Kurrachee Museum, and in addition the desiccated remains were seen by Mr. Murray a day or two after.

I am not aware that any eggs of *Coccyzus jacobinus* have been recorded as taken in Sind. I took one on the 20th August 1879 from a nest of *Chatarrhæa caudata*.

H. E. BARNES.

HYDERABAD SIND,

26th April 1881.

SIR,

REGARDING the "Great Indian Bustard" let me inform you that I shot one some years ago, three miles west of Arupacottah, a large village in the Madura district. On that occasion I saw seven or eight Bustard. I have repeatedly seen eight or ten of a morning near the same place, which is on the borders of Madura and Tinnevely.

The *Tamil* name for the Bustard seems to me very appropriate. It is called the *Kanal-Myle* (the "l" is not pronounced

in the double word), or "Mirage Pea Fowl," from the Tamil words *Kanal*, meaning Mirage, and *Myle*, a Pea Fowl. The Bustard come to these plains (in Tinnevely and Madura) about September and October.

In the Kurnool district (Deccan) Bustard are often to be had in the cold weather.

In the first week of June this year a Florican (*hen*, of the Lesser Florican or Likh) was caught near this place, Rajahmundry, by a native shikari, and brought in to me. I have never before come across them in this district so early as this. I have shot three and four of a morning in December and January. About Ongole, in the Nellore district of this Presidency, there are plenty of Florican.

RAJAHMUNDRY,
10th July 1881.

CHARLES A. TOSTEMS,
Major, Staff Corps.

SIR,

THE following notes may be useful:—

1st.—The Pink-footed Goose (*Anser brachyrhynchus*). I shot one of these out of a flock of about 20, on the Kānawān jheel, near Gurdaspore, Punjab, in 1853, with a bullet.

2nd.—Whistling Teal (*Dendrocygna javanica*). The first I ever shot was at Kishnagur, near Calcutta, in 1849, and the next I shot was at Firoza, Bhawulpore, in 1879.

3rd.—The Shieldrake (*Tadorna cornuta*). I shot a pair of these in 1873 on some salt lakes in the sand hills between the Chenab and the Indus, near Moozuffernuggur.

4th.—In December 1879 I shot several Marble Duck at Firoza (133 miles down Indus Valley Railway) in the Bhawulpore territory, and also near Gurdaspore, Punjab.

5th.—In December 1879, at Firoza, Bhawulpore, I shot a female *Anas falcata*. I had it stuffed, and I showed it to Major Marshall who was then at Lahore, and he said it was a female *Anas falcata*.

6th.—In May 1878 I shot a female Merganser at Tangrote Ferry, on the Poonch river.

CONOOR,
8th February 1881.

J. H. McLEOD, Major-General
Retired R. A.

SIR,

I SEE you say at page 12, Vol. II., of the "GAME BIRDS," that you yourself have never seen the Black Partridge calling from off a tree. I may mention that this morning (April 15th, 1881) I watched for some time a Black Partridge (male)

sitting on a *jhow* bush, and calling vigorously. I got quite close and watched him some time, so that there could be no mistake. He was about six feet off the ground.

J. BURN MURDOCH,
Lieutenant R.E.
 JACOBABAD, SINDH,
 15th April 1881.

SIR,

IN your remarks on the *Barred-headed Goose*, you write, "I have no record as yet of its occurrence in Tipperah, or any part of Assam."

On the 22nd, in steaming up the Brahmaputra, and when within about six or eight miles of Dhubri, the first Assam station, I saw a pair of Barred-headed Geese swimming in the river. I watched them for some time through a telescope, until the near approach of the steamer put them to flight.

On the same day, and within two miles of Dhubri, I saw a *Sheldrake*, of which you also say that it has never been recorded near Assam.

On the 26th, returning from Dhubri, and when about 15 miles down the river, I noticed a wounded *Sheldrake* amongst a number of Brahminy Ducks, moving about on a sand bank just topping the water. Two miles further on I saw a couple sitting on the dry sand close to the waters' edge.

SAIDPORE, W. FORSYTH.
 31st March 1881.

SIR,

AT last I have succeeded in procuring the original description of *Reguloides trochiloides*, which I subjoin for the benefit of Indian ornithologists:—

Since it was a Calcutta bird that Sundevall describes, this pretty well settles the matter, for the common species at Calcutta is *N. flavo-olivaceus*. But you have, I think, one of the white-bellied species in your museum, a *Shillong* one, so the identification is not absolutely conclusive. If that *Shillong* one is the white-bellied bird, the fact of its being the only Indian example seen, is in favour of Sundevall's bird being the well known one. I believe there is no type to be found. There is the other question as to whether the white bellied form is distinct, or whether this species may not be very occasionally subject to a want of colour in the belly. But to me it appeared to possess, like *Reguloides superciliosus*, a silky shining white below, showing a different quality of feather as in the two *Reguloides*—*humii* and *superciliosus*.

Seebohm has borrowed the white-bellied specimen* you lent me, and he won't be back till the end of this month from Russia. We will have a regular deliberation over the bird before I return it to you. I will also try and get your *Sylvia althea*† that he borrowed.

I went to the British Museum last week and examined the types (three) of *Horornis flaviventris*, Hodgson. All are from Nepal, and without dates. Above they are much about the same tone of colour as *Dumeticola affinis*; below they are much like a yellowish *Horornis fortipes*. There is no spotting on the breast, but one is very slightly mottled on the chin and upper throat. The breast is browner than the throat and abdomen. The tone of the bird below by no means warrants the name of *flaviventris*. One of the three has the lower tail-coverts tolerably perfect. These are brown, with broad, pale brownish white margins in the true *Dumeticola*, *Tribura* and *Locustella* fashion. The wing is also that of a *Dumeticola*, and so is the very rounded tail, with the outer feathers a good half inch short of central feathers. The wings of one specimen measure 1·97; of the quills the third=7th, fourth=6th, and second=12th or 13th.

This bird has the most perfect wing of the three, and may be relied upon. The length of tail is 1·65; tarsus, ·75; bill at front, ·33; from centre of nostril, ·29.

To me the species looks much like unspotted *Tribura affinis* (*Dumeticola affinis*, Hodgs.), and may be the young of that species or the bird in a yellowish plumage; but I am not sure about its being *affinis*, for the latter has, as a rule, a longer wing, and the third feather is proportionally longer, there being a greater distance or step between second and third than in *flaviventris*.

You will see by the above formula of the wings that the bird is not *Horornis* at all. In this conclusion Blyth was quite right. The birds you have from Mandelli as *H. flaviventris* are, I think, *Horornis* (*Neornis*) *flavo-olivacea*.

I examined the types of *Horornis assimilis*, one presented by the Secretary of State for India, and the other by B. H. Hodgson. The colouration is precisely that of *fortipes*.

No. 1.—Wing, 1·85; tail 1·80.

No. 2.—Wing, 1·9; tail, 1·7; tarsus, 1·79.

Both are from Nepal. You long ago suggested that this was the young of *fortipes*. Seebohm thinks them only *fortipes*, and I think so too. They are rather small as regards wing,

* And of course has not returned it.—ED., S. F.

† This, let me do him the justice to say, he has returned.—ED., S. F.

but you will see when you compare your examples with the above dimensions. I think I would discard *Horornis assimilis* as a bad species. *Tribura flaviventris* also appears rather doubtful, for we have not met with the bird since Hodgson got it.

On looking at my Muddapur killed Stonechats, one, an autumnal bird, turns out to be *leucura*. So the bird is found about that part of the country after all. It is a redder one than those I got in Sind. It is not moulted and in ragged summer plumage.

14th April 1881.

W. E. BROOKS.

Extract from Ann. and Mag. of Natural History, Vol. XVIII., 1846, p. 252.

M. SUNDEVALL ON THE BIRDS OF CALCUTTA.

18.—*Acanthiza trochiloides*, n.

Olivaceo-viridis, subtus alba, antice flavo tincta; cauda integra penna extima breviora, apice intus alba. Linea per oculos fusca.

♂ 15th February.—Caput paullulum fusco tinctum; supercilia elongata pallide flava. Ala subtus alba; tectrices superiores apice pallescentes. Cauda fuscescens, obsolete transversim undato-micans. Rostrum subtus album, superne et pedes pallide fusci. Long. 5 poll; ala 47 millim; tarsus 19; cauda 45; rostrum e fronte 9. Rostrum apice leviter compressum. Remiges 3 anticæ gradatæ; 2a=10a; 4 et 5 reliquis longiores. Pennæ cubiti ad 5-6 alæ flexæ extensæ.

This little bird has a greater interest for us on account of its remarkable resemblance to our *Sylvia trochilus*. I have only seen the above described specimen, and can say nothing else about its way of living than that even in its actions it has an extraordinary resemblance to *Sylvia trochilus*, so that I fully believed I had found that species until an examination of its flattened, much broader beak, and the somewhat different formed wings proved my mistake. These are the only points in which the genus *Acanthiza* (Vig. et Horsf.) differs from our *Sylvia*. The beak is even unlike that of our *S. hippolais*.

In New Holland there are several species to be found. I heard no note from the bird described. This is most likely the bird to which authors allude who speak about the Indian *Sylvia trochilus*. (For example, Edwards in the text to plate 278).

SIR,

THE following scraps may be interesting, although you probably know all about them already :—

I saw no Pintail Snipe in Pishin, Shorawak, the Bolan, or Hurnai passes, or at Muskaff or Dadur; all that I shot were Jack or Common.

The season of 1876-77 was a good snipe season in Hyderabad, Deccan, and I noticed that the Pintail outnumbered the Common by three to one; putting aside Jack and Painters, three birds, out of four would be Pintail. 1877-78 and 1878-79 were indifferent seasons, and I found that the Pintail were much more rare, the Common being in the majority. My own idea is that the Common were as plentiful as usual, and the Pintail for some season had not come into the district as they had done in 1876-77.

G. M. RAYMENT, *Vety. Surgeon,*
1st M. Light Cavalry.

BANGALORE,
June 12th, 1881.

SIR,

IN Vol. III of your work on the "GAME BIRDS of INDIA," you write (page 382): "I have no record of the occurrence of this species (the Painted Snipe) in Kulu, Kashmir," and I have, therefore, enclosed to you the skin of a bird of this species which I shot at Sumbul, on a sheet of the Woollar Lakes, on the 14th September this year. I shot three others the same morning, all like the one I send, which I opened and found to be a male. The birds sat very close, not rising till close upon them, consequently the others I shot were too much injured to skin. The wing feathers I enclose are those of a bird shot at Bunnir near the Woollar by an officer of the 65th, who also saw numbers. I do not however think I saw any females—at least I did not secure one. I do not think the Painted Snipe remains long in Cashmere, as, though I was out several days shooting after the middle of September, I saw very few.

EDWARD L. HAWKINS,
Lieutenant-Colonel, R.A.

MORAR,
9th November 1881.

SIR,

JUST a line to inform you that I have an addition* to the Sind List in the shape of *CIRCUS OINERACEUS, Mont.*

* No, *vide* Vol. VII, p. 503.—ED., S. F.

The bird was shot by Lieutenant Dupnier of the 98th Régiment here and sent to me.

The birds are, I am told, plentiful above eight miles out of Kurrachee, associated with *Swainsoni*.

JAMES MURRAY.

SIR,

I AM in hopes that a few notes, although from an unscientific observer, upon *Gallinago nemoricola*, may be welcome to you.

During 18 years residence in the Wynaad I have only seen seven of these birds, of which three were bagged. Until to-day I always called them "Solitary Snipe," but to-day I had the advantage of comparing one of them with your notes in Vol. III of "GAME BIRDS OF INDIA," and I discovered that it was a *nemoricola*.

When once the "more conspicuous differences," as pointed out by you, are known, it would be of course almost impossible to mistake *nemoricola* for *solitaria*. In fact I may say that I found these a better guide even than the coloured plates.

Being thus indebted to you, it struck me that the least I could do would be to send you the little information I have on the subject, especially as some of it differs from what you have written in the "GAME BIRDS."

On 31st December 1879 Mr. A. W. Rees and I flushed three of these *nemoricola* in a very retired rushy swamp, where I had in former years seen Bison (Gaur), the swamp being the nearest point to civilisation, which the Bison about there ever reach.

Of the three we bagged, two, one to each gun, they were evidently male and female, as they weighed $6\frac{1}{2}$ and $8\frac{1}{2}$ oz. respectively. The three birds were flushed within 50 yards of each other.

I have always intended paying another visit to that swamp, known as the Makki Poyil, but was never able to do so until to-day, when my wife and I drove out seven miles in the early morning, and I picked up four couple of Pintail and a Spurfowl on the way. Leaving my wife in the currie I got on to the ground where I expected to find the *nemoricola*, and quartered the ground carefully with two coolies, two spaniels, and a bull terrier, but after going over the whole of the swamp where we had seen them in 1879 we found nothing. I went on to the head of the valley to see if there were any fresh tracks of Bison, but found none; and on my way back flushed a *nemoricola* within a few yards of where we had found them in 1879. I missed him with my first barrel as I was excited at having

found him, but brought him down with the second barrel. In looking for him amongst the long grass and rushes a second bird was flushed, which I winged with my second barrel, and bagged, but in doing so we lost the first bird that I had knocked over; and though we hunted for it for over half an hour we could not find it. I have no doubt but that some one of us must have trodden on it, and crushed it down into the mud which, in parts, was nearly a foot deep, as otherwise the dogs would have found it.

I think it will be interesting to you to know that on two occasions these birds were found in company, in 1879, there being three birds within a radius of 50 yards, and in 1882 two birds within 25 yards of each other.

I see that Captain Baldwin says they are particularly gamey birds and most excellent for the table. My experience of them is that they are very much inferior to the Pintail in flavor, and the meat is coarser in texture. Exceedingly handsome birds in appearance; they feel soft and flabby to the touch when compared with the firmness of a Pintail.

The weight of the *nemoricola* bagged to-day was $7\frac{1}{2}$ oz. On rising he gave a hoarse sort of croak, as described by Captain Baldwin, and the same, but much louder, when picked up with a broken wing. The first bird to-day rose silently.

A peculiarity of the Pintail this season is that the majority rise silently, and consequently many get away which otherwise would not do so.

J. W. DITMAS.

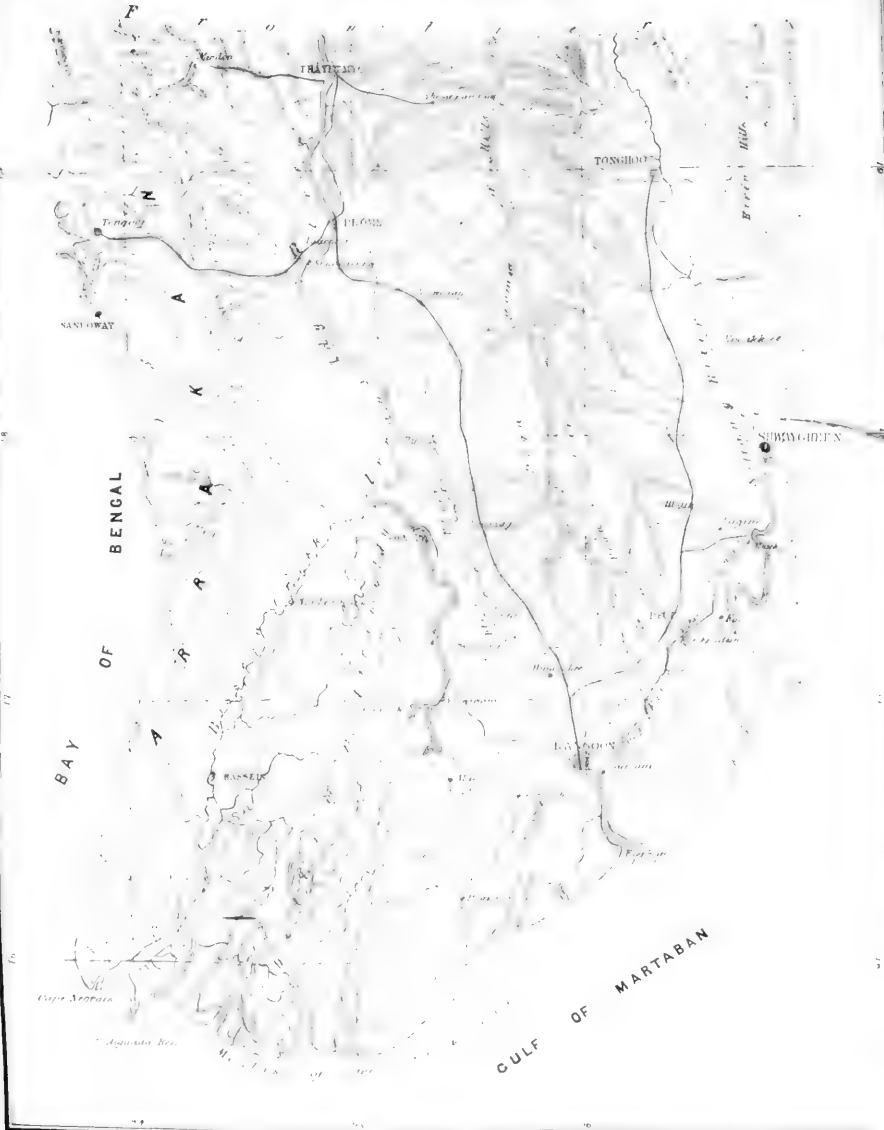
I have long had by me a collection of Birds kindly sent me by Mr. Chill. Amongst these I now find, a fine adult female Scaup, killed near Gurgaon, on the 5th of March 1881, which, except in having the wing rather shorter (7.75), and having the bill rather shorter and broader, the white on the primaries purer, and the grey speckling on the back rather more extended, does not seem to me to differ from my English specimens. Mr. Chill also sends a young female Scaup procured at the same place on the 14th March, and a fine male of the Marbled Teal, also shot near Gurgaon, on the 28th April 1881. Lastly, he sends a specimen of *Coracias garrula*, which he shot there on the 30th of May 1881.—ED., S. F.



MAP OF PEGU

To illustrate Mr. Oates's paper.
The part coloured red is the portion dealt with.

Independent Burmah





STRAY FEATHERS.

Vol. X.]

JULY 1882.

[No. 4.

A List of the Birds of Pegu.

BY EUGENE W. OATES.

THE ornithology of a portion of Pegu was dealt with by Mr. Hume in a former volume of STRAY FEATHERS (III, pp. 1—194), and subsequently, (IV, pp. 295—451) Dr. Armstrong gave us a list of the birds met with by him in the deltaic portion of the province. The following paper is an attempt to compile a complete list of the birds of the whole of Pegu.

The area now dealt with is bounded on the north by the frontier line separating British from Independent Burma, and running east and west at about the latitude of $19^{\circ} 40'$ north; on the east the boundary is the Sittang river; on the west, the Irrawaddy river, and its most westerly discharge channel, the Bassein creek. The sea forms the southern limit of the area. The province, as thus defined, is about 300 miles in length, by an average breadth of about 100 miles.

The Pegu hills run down the centre of this tract of country from the frontier to Rangoon, or for about 200 miles. They extend laterally nearly down to the banks of the Irrawaddy and Sittang rivers, leaving a comparatively narrow belt only of level or undulating country along the margins of these two rivers. The remaining portion is a vast plain, little, or not at all, elevated above high water of spring sides.

The hills are covered with dense forest, and an undergrowth of shrubs and canes. On the eastern side the vegetation is very luxuriant, and mostly evergreen. On the western side, it is composed of trees which appear to do with less moisture, and the undergrowth is less dense. The difference in the rainfall between the two sides of the hills is probably 30 inches. A vast number of birds are found on the eastern slopes which are never seen on the western.

The vast plains which occupy the southern third of the province are, where not cultivated, covered with elephant grass and reeds. The plain is everywhere intersected by tidal channels, and is more or less permanently flooded during

the rains. The floods, however, are not as a rule of such a nature as to prevent cultivation, and vast portions of the plain are yearly planted with rice.

The rainfall varies from about 40 inches at the frontier to 130 inches at Pegu. This variation has, however, less to do with the distribution of birds than might be expected. Many species, which a few years ago were thought to be exclusively confined to the drier portions of Pegu, are now known to be very abundant further south in the same province, extending even into Tenasserim where the rainfall is excessive.

The materials for this paper have been furnished by large collections made by myself in almost every portion of the area comprised under the general name of the province of Pegu. For many years I collected at or near the town of Pegu, a small place about 60 miles north-east of Rangoon. Near Pegu is the small village of Kyeikpadein on the banks of the canal which I was constructing, and here most of the rarer, and more interesting, species of reed birds and aquatic birds were procured.

The tract of country dealt with by Dr. Armstrong has not been explored by me except in a hurried manner, and consequently his investigations have enabled me to define the distribution of many species with greater exactness. In the following paper about twenty species are inserted on his authority, which would otherwise have been omitted.

Of the species inserted by Mr. Hume in his list of the birds of Upper Pegu I have now omitted the following five:—

Anthocincla phayrii.
Phylloscopus affinis.
 „ *indicus.*
Passer assimilis.
*Gallinago gallinula.**

I am not satisfied that any of these birds have occurred within the limits as above defined.

The occurrence of the following birds requires confirmation.

They are recorded by Blyth in his "Birds of Burma" as having been received from Pegu. They have not again been discovered in Pegu since his time, and it is probable that they do not occur in Pegu as defined in this paper.† They are six:—

<i>Circus cineraceus.</i>	|	<i>Rhyacornis fuliginosus.</i>
<i>Volucivora sykesi.</i>	|	<i>Allotrius melanotis.</i>
<i>Chatarrhæa caudata.</i>	|	<i>Lobipluvia malabarica.</i>

* But this certainly occurs in Pegu, as I have had a specimen from near the mouth of the Bassein river.—ED., S. F.

† I also omitted all these from the Pegu paper, Vol III, for the same reason, but I was wrong about the last, which must be admitted.—ED., S. F.

I have also omitted from the list, *Polioæetus humilis*. Mr. Hume says (S. F., V, 130) that this species occurs as far north at any rate as Cape Negrais,* but I can nowhere find any notice of its occurrence within my limits, and I must consequently decline to admit it for the present.

I have not made use of the serial numbers of Mr. Hume's catalogue† as I find numerous instances in STRAY FEATHERS of the same species being referred to under quite different numbers. One instance will suffice. In Volume VI, *Anthreptes malaccensis* is numbered 224 *sextus*, while in the general catalogue in Volume VIII it appears as 233 *quintus*.‡

I have, however, followed the order of the catalogue, and, with few exceptions, Mr. Hume's nomenclature.§

1.—*Otogyys calvus*, Scop. (2.)

Occurs singly, or in couples, in all parts of the province.

2.—*Gyps indicus*, Scop. (4.)

Mr. Hume records this from Upper Pegu. I have not observed it.

3.—*Pseudogyps bengalensis*, Gm. (5.)

Very abundant.

4.—*Falco peregrinus*, Gm. || (8.)

By no means rare during the dry weather from November to May. I have procured it at Prome, Pegu, and Shwaygheen.

* Whence I received a specimen, but I have never seen a specimen from Pegu, and quite concur in its omission from this list.—ED., S. F.

† I however have added the serial numbers in brackets after each species, because these are most useful to ornithologists all over the world, compiling monographs or working out the distribution of groups. They turn up the species in the general list, find its number, and then run through the various local lists in S. F. Where my catalogue numbers are given, they can ascertain in one minute whether the species they are dealing with is or is not included in any particular list. If this number were not given it would take them ten minutes to make certain of this. This is not theory. The following is a translation of part of a letter from one of the most eminent of ornithological systematists:—"Your arrangement is, as you admit, antiquated—pardon me if I add barbarous—but your practice of invariably arranging the species in the same order, and under the same serial numbers, renders the STRAY FEATHERS easier to consult for facts than any other ornithological publication."—ED., S. F.

‡ Of course, because prior to the issue of the general catalogue, slight alterations in some few numbers were made, in order to rectify some of the most glaring misplacements, for which I was answerable. But until the new list of the birds of the British Asian Empire and its dependencies is published, no further change will be made in the numbers.—ED., S. F.

§ Mr. Oates in this most excellent list includes altogether 454 species. I have added 16 species that *certainly* have occurred in Pegu, making a total of 470. It is probable that when the avifauna has been exhaustively worked out, it may prove, including chance stragglers, to include something like 550 species.—ED., S. F.

|| *Tunst.*—ED., S. F.

5.—*Falco peregrinator*, *Sund.* (9.)

Major Lloyd appears to have procured a specimen at Tounghoo. (B. of B., p. 58.)

6.—*Poliohierax insignis*, *Wald.* (16 *bis.*)

Fairly abundant from the frontier down to Prome, extending to the west as far as the ridge of the Arakan hills. Captain Ramsay got it at Tounghoo.

7.—*Cerchneis tinnunculus*, *Lin.* (17.)

Very abundant from November to March in almost all parts of the province.

8.—*Cerchneis amurensis*, *Radde.* (19 *bis.*)

The bird procured at Thyetmyo by Captain Feilden (S. F., III, p. 22) appears to belong to this species, judging from what Mr. Hume says at a later date (S. F., V, p. 6). I have never met with this bird.

9.—*Microhierax cærulescens*,* *Lin.* (20.)

I have procured this small Falcon at Thyetmyo and Prome, where it is abundant. It probably occurs in other parts of Pegu.†

10.—*Astur rufitinctus*, *McClell.* (22 *bis.*)

The only specimen I have ever met with was killed on the Pegu hills as recorded in S. F., III, p. 24.

11.—*Astur poliopsis*, *Hume.* (23 *bis.*)

Generally distributed, and common.

12.—*Accipiter nisus*, *Lin.* (24.)

The Sparrow Hawk was procured at Thyetmyo by Captain Feilden and by myself, and it was got at Tounghoo by Captain Ramsay. It appears to be rare.

13.—*Accipiter virgatus*, *Reinw.* (25.)

Captain Feilden procured this Hawk at Thyetmyo,‡ and I met with it on the Pegu hills just above Pegu. It does not appear to be common.

* Should stand us *eutolmus*. Hodgson, *vide* Gurney, *Ibis*, p. 272, 1881. I may add with reference to what Mr. Gurney says further on, that I personally feel quite certain that this species never occurred at Bangalore in a wild state, though I have heard of specimens, brought from the Himalayas and trained to kill Sparrows, having been seen at the Hyderabad and Mysore Courts.—ED., S. F.

† Blanford produced it on the hills of the Bassein district. I have also received a specimen labelled Bassein.—ED., S. F.

‡ I never saw Feilden's specimen, which, however, from the description I believe to have been *virgatus*; but Mr. Gurney, who did see the specimen at one time, at any rate, identified it as *A. rhodogaster*, Schl.—ED., S. F.

14.—*Aquila nipalensis*, *Hodgs.* (27 *bis.*)

Captain Feilden found this Eagle common at Thyetmyo, and it occurs along the banks of the canal near Pegu, where I have shot a few specimens every year about November.

15.—*Aquila clanga*, *Pall.* (28.)

I procured some specimens in 1875 at the junction of the canal with the Pegu river from December to March, and I do not recollect ever meeting with it again. Captain Feilden procured it at Thyetmyo.

16.—*Hieraëtus pennatus*, *Gm.* (31.)

Procured by Captain Feilden at Thyetmyo.

17.—*Limnaëtus caligatus*, *Raff.* (34.)

Generally distributed in well-wooded localities, and pretty common.

18.—*Spilornis undulatus*, *Vig.*; *S. cheela*, *Lath.* (39.)

Occurs along the frontier from Thyetmyo to Tounghoo, and appears to be replaced elsewhere by the next species.

19.—*Spilornis rutherfordi*, *Swinh.* (39 *ter.*)

Generally distributed in the province, except along or near the frontier, where the larger species only appears to be found. I have never met with any bird which might be considered intermediate to the two species, nor have I ever shot the two birds in the same locality.

20.—*Pandion haliaëtus*, *Lin.* (40.)

Two or three pairs of the Osprey may be seen daily in both the Pegu and the Sittang rivers during the dry weather, and I fancy that a few birds remain in Burma throughout the year, but I cannot make certain of this fact.*

21.—*Pelioaëtus ichthyaëtus*, *Horsf.* (41.)

Very generally diffused over the lower and more swampy parts of the country. I found it excessively common in the forests west of Shwaygheen where they were breeding near Pelicans and Adjutants.

22.—*Haliaëtus leucoryphus*, *Pall.* (42.)

Very abundant in the plains lying between the Pegu and Sittang rivers, and especially so along the banks of the canal.

* Note this also from the Southern Coast; from near the mouth of the Bassein river.—ED., S. F.

23.—*Haliaëtus leucogaster*, Gm. (43.)

Frequently seen along the southern coast of Pegu, and on one occasion I observed it near the town of Pegu.

24.—*Buteo plumipes*, Hodgs. (47.)

Recorded from Thyetmyo by Mr. Hume, to whom a specimen was sent by Captain Feilden.*

25.—*Butastur teesa*, Frankl. (48.)

Apparently restricted to the northern portion of the province. It is common at Thyetmyo, and all the way down to Prome. Captain Ramsay records it from Tounghoo.

26.—*Butastur liventer*, Tem. (48 ter.)

Although not abundant this bird is found in every portion of the province which is suited to its habits. It frequents the plains and creeks, and does not appear to be found in forest country or dry hilly ground.

A young bird, reared from the nest, escaped at the age of three months, and had to be shot. At this age the white bars extend up to the middle of the belly. The edge of the wing is white, the breast is brown, and the throat, with the lores and forehead, nearly pure white; the top of the head is rufous, and the plumage generally is brown where, in the adult, it is grey; the bars on the tail, which in the old bird are interrupted, are in the young very clearly defined and unbroken.

27.—*Circus macrurus*, S. G. Gm. (51.)

Tolerably common during the cold season in all the plains of the southern portion of the province.

28.—*Circus melanoleucus*, Forst.† (53).

Very abundant from the end of September to the middle of May in all parts of Pegu, except the hills, where it is not found at all.

A young bird differs from that figured by Mr. Swinhoe (*Ibis*, 1874, pl. X) in being very rufous without a trace of yellow in its plumage.

29.—*Circus æruginosus*, Lin. (54.)

As abundant as the preceding, and found in the same tracts during the cold season.

* Another specimen received from near Tounghoo.—ED., S. F.

† Penn.—ED., S. F.

30.—*Haliastur indus*, Bodd. (55.)

Very common throughout the province.

31.—*Milvus affinis*, Gould. (56 *ter.*)

The majority of the smaller Kites of Pegu appears to be referable to this species, but some specimens are not far removed from *govinda*. It will probably be found impossible hereafter to maintain both species. At one time (S. F., VII, p. 44) I thought it easy to discriminate the two birds; but as I accumulated a larger and larger series, the salient points of distinction appeared to disappear.

The common Kite is very abundant in every part of Pegu, except from June to September. Its return in the latter month indicates the termination of the rainy season.

32.—*Milvus melanotis*, Tem. & Schl. (56 *bis.*)

Immediately round the village of Kyeikpadein, and away in the plain, where fisheries are worked, this large Kite is very abundant from about October to February, or perhaps later. It does not appear to breed in Pegu.

33.—*Pernis ptilorhynchus*, Tem. (57.)

A rather uncommon bird; found in well-wooded districts generally over the province.

34.—*Elanus cæruleus*, Desf. (59.)

This Kite is seen from July to the middle October in considerable quantities on the plains of the south. I procured a specimen at Tounghoo, and Captain Feilden records it from Thyetmyo.

35.—*Strix flammea*,* Lin. (60.)

Abundant in every part of the province.

36.—*Strix candida*, Tick. (61.)

Procured at Tounghoo by the late Colonel Lloyd.

37.—*Phodilus badius*, Horsf. (62.)

Captain Ramsay procured this Owl at Tounghoo, and the bird recorded from Thyetmyo by Captain Feilden (S. F., III, p. 37) was probably of the same species.

* This is what we call *javanica*, and I am doubtful of the propriety of following Mr. Sharpe in uniting this with our common European Barn Owl.—E.L., S. F.

38.—*Syrnium seloputo*, *Horsf.* (65 *bis.*)

I found this handsome Owl abundant in a grove of trees about two miles from Kyeikpadein. I have seen birds which were shot at Rangoon, and the Owl referred to as having been procured at Thyetmyo by Captain Feilden (S. F., III, p. 37) was probably this species. It appears to be generally distributed but somewhat local.

During the day this Owl sits on the branch of a large tree near the summit, and can be discovered with little difficulty if its presence is suspected. It does not begin to move till after sunset.

A young nestling has the upper plumage white, barred with chocolate brown. The rectrices are extensively tipped with very pure white, and the webs are slightly barred. The lower plumage is white, closely barred with brown. The thighs are plain fulvous white. Facial disc as in the adult, spotless bright ferruginous.

The sexes are alike in plumage, and they differ little in size. A fine pair, the parents of the nestling described above, measured respectively:—Length, 18·5, 18·3; expanse, 48, 47; tail, 7·6, 7·5; wing, 14·4, 14; tarsus, 2·15, 2·0; bill from gape, 1·5, 1·65; the first figures in each case referring to the male.

The bill and cere are dark horn colour; iris dark brown; edges of the eyelids pink; feet and claws dark brown; underside of toes whitish.

39.—*Asio accipitrinus*, *Pall.* (68.)

Captain Wardlaw-Ramsay procured this Owl at Tounghoo.

40.—*Bubo nipalensis*, *Hodgs.* (71.)

Recorded from Tounghoo by Captain Ramsay.

41.—*Ketupa ceylonensis*, *Gm.* (72.)

Very abundant in every part of the province.

42.—*Ketupa javanensis*, *Less.* (73 *bis.*)

Appears to be confined, in Pegu, to the delta of the Irrawaddy, where it is common.

43.—*Scops pennatus*, *Hodgs.* (74.)

I procured two specimens at Kyeikpadein, which have been identified for me by Mr. Gurney and Mr. Sharpe. Captain Feilden got it at Thyetmyo.

44.—Scops lettia, Hodgs. (75.)

A very abundant species round Pegu and Kyeikpadein, and probably generally distributed throughout the province.*

45.—Carine pulchra, Hume. (76 quat.)

Abundant from Thyetmyo to Prome for a distance of 10 or 15 miles from the Irrawaddy.

46.—Glaucidium cuculoides, Vig. (79.)

Found abundantly throughout the province. It comes out some time before sunset, and remains out till late in the morning.

47.—Ninox lugubris, Tick. (81.)

I gather from Mr. Hume's remarks (S. F., VI, p. 40) that the Pegu birds are not his *burmanica*. In this case, allowing the distinctness of all the races of this bird, the Pegu one will be *lugubris*. †

This Hawk Owl is very common in every part of Pegu.

48.—Hirundo rustica, Lin. † (82.)

Extremely common throughout the year in all parts of the province. It does not, however, appear to breed here.

49.—Hirundo horreorum, Bart. (82 ter.)

Judging from what Mr. Dresser says about the different races of Swallow in his article on *Hirundo rustica* (B. of E., part XXXIX) I have little doubt but that *tytleri* is a synonym of the above. § Writing of these two forms he says :—

“Should it prove from an examination of a series of specimens that it (*tytleri*) does not have the dark band continuous

* Add 75 *quint.*—*Scops lempiji, Horsf.*

One specimen from near Rangoon clearly belongs to this species by its completely unfeathered toes. *Lettia* is no doubt the common Pegu bird, but I have seen two specimens from Upper Pegu that were quite intermediate between the two species, besides this one from Lower Pegu which is *lempiji, pur et simple.*—ED., S. F.

† Yes; I find all my Pegu specimens are *lugubris.*—ED., S. F.

‡ But note that all the Pegu birds I have seen belong to the smaller race, *gutturialis*, Scop.—ED., S. F.

§ I cannot say that I am disposed to agree as yet. It is a great pity Mr. Oates did not himself carefully compare a series of adults of the two forms. Had he done so, and pronounced them identical, I should have had nothing further to say, as I know how careful his work is. But I compared some score of adult *tytleri* with four adult *horreorum* kindly lent me, and they seemed to me to differ perceptibly. Of course they are very *like* each other, quite the same type of bird, but I came to the conclusion that they were distinct and immediately distinguishable. I regret that before returning the birds I did not note the differences, and so many years have passed that I have quite forgotten wherein I supposed the differences to exist, but I am very careful in making comparisons, and I cannot but believe that valid differences do exist.—ED., S. F.

across the chest, there will then be no character by which it can be distinguished from the American form."

Now the band of *tytleri* is constantly interrupted, and in no instance have I ever seen it continuous. Mr. Hume also confirms this (S. F., VI, p. 42).

The American Barn Swallow visits Pegu in large numbers almost every winter. In 1874 they were remarkably numerous near Pegu, and it would be interesting to know whether the winter of 1873-74 was very severe in North America.*

Under the head of *H. tytleri*, Mr. Hume quotes some remarks of mine (S. F., III, p. 41) which I certainly intended to apply to *H. rustica*. I never got the former bird at Thyetmyo to the best of my recollection.† Before the paper on the birds of Upper Pegu was completely written, I was transferred from Thyetmyo to Pegu, and it was from the latter locality I sent Mr. Hume a specimen of *H. tytleri*.

50.—*Hirundo filifera*, Steph. (84.)

Lieutenant Ramsay records this species from Tounghoo. I have never met with it. I have reason to believe it is common near Rangoon.

51.—*Hirundo nipalensis*, Hodgs. (85 bis.)

The only Red-rumped Swallow I have procured in the province is this species. It is abundant, and some may be seen in every month of the year.

52.—*Cotile riparia*, Lin. (87.)

I procured two birds in the Pegu river, and I have no doubt the bird is common in the dry weather. I have frequently seen a Sand Martin larger than the next, and it must have been *riparia*.

53.—*Cotile sinensis*, J. E. Gr. (89.)

Very abundant in the Irrawaddy, Pegu, and Sittang rivers.

54.—*Cypselus affinis*, J. E. Gr. (100.)

I noticed a pair of these Swifts in January at a place about 30 miles above Rangoon, on the road to Pegu. They had a nest under a wooden bridge. To my great disappoint-

* But please note that they have been met with in myriads at Dacca and other places in Eastern Bengal in June. This does not look as if they came from America.—ED., S. F.

† This is a mistake; my friend Mr. Oates sent me a specimen, which is still in our museum, marked *rustica*, but clearly *tytleri*; it is marked "male, Palow, Thyetmyo district, 11th May 1873." No doubt he also sent me two specimens, also in the museum, from Pegu, which bear date 20th March 1874 and February 1875.—ED., S. F.

ment it only contained a Sparrow's egg. The nest was quite new, and the birds were constantly coming to it. I failed to shoot them, and after being fired at once or twice they mounted high, far out of shot. Of course I cannot be positive about the identification of this Swift, but it is more likely to be *affinis* than *subfurcatus*. One of the two it must have been.

55.—Cypselus pacificus, Lath. (101 bis.)

There are few parts of the province where I have not seen this bird, but it was only near Thyetmyo that they were flying sufficiently low to be shot. It does not appear to be very common.

56.—Cypselus infumatus, Sclat. (102 bis.)

Very abundant everywhere, where there are toddy palms. They stick to these trees in a most pertinacious way even when not breeding.

57.—Dendrochelidon coronata, Tick. (104.)

I have observed these birds only between Thyetmyo and Prome, and never in any other part of Pegu.

Lieutenant Ramsay got it at Tounghoo.*

58.—Caprimulgus albonotatus, Tick. (109.)

I procured this on the Pegu hills. Captain Ramsay records it from Tounghoo. I do not think it can be well separated from the next species.

59.—Caprimulgus macrurus, Horsf. (110.)

This smaller species occurs in every part of the province both in the hills and in the plains.

60.—Caprimulgus asiaticus, Lath. (112.)

This is a bird of the plains only. I got it at Thyetmyo, and it is very abundant round Pegu and Kyeikpadein.

61.—Caprimulgus monticolus, Frankl. (114.)

I have never met with this Nightjar. Captain Ramsay records it from Tounghoo.

* Add 107 bis.—*Caprimulgus jotaka*, T. & S.

This species certainly occurs in Pegu, as I have had a specimen from somewhere near Rangoon, and another from south-west Pegu, near the mouth of the Bassein river.

62.—*Lyncornis cerviniceps*, Gould. (114 bis.)

I have heard of this bird being common about 15 miles above Pegu. Captain Ramsay met with it on the Pegu hills near the frontier. The only time I ever met with the bird was in December at the foot of the Arakan hills. It is no doubt fairly common in the province in suitable localities.

63.—*Harpactes erythrocephalus*, Gould. (116.)

Occurs in all heavy forest both in the hills and plains, but far more abundant in the former.

64.—*Harpactes orescius*, Tem. (116 bis.)

I saw one specimen on the Pegu hills near the frontier, and I procured a few birds of this species in the tract of forest between the Sittang and the hills. It is rare within my limits.

65.—*Merops viridis*, Lin. (117.)

Excessively common in all parts of Pegu, except the higher hills.

66.—*Merops philippinus*, Lin. (118.)

As abundant as the preceding, but more confined to the large rivers and their neighbourhood.

67.—*Merops swinhoii*, Hume. (119.)

Generally distributed, but comparatively rare.

68.—*Nyctiornis athertoni*, J. & S. (122.)

I met with this bird once near Pegu, and Captain Ramsay got it at Tounghoo.* It is rare in the Pegu province.

69.—*Coracias affinis*, McClell. (124.)

Very abundant in all parts of the province where the ground is open or the forest not very thick.

70.—*Eurystomus orientalis*, Lin. (126.)

I found this species abundant up the Pegu river a few miles above Pegu. I also procured it at Tounghoo and Shwaygheen.† It is a bird of heavy forests, and I have never seen it in the open.

* Blanford also procured it at Bassein.—ED., S. F.

† This also is recorded by Blanford from Bassein.—ED., S. F.

71.—Pelargopsis burmanica, Sharpe. (127 bis.)

Found commonly throughout the province in wooded nullahs. On the hills it is especially abundant. I have not observed them in the tidal treeless streams of Lower Pegu, and I see that Dr. Armstrong does not record it from the Irrawaddy delta.

72.—Pelargopsis amauroptera, Pears. (128.)

Dr. Armstrong procured this bird at the mouth of the Rangoon river. I have it from other parts of the delta, and it seems to be confined to tidal waters in Pegu.*

73.—Halcyon smyrnensis, Lin. (129.)

There are few parts of the province where this bird may not be seen and heard. It is extremely abundant.

74.—Halcyon pileata, Bodd. (130.)

I procured one specimen on the Irrawaddy between Prome and Thyetmyo, where it appears to be rare. I observed it common in the streams and fisheries lying between the Sittang and the Pegu hills, north of Paghein, and it seems abundant in the Irrawaddy delta. †

75.—Halcyon coromanda, Lath. (131.)

I got one bird near Pegu, and observed another somewhat further north near Shwaygheen. It seems rare in the province.

76.—Halcyon chloris, Bodd. (132.)

A bird of tidal creeks. I got a solitary specimen near Pegu, and it seems to be common in the delta. ‡

77.—Carcineutes pulchellus, Horsf. (132 ter.)

Since procuring a pair in the evergreen forests of the Pegu hills, I have never again met with it.

78.—Ceyx tridactylus, Pall. (133.)

This Kingfisher is not uncommon in the evergreen forests of the eastern slopes of the Pegu hills. I also shot two birds near Kyeikpadein in a small nullah.

79.—Alcedo bengalensis, Gm. (134.)

Very abundant in every part of the province in swamps, paddy-land and nullahs running in open country. This is not a forest species at all as the next is.

* Yes; we have received it from near the mouth of the Bassein river.—ED., S. F.

† Especially in places near the sea where there are mangroves.—ED., S. F.

‡ We have received it from near the mouth of the Bassein river.—ED., S. F.

80.—*Alcedo meninting*, Horsf. (135 *ter*; ? *quat*.)

Until I have had an opportunity of comparing my series of this bird with others from India and Java, I prefer calling the Pegu birds by the above name.* It is common in the wooded nullahs running into the Pegu river above Pegu, and also in a patch of hilly jungle two miles north of Kyeikpadein, where I have found numerous nests. I have not observed it anywhere else.

Young birds able to fly have the bill black with the tip white; the legs pale red and the iris dark brown. One young bird, probably a male, has the whole upper plumage just as bright as the adult male, and the cheeks and ear-coverts blue. Another, probably a female, has the upper plumage much duller than the adult. The ear-coverts and cheeks are rufous with a slight intermixture of blue. Adult females have the cheeks and ear-coverts blue and rufous, mixed in about equal quantities. In the adult male the ear-coverts are black, and the part under the ears, as well as the cheeks, are blue, obsoletely barred with black.

81.—*Ceryle rudis*, Lin. (136.)

Excessively common, but confined entirely to the plains.

82.—*Psarisomus dalhousiæ*, Jam. (138.)

I have observed this bird only in the evergreen forests lying on the route from Thyetmyo to Tounghoo on the eastern slopes of the Pegu hills. It appears to be tolerably common in these parts.

83.—*Serilophus lunatus*, Gould. (139 *bis*.)

Appears to be common over the whole of the Pegu hills in good thick forest. I also shot one bird as low down as Kyeikpadein and took its nest there.

84.—*Cymborhynchus affinis*, Bly. (139 *quat*.)

Although a bird of the Arakan hills, this species comes into the limits of this paper at many points between Bassein and Rangoon. Mr. Strettell gave me a specimen labelled "10 miles east of Rangoon." I have many specimens procured near Yandoon on the Irrawaddy. For a note on the plumage of this bird, see S. F., III, p. 336.

85.—*Dichoceros cavatus*, Shaw. (140.)

Abundant throughout Pegu in forest country. It does not come out much into the comparatively treeless plains of Lower Pegu, except when the peepul trees are in fruit.

* Both our Pegu birds are of the intermediate form, which in Vol. VI. p. 84, I have entered as *A. beavani*. This form differs as explained, *loc cit*, and IV, 383, alike from *beavani* and *meninting*.—ED., S. F.

86.—*Hydrocissa albirostris*, Shaw. (142.)

Very common and generally distributed.

87.—*Rhyticeros undulatus*, Shaw. (146 bis.)

I enter this on the authority of the late Marquis of Tweeddale, who states (*Ibis*, 1877, p. 296) that Capt. Ramsay procured a young male at Tounghoo. I have never met with it.

88.—*Rhyticeros subruficollis*, Bly. (146 ter.)

Occurs from Pegu to Tounghoo along the valley of the Sittang. It is very abundant. This Hornbill feeds on snails a good deal, in search of which it spends much time. Near Myetkyo, at the head of the canal, twenty birds may be seen at one time hopping about those portions of the plain where the grass is low. They are in the habit of flying every day over exactly the same line of route, and they are not to be frightened from this procedure. When I began constructing the lock at Myetkyo I noticed great numbers of Hornbills passing low overhead every morning. They kept to this route the whole time the lock was being built, regardless of the noise made by a large number of men and two pumping engines.

89.—*Palæornis indoburmanicus*, Hume. (147 quat.)

A very common species throughout the plains. I do not think it frequents the higher hills.

90.—*Palæornis torquatus*, Bodd. (148.)

As common as, or perhaps commoner than, the preceding. Also confined to the plains.

91.—*Palæornis cyanocephalus*, Lin. (149 bis.)

Like the two preceding Parrots, the present one is very numerous in the plains.

92.—*Palæornis finschi*, Hume. (150 bis.)

The birds I formerly procured on the Pegu hills were so dirty and imperfect that Mr. Hume was unable for certain whether they belonged to *schisticeps* or *finschi*. As Capt. Ramsay's specimens from the Tounghoo hills were identified by Lord Tweeddale with *finschi*, it is probable that the Pegu hills birds belong to the same race. I found it common in the large forests on the hills between Thyetmyo and Tounghoo.

93.—Palæornis fasciatus, P. L. S. Müll. (152.)

Less common than the other species of the plains. This bird occurs also in the hills, where it is very fond of clearings. It occurs in every part of the province.

94.—Loriculus vernalis, Sparrm. (153.)

An abundant species in the well-wooded portions of the province. It is one of the few birds that Burmans catch with bird-lime and keep in captivity.

95.—Picus analis, Horsf. (157 ter.)

This species, which is not at all common, has been found in the Thyetmyo district by myself, in Tounghoo by Capt. Ramsay, and at Elephant Point by Dr. Armstrong. These are places very distant one from the other, and the presumption is that this Woodpecker is of general distribution over the province, but undoubtedly rare in many parts.

96.—Picus mahrattensis, Lath. (160.)

Appears to be confined to the upper or northern part of the province. It is common in the Thyetmyo district and Captain Ramsay procured it at Tounghoo.

97.—Iyngipicus canicapillus, Bly. (163 bis.)

This small Woodpecker is found in every portion of the province, and is abundant.

98.—Hemicercus canente, Less. (165 bis.)

Common throughout the province.

99.—Miglyptes jugularis, Bly. (165 quat.)

I procured one specimen on the Pegu hills, and have never since met with it.

100.—Chrysocolaptes sultaneus, Hodgs. (166.)

One of the commonest species of Woodpecker; found everywhere in the province.

101.—Muelleripicus pulverulentus, Tem. (168.)

This large Woodpecker is found in all the thick forests of the Pegu hills, and less frequently in the plains.

102.—Thriponax feddeni, Blanf. (169 ter.)

Is confined to the northern portion of the province*; is

* Blanford, however, obtained it at Bassein,—ED, S. F.

abundant in the Thyetmyo district, and becomes less common to the eastward, disappearing altogether, I think, at the summit of the ridge of the Pegu range.*

103.—Gecinus striolatus, Bly. (171.)

Confined, as far as my experience goes, to the Thyetmyo and Prome districts, but I notice that Mr. Blanford records it from the Irrawaddy delta, and Lord Tweeddale from Tounghoo.

104.—Gecinus vittatus, Vieill. (171 bis.)

Distributed over all parts of Pegu, and generally abundant.

105.—Gecinus erythropygus, Elliot.

There can be little doubt that Mr. Hume's *nigrigenis* is the same as this.† I have procured it at Tounghoo, and it does not seem to cross the Sittang river into my limits in large numbers. I know nothing of its habits from personal acquaintance with the bird.

106.—Gecinus occipitalis, Vig. (172.)

One of the commonest Woodpeckers, and found all over the province.

107.—Chrysophlegma flavinuchus, Gould. (173.)

Abundant in all thick forests, more especially on hilly ground.

108.—Chrysophlegma chlorolophus, Vieill. (174.)

I have observed this bird only in the northern portion of the province from Thyetmyo to Tounghoo, between the frontier and a line parallel to it about 30 miles south of it. It is tolerably common.

109.—Gecinulus viridis, Bly. (177 bis.)

Common on the Pegu hills between Thyetmyo and Tounghoo both in dry and in evergreen forest. I have not observed it elsewhere.

* But reappearing in the plains country between the Sittang and Salween, and in the hills further east.—ED., S. F.

† Time will show. Elliot's bird is from Cochin China. I admit that the Northern and Central Siamese bird is the same as mine, but I think that the Cochin Chinese bird differs as noted in Vol. II, 471n, for I have ascertained that the plate and dimensions given in the *Nouvelles Archives* are accurate.—ED., S. F.

110.—Micropternus phæiceps, Bly. (178.)

Very common on the eastern slopes of the Pegu hills from the frontier right down to Rangoon, round which town it is specially abundant.*

111.—Tiga javanensis, Ljung. (184.)

Spread over the whole province in great numbers. It is I fancy the Woodpecker most generally met with, and it affects all descriptions of jungle.

112.—Sasia ochracea, Hodgs. (187.)

I got one specimen on the Pegu hills on the eastern side in heavy evergreen forest. It probably occurs in other places.

113.—Iynx torquilla, Lin. (188.)

A common cold weather visitor. I have procured it near Thyetmyo and also near Kyeikpadein.

114.—Megalæma hodgsoni, Bp. (192.)

Every mile of forest in the province contains dozens of this bird. It is equally common in the dry and in the evergreen forests.

115.—Megalæma asiatica, Lath. (195.)

As common as the preceding, but confined to the damp evergreen forests on the Pegu hills.

116.—Xantholæma hæmacephala, P.L.S. Müll. (197.)

Universally distributed throughout the plains, chiefly in spare jungle, and in cultivated lands.

117.—Megalæma cyanotis, Bly. (198 ter.)

An inhabitant of thick forests from the frontier down to Rangoon, and not occurring, I think, on the western side of the Pegu hills.

118.—Cuculus canorus, Lin. (199.)

I have procured this bird from August to February round Pegu and Kyeikpadein. It is fairly common, but (probably owing to the season it visits us) I have never heard it call. I got a specimen at Prome in November. Capt. Ramsay heard the call of this Cuckoo quite commonly in Karennee. The wings of Pegu birds run from 7·75 to 8·1.

* And we have several specimens from Thyetmyo, and others from Bassein, where also Blanford procured it.—ED., S. F.

119.—*Cuculus striatus*, *Drap.* (200.)

I procured one specimen at Kyeikpadein in October. It seems rare. This bird was a female: Wing, 6·8; tail, 6·0; bill at front, 75. The breast is washed with chestnut and the belly is tinged with buff.

120.—*Cuculus sonnerati*, *Lath.* (202.)

Captain Ramsay records this Cuckoo from Thyetmyo. I have never met with it.

121.—*Cuculus micropterus*, *Gould.* (203.)

Very generally distributed over the whole province in forests and well-wooded parts of the country.

122.—*Hierococcyx nasicolor*, *Hodgs.* (206.)

I procured one specimen at Kyeikpadein in November, a male, with the wing 6·9, and tail 6·0. Another bird, unsexed, from near Tounghoo has the wing 6·8, and tail 6·2. Both are rufous below, but unbarred, and the centres of the feathers are slightly ashy.

123.—*Hierococcyx sparveroides*, *Vig.* (207.)

Very equally distributed over the whole province, but not common except on the higher hills.

124.—*Cacomantis threnodes*, *Cab.* (209.)

A very common bird throughout the plains, frequenting gardens and low jungle. They are fond of swamps and jheels, where no doubt caterpillars are abundant. Wings of Pegu birds range from 4·0 to 4·6.

125.—*Surniculus lugubris*, *Horsf.* (210.)

A common bird in Lower Pegu from Pegu down to Rangoon. It probably occurs throughout the better-wooded and other parts of the province.

126.—*Chrysococcyx maculatus*, *Gm.* (211.)

I have heard of only one specimen of this species shot within my limits. It was procured by Mr. Olive, and is now in my possession. It is in adult plumage, and cannot be confounded with the next. It was shot at Prome.

**127.—*Chrysococcyx xanthorhynchus*, *Horsf.*
(211 *bis.*)**

A fairly common bird near Kyeikpadein, and also at Rangoon. A young bird of this genus, and very probably this

species and not the preceding, was shot by me at Thyetmyo. I have also got the bird from Karennee, the only perfectly adult male I have. We may conclude that it occurs in all suitable localities in the province.

It frequents orchards and clumps of trees, and lives amongst the leaves, where it is not easy to detect it. I have not heard its note.

At no age does the female ever assume the violet plumage of the adult male, nor even a single violet feather. I feel pretty certain that both *basalis*, Horsf., and *malayanus*, Raff., are based on females of this species.

It is to be noted with reference to this that in the list of these birds given at page 506, S. F., VI, all Mr. Hume's *xanthorhynchus* are males, all his *malayanus*,* except one unsexed bird, are females.

In the adult female, the whole lower surface, from the chin to the tip of the under tail-coverts, the lores, cheeks, ear-coverts and sides of neck are white, closely barred across with greenish bronze; the bars on the under tail-coverts are broader and wider apart than elsewhere; the head, neck, back, rump and upper tail-coverts are shining bronze, tinged with copper on the head; the forehead and over the eye are speckled with white; the lesser wing-coverts are brilliant bronze, each feather narrowly edged with rufous; the greater coverts are less brilliant, and are broadly notched all round with rufous; primaries brown, glossed with green, very narrowly edged with rufous, and the later ones also tipped with the same; the inner web of all with a broad streak of rufous along the basal two-thirds of the edge; secondaries and tertiaries greenish bronze, edged all round with rufous; centre pair of rectrices uniform bronze green, tinged with blue near the tip; the next pair has on each web alternate triangular patches of greenish brown and rufous; the bases of the brown patches and the apices of the rufous ones lying next the shaft. In the next pair the brown patches are less in extent, each pair being fully separated from the next by the rufous; the tip is white; the next pair again is very similar, the brown being still further reduced and the white tip broader; the outer pair is rufous, with four black bars, and on the outer web between each pair of black bars there is a white patch; the tip is broadly white.

In less mature females the central rectrices are barred greenish brown and rufous; the white spots on the outer pair

* But I find in the museum two specimens of *malayanus*, sexed by dissection by Davison, as males. I don't think he could have made two mistakes like this.—
ED., S. F.

extend to both webs ; the upper plumage everywhere is closely barred with rufous ; the lower plumage at all ages is the same.

The description of *malayanus* agrees well with the above, except that the lower tail feathers are said to be barred with *brown*, black and white. This is the only discrepancy. I have never seen a female which had not a vast deal of rufous in the tail.

Horsfield's description of *basalis* also answers well to the above. Of the tail he says :—*Rectrices externæ supra viridifuscescentes infra nigrescentes albido maculatæ, reliquæ (duabus intermediis exceptis) basi castaneæ, apice albido fasciatæ.*

I give the dimensions of a female :—Length, 6·9 ; expanse, 11·5 ; tail, 3·3 ; wing, 3·95 ; tarsus, 5 ; bill from gape to tip, ·85. Iris reddish brown ; eyelids greenish, the edges pale red ; inside of mouth salmon colour ; bill brown, paler beneath, and orange at gape ; legs and claws brown.

The adult male is well known. Immature males have from a very early age one or more violet feathers* shewing out in the plumage, and their recognition is consequently easy. The change goes on by an easy transition and not by a moult. By February the full plumage is assumed. In October the change appears to have just begun. The young male never assumes the adult plumage of the female, the change to mature male plumage taking place while the upper surface is densely barred with rufous. The young male differs in nothing from the young female, except that the green bars below are much broader and further apart.

The quite young bird is described (S. F., III, p. 81), by Mr. Hume, from a specimen procured by me at Thyetmyo. He states that the bird is not a nestling. This is true, inasmuch as the specimen has all the feathers fully grown ; but I am of opinion that the bird is not more than a few weeks old. In birds of this genus the nestling appears to

* I suspect this is not invariably the case, and that our two male *malayanus* are young males which happen *not* to have as yet developed any violet feathers. If not, despite their extreme similarity of female *xanthorhynchus* and *malayanus*, we must conclude that the latter is really distinct, *both* sexes exhibiting a plumage *very* close to, if not identical with, that of the female of the former. And we must remember that the Australian specimens I have of *lucidus* or *basalis* (I do not know which they are) are not separable from my Malayan *malayanus*, and that in Australia *xanthorhynchus* does not occur.

I myself have long inclined to the view Mr. Oates now sets forth, in consequence of Mr. Cripps having sent me several specimens of *xanthorhynchus* and *malayanus* from Dibrugarh, which were all got at the same time and place, and which he affirmed of his own observation were males and females of the same species. But against this were my two undoubted *male malayanus*, the two perfectly similar birds from Australia (one sexed a male), and the non-occurrence of *xanthorhynchus* in Australia. I do not think we are yet in a position to decide the question, If *basalis* and *malayanus* are not distinct from *xanthorhynchus*, then we should have, it seems to me, to suppress the latter and call all *lucidus*, Gm., for the Australian birds are, it seems to me, identical with the Malayan ; but then *how* is it there are no violet birds in Australia ?—ED., S. F.

assume a distinct plumage for a short time, and then the change towards adult plumage rapidly progresses. Some interesting remarks on the allied Australian Cuckoos will be found in P. Z. S., 1865, p. 460, by Mr. Edward P. Ramsay.

128.—*Coccytes jacobinus*, Bodd. (212.)

Confined to Thyetmyo and its neighbourhood where it is common.

129.—*Coccytes coromandus*, Lin. (213.)

Distributed over the whole province, and fairly common.

130.—*Eudynamis malayana*, Cab. & Hein. (213.)

Common all over Pegu from February to June. I have procured nestling birds in May.

131.—*Rhopodytes tristis*, Less. (215.)

A very common bird in all parts of the province. Considering however what a remarkable tail it has, it is wonderful how seldom it is seen. It glides very gracefully from branch to branch, concealing itself admirably.

132.—*Centrococcyx intermedius*, Hume. (217 quat.)

Birds from all parts of the province are similar. It is very common, except in the thicker forests, where I have not observed it.

133.—*Centrococcyx bengalensis*, Gm. (218.)

Extremely abundant in all the lower open parts of the country. It is not a forest bird, but rather one of grass land, especially where swampy. The length of the upper tail-coverts in this bird is, I think, entirely dependent on age and not in any way connected with season or sex.

The young birds in first plumage are clothed in the adult winter plumage;* hence it happens that in September and October birds in both stages of plumage are found together.

* If we are to gather from this that Mr. Oates has ascertained that the white shafted plumage is the normal adult winter plumage, the fact is important.

Hitherto the question since I touched upon it, S. F., III, 84, and mentioned for the first time on Mr. Simson's authority, that this stage of plumage was seasonal, the matter has been *sub judice*. I have presumed that the brown white shafted plumage was that of the cold weather, because the great majority of my specimens, killed between the 15th November and 15th March, were in this stage; several killed between 15th March and the end of April in an intermediate stage, and the great majority killed between 1st May and 1st November in the black stage. But then I have perfectly black birds killed at the end of November and in January, and brown birds killed in May and June. But I am not sure that these dates, which are Mandelli's, are reliable, and certainly every specimen of our own collecting, or of which the dates are certainly reliable, confirm Mr. Oates' present statement.—ED., S. F.

134.—*Arachnothera aurata*, Bly. (223 bis.)

Common on the eastern slopes of the Pegu hills in evergreen forests. Occurs also in the belt of jungle between the hills and the Sittang.

135.—*Arachnothera longirostra*, Lath. (224.)

I procured one specimen only on the hills about ten miles north of Pegu. It probably occurs generally over the hills. Captain Ramsay procured it at Tounghoo.

136.—*Æthopyga cara*, Hume. (225 ter.)

Abundant round Rangoon. It is also common on the hills near Pegu. I procured it on the banks of the Sittang a little below Shwaygheen, and Captain Ramsay records it from Tounghoo.

137.—*Cinnyris hasselti*, Tem. (233 bis.)

In the course of some years I have shot a few specimens of this Honeysucker. It occurs at Kyeikpadein, and also on the hills north of Pegu, but is rare.

138.—*Anthreptes phœnicotis*, Tem. (233 sext.)

I did not meet with this species in Thyetmyo; but throughout Lower Pegu it is extremely common. Captain Ramsay shot it at Tounghoo. It is perhaps more common near Rangoon than elsewhere in the province. As it occurs in Tipperah on one side and Tenasserim on the other, it is probably found in every part of Pegu.

139.—*Cinnyris asiaticus*, Lath. (234.)

Found in every part of the province, but nowhere very common according to my experience.

140.—*Cinnyris flammoxillaris*, Bly. (234 ter.)

Confined to Lower Pegu, south of a line drawn roughly from Henzada to Shwaygheen. In this tract it is extremely common.

In a note contributed by Messrs. Hume and Davison to Captain Shelley's Sunbirds, they state that, like *C. asiaticus*, the males put off the breeding plumage in the winter and assume a dress precisely similar to that of the female, except in so far as they retain a gular stripe. Specimens killed at the close of April had nearly completed the change.

I presume the change here meant is that of the male from winter to breeding plumage again.

That this bird undergoes any change of plumage at all is quite contrary to my experience. I have males in full plumage shot in every month of the year, and I have taken several nests in March, when certainly the male birds were in full dress. The fact is that the young male is plumaged like the female till the following February, and that during the winter months there are more young males about than old ones, owing to this species having two or more broods a year.*

141.—*Dicæum cruentatum*, Lath. (236.)

Extremely common over the whole of the province.

142.—*Dicæum trigonostigma*, Scop. (236 bis.)

I have only one female of this species shot at Kyeikpadein. It appears to be very rare.

143.—*Dicæum chrysorrhœum*, Tem. (237.)

Only procured near Rangoon, where it is not uncommon. Captain Ramsay records it from Tounghoo.

144.—*Piprisoma agile*, Tick. (240.)

Several specimens, shot at Kyeikpadein, are identical with an Indian specimen. I have procured it nowhere else within my limits. My men got a specimen at Malewoon in South Tenasserim which I identified with *Prionocheilus modestus*, Hume, till I got an Indian example of *P. agile* with which to compare it. The two seem very close to each other.†

145.—*Sitta neglecta*, Walden. (250 bis.)

This Nuthatch is found in all the dry forests of the lower hills and plains over the whole province. It also frequents secondary jungle, compounds and open country where there are a few trees.

* I have no doubt Mr. Oates is right; at the same time we have very few males in full plumage shot in the winter, and it seemed fair to conclude that these were only exceptions, that as in the parallel case of *asiatica* retained the breeding plumage right through. About one in fifty I should say of *asiaticus* do this on the average, though this is commoner in damp warm localities, and rarer in dry cold ones. In the case of *flammarillaris*, I only went by a very large series of specimens. But Davison confirmed this view by his own personal observation of the extreme difficulty of getting full-plumaged males during the winter.—ED., S. F.

† I hope Mr. Oates will again compare his specimens. I rather doubt *Piprisoma agile* occurring at Malewoon. The fact is that though usually, broadly speaking, this species is a pale grey brown with a faint greenish tinge, and *P. modestus* a pure green, yet I have seen faded birds of the latter undistinguishable, so far as colour went, from freshly moulted ones of the former. But the bills differ altogether; that of *modestus* is considerably longer, and yet the gonyx of *agile* is a third longer than that of *modestus*! If *P. agile* really occurs at Malewoon, it is an interesting fact.—ED., S. F.

146.—*Dendrophila frontalis*, Horsf. (253.)

Common all over the Pegu hills and ranging into the plains where the vegetation is at all evergreen, and suitable to it.*

147.—*Upupa longirostris*, Jerdon. (254 bis.)

Extremely common in all the dry forests of the plains, as well as in cultivated and bare ground. In thick dry forest, such as there is at Entagan, 13 miles south of Pegu, on the Rangoon road, it is remarkably abundant.

148.—*Lanius nigriceps*, Frankl. (259.)

Common in the rains, somewhat rarer in the dry weather, in the grassy plains between the Pegu and the Sittang rivers. I also procured it at Prome, and Captain Ramsay got it at Tounghoo.†

149.—*Lanius colluroides*, Less. (260 ter.)

Common at Thyetmyo and Prome. Also throughout Lower Pegu it occurs in considerable numbers; but it is not common except in Upper Pegu. It leaves the province from about February to July to breed, and perhaps goes to native Burma for the purpose.

150.—*Lanius cristatus*, Lin. (261.)

Excessively common over the whole province from September to April in the plains, frequenting open ground and the neighbourhood of houses and villages.

151.—*Tephrodornis pelvicus*, Hodgs. (263.)

Occurs in all parts of the province in forests and well-wooded localities.

152.—*Tephrodornis pondicerianus*, Gm. (265.)

Very abundant everywhere, but a bird more of the open ground and of cultivation than of the forest.

153.—*Muscitrea grisola*, Bly. (266.)

Apparently rare. I have procured only one specimen which I shot on the banks of the canal about ten miles from Pegu.

154.—*Hemipus picatus*, Sykes. (267.)

Not a common bird, but very generally distributed over the province.

* We have received it from Bassein, and Blandford also appears to have procured it there.—ED., S. F.

† Also near the mouth of the Bassein river.—ED., S. F.

155.—*Volvocivora *avensis*, Bly. (268 bis.)**

Fairly common everywhere, but not so numerous as the next. It frequents orchards and clumps of trees, but is not found, I think, in forests.

156.—*Volvocivora intermedia*, Hume. (269 bis.)

More common than the preceding, but more of a forest bird. I think it is confined to the southern portions of the province.

157.—*Graucalus macii*, Less. (270.)

Fairly common in all parts of Pegu.

158.—*Pericrocotus elegans*, McClell. (271 ter.)

This bird is common in all the forests and well-wooded parts of the province.

159.—*Pericrocotus roseus*, Vieill. (275.)

I have found this species very common near Pegu and Kyeikpadein. Captain Ramsay got it at Toungboo, and Dr. Armstrong at Rangoon and Syriam.†

160.—*Pericrocotus peregrinus*, Lin. (276.)

Extremely abundant everywhere, except perhaps in the thicker forests on the hills.

161.—*Pericrocotus albifrons*, Jerd. (277 bis.)

Confined strictly to Thyetmyo and a few miles south of this place. It probably extends far above the frontier.‡

162.—*Pericrocotus cinereus*, Lafr. (277 quat.)

One single bird, a female, procured at Kyeikpadein, is referable to the present species, and differs in many important particulars from the next species. I have compared it with a series in the British Museum.

163.—*Pericrocotus cantonensis*, Swinh. (277 ter.)

I have three females of this species, two killed at Kyeikpadein and one at Malewoon, in Tenasserim. The three specimens are all alike.

The following remarks apply only to females, all my birds being of this sex:—

In *cinereus* the upper plumage is a dark brown, and the rump and upper tail-coverts concolorous with it.

* I prefer to retain *Volvocivora* for the non-metallic-glossed-plumaged Asiatic species, and restrict *Campophaga* to the metallic-glossed-plumaged African species.—ED., S. F.

† And Blanford got it at Bassein.—ED., S. F.

‡ Blanford procured it as far as Pagan.—ED., S. F.

The wing spot is pure white.

The axillaries are pale buff.

The dark portion of the tail and the shafts are black.

The white of the tail is small. On the first pair, from the outside, the white measure $\cdot 6$; on the second also $\cdot 6$; on the third, $\cdot 85$; and on the fourth, $1\cdot 7$ in length.

In the present species the upper plumage is hair brown; the rump and upper tail-coverts conspicuously paler.

The wing spot is yellow.

The axillaries are yellow.

The dark portions of the tail are brown, and the shafts pale hair brown.

The white of the tail is extensive. On the first pair, the white measures $\cdot 8$; on the second, $\cdot 8$; on the third, $1\cdot 3$; on the fourth, $2\cdot 1$ in length.

In *cinereus* the white on the fourth pair of rectrices extends to only half the width of the inner web. In *cantonensis*, the white extends to the edge of the inner web for a distance of one and a quarter inches. The tail, closed and viewed from below, is *entirely white*. In *cinereus* the closed tail, viewed from below, has about equal quantities of black and white.

The dimensions of the two species do not differ in any important particular, and Mr. Hume has already given sufficient information on this head (S. F., V, 176) when dealing with the bird he named *immodestus*.*

Both these species occur at Kyeikpadein in a thick and almost impenetrable grove of mango trees with an undergrowth of pineapples. I have tried unsuccessfully to procure males. I have compared the Pegu birds with Mr. Swinhoe's series of *cantonensis* now in Mr. Seebohm's collection.

164.—*Buchanga atra*, *Herm.* (278.)

In Pegu this Drongo is only a cold weather visitor. It is very abundant from October to January in all suitable localities, and less common from January to March.

165.—*Dicrurus annectans*, *Hodgs.* (279.)

A passing visitor in October, when it is very abundant near

* And this, and not *cantonensis*, I am inclined to think, Mr. Oates' birds are. As to the distinctness of this form from *cinereus*, on which Mr. Oates now insists in detail. I pointed this out when dealing with it, and suggesting the name *immodestus*, S. F., V, 176. At the time I pointed out that this approached *cantonensis*, but I also showed how it, and especially the male, differed. It is possible that my male (I only got one male and seven females) is a young bird, though it does not look so; but it is separable at once from our only *cantonensis*, by its much duller rump, distinct wing bar, and darker upper surface.

However, with only one adult male of each form it is impossible to be certain, and on the comparison of the females only no reliance can be placed. The matter must remain *sub-judice* till Mr. Oates gets a series of males.—ED., S. F.

Pegu and Rangoon. I have not seen it at any other time of the year.

It is generally considered that the birds with white on the breast and abdomen are young, and that the black birds are adult. Is this proved? Dr. Dohrn (P. Z. S., 1866, p. 327) says of *D. modestus*: "The older they grow the more the tips of the feathers of the abdomen and breast are white bordered."

166.—*Buchanga longicaudata*, *A. Hay.*

This ashy black Drongo, exactly of the same tint of colour as the Malabar bird, appears to differ in the extent to which the tail is forked—a very important point in this family. I have only one Indian specimen, and the fork is 2·2 deep. In Burmese birds it varies from 1·5 to 1·7. The colour of this bird must prevent it ever being confused with the two next which are clear ashy and not ashy black.

The present species is a constant resident, and fairly common in all forest country in Lower Pegu.

167.—*Buchanga intermedia*,* *Bly.* (280 *bis.*)

The ashy Drongo, a totally different coloured bird from the preceding, is common throughout the province in wooded localities. Wings, 4·9 to 5·4; tails, 5·6 to 6·0; fork of tail, 1·7 to 1·9.

168.—*Buchanga pyrrhops*, *Hodgs.* (280 *bis.*)

A larger form of the preceding with wing 5·75; fork of tail, 2·0. I have no specimen of it, but Lord Tweeddale examined specimens collected at Rangoon by Captain Ramsay.†

169.—*Chaptia ænea*, *Vieill.* (282.)

Springly distributed over the whole province.

170.—*Bhringa remifer*, *Tem.* (283.)

Generally found, but rather rare.

* This and the next are certainly not separable; every intermediate size occurs. It is simply absurd to pick out all the large birds and call them one species, and all the small ones and call them another.

Then as to difference of colour: it is *most* decided at the two ends of the scale, but we have fully one hundred specimens lying between the extreme forms, and absolutely bridging over the difference. It may be convenient to retain one name to indicate this form lying between *longicaudatus* and *leucophæa*, but it is absolutely illogical for any one who adopts *atra* as the title for all the black Kingcrows, to go and make *two* species here. Why *atra* includes at least five races, each much more distinct (I speak of typical examples of each) than is *pyrrhops* from *intermedia*.—ED., S. F.

† And Armstrong procured numbers there and elsewhere along the Pegu coast, and we have specimens from the Bassein river estuary.—ED., S. F.

171.—Dissemurus paradiseus, Lin. (285.)

In a foot note to an account of the nidification of the Great Racket-tailed Drongo which I wrote (S. F., VIII, p. 166), Mr. Hume asks whether *paradiseus* or *grandis* is meant. After shooting these birds for some years in all parts of Pegu, and examining specimens procured by my men in Tenasserim, I am now of the opinion that the two cannot be separated.* Upper Pegu birds are larger, and have more ample crests than those from Lower Pegu and Tenasserim; but no line can be drawn between the two, and the difficulty is best met by ranging them all in under one name.

172.—Chibia hottentotta, Lin. (286.)

This bird seems to wander about a good deal in flocks, and there are few places where it is not common at one time of the year or the other.

173.—Artamus fuscus, Vieill. (287.)

Generally distributed, and very common in many places, such as Thyetmyo, but apparently capricious in its choice of locality. In many tracts of country I have never met it.

174.—Muscipeta affinis, A. Hay. (289.)

Fairly common in all parts of Pegu. In September large numbers sweep through the province, apparently on migration.

175.—Hypothymis azurea, Bodd. (290.)

Excessively common everywhere.

176.—Leucocerca albicollis, Vieill. (291.)

Generally distributed, but nowhere common.

177.—Leucocerca aureola, Vieill. (292.)

Confined to the upper portions of the province near Thyetmyo and Tounghoo. I have never met with it elsewhere.

* The great mass of the birds from all over Pegu and Tenasserim are unquestionably *paradiseus*. But true *grandis* is perfectly separable. Very likely Mr. Oates has never seen one in Burma. We have only two, one from the North Arakan hills, and one from the extreme north of Tenasserim.

But from Thyetmyo in Pegu, we have two specimens, which might pass for *grandis*, but which, when closely examined, have smaller crests and smaller bills, though larger than those from Rangoon, &c. I agree therefore with Mr. Oates now, that it is best to keep all the Pegu birds as *paradiseus*. But if he means that true *grandis* is not separable from *paradiseus*, then I must differ from him—five birds in a hundred may be found intermediate between the two near the junctions of their respective areas I admit; but how about keeping *intermedia* and *pyrrhops* separate when positively fifty out of every hundred birds are intermediate between these two forms and both occur as a rule in the same areas? I may note that on the last line of p. 221, Vol. VI, Pegu has been printed for Arakan.—ED., S. F.

178.—*Culicicapa ceylonensis*, Swains. (295.)

In Upper Pegu it seems to be confined to the hills, but in the lower parts it is generally distributed as a cold weather visitor.

179.—*Hemichelidon sibiricus*, Gm. (296.)

A rather rare bird in general, but appears to occur in all parts of the province.

180.—*Alseonax latirostris*, Raff. (297.)

Excessively common in Lower Pegu during the dry weather, particularly near Rangoon and Pegu. Captain Ramsay got it at Tounghoo, but I did not meet with it at Thyetmyo.

181.—*Alseonax ferrugineus*, Hodgs. (299.)

Of rare occurrence. I have got two specimens near Kyeikpadein in the course of five or six years. Thyetmyo (*Blyth*).

182.—*Stoporala melanops*, Vig. (301.)

During one dry season this bird was excessively abundant round Kyeikpadein, and I procured as many as I wanted. I have seen it every year again, but not in such large numbers. Dr. Armstrong got it at Syriam and Elephant Point.*

183.—*Cyornis rubeculoides*, Vig. (304.)

A common bird over the whole province in the dry weather.

184.—*Erythrosterina albicilla*, Pall. (323.)

Common over the whole province during the dry weather.

185.—*Erythrosterina maculata*, Tick. (326.)

I shot one bird at Kyeikpadein in the cold weather. It is very rare apparently.

186.—*Myiophoneus eugenii*, Hume. (343 bis.)

Confined to the rocky streams in the Pegu hills where it is common. Does not appear to cross the Irrawaddy river to the west, where *temmincki* replaces it.

187.—*Hydrornis oatesi*, Hume. (344 bis.)

Common in certain streams of the evergreen forests of the Pegu hills.

* And Blanford at Bassein, whence we also have received it.—ED., S. F.

188.—*Pitta cyanea*, Bly. (344 *ter*.)

Generally distributed in the hills and in the well-wooded portions of the plains.

189.—*Pitta moluccensis*, P. L. S. Müll. (345 *bis*.)

Very common over the whole province from May to July, merely visiting us for breeding purposes.

190.—*Pitta megarhyncha*, Schl. (345 *ter*.)

Appears at much the same time as the preceding species, but is comparatively rare.

191.—*Pitta cuculata*, Hartl. (346.)

Distributed and common in suitable localities over the whole province.*

192.—*Cyanocinclus solitarius*, P. L. S. Müll. (351 *bis*.)

I do not know to which species the Pegu bird belongs—this or *cyaneus*.† It is a fairly common bird, found throughout the province in the dry weather.

193.—*Geocichla citrina*, Lath. (355.)

Nowhere very common apparently, but found in all parts of Pegu.

194.—*Turdus obscurus*, Gm. (369 *bis*.)

I procured one specimen at Kyeikpadein, and it appears to be rare.

195.—*Oreocinclla mollissima*, Bly. (370.)

Capt. Ramsay got this bird at Tounghoo. I have not met with it.

196.—*Oreocinclla dauma*, Lath. (371.)

I found this bird on the hills, and I procured a specimen at Kyeikpadein. Capt. Ramsay records it from Tounghoo. It seems to be rare.

197.—*Pyctorhis sinensis*, Gm. (385.)

Very common throughout the plains.

* Add 350 *bis*.—*Zoothera marginata*, Bly.

† A male from the North Pegu hills—ED., S. F.

† I hardly understand this. Both forms occur in Pegu. Either Mr. Oates accepts both as species, and then he should enter both, or he thinks them different races of one species, and then *cyaneus* has priority.—ED., S. F.

198.—*Pyctorhis altirostris*, Jerdon. (386 bis.)

I have already described this bird (S. F., V, p. 249). Since I became acquainted with the note of this species I have heard it very frequently in the vast plain west of the canal, and have procured many specimens. It is very difficult to shoot, as it clings to the lower parts of the elephant grass, and is seldom seen. I have found it the best plan to go after them in a canoe during high floods. Nothing but the tips of the grass are then available for shelter, and a few birds are secured with tolerable ease.

They are abundant along both sides of the reclamation bund extending from the head of the canal to the road from Pegu to Tounghoo. Also down the canal as far as Wan. In marching this year from Pegu to Tounghoo I heard the note every day nearly up to Tounghoo wherever there was elephant grass. As is well known, Dr. Jerdon procured it at Thyetmyo. It also probably occurs in the plains in other parts of the Irrawaddy valley.

Its note is peculiar and unlike that of any other bird. It is however impossible to describe it. Although not gregarious, yet the bird is seldom alone, and several may frequently be heard calling and answering from the same clump of grass. It feeds in the rains chiefly on large grasshoppers which abound, to an incredible extent, in all the flooded lands.

199.—*Trichastoma abbotti*, Bly. (387.)

Very common throughout the southern portions of the province in gardens, orchards, and damp forests, provided that in these there is a dense undergrowth of small and entangled brushwood. It has a remarkably pretty note, uttered so frequently, and in such rapid succession, that it may be said almost to have a song. It feeds chiefly on the ground, but I have seen it in trees peering under the leaves of the smaller branches for insects.*

200.—*Alcippe phayrii*, Bly. (388 bis.)

I procured this bird only in the evergreen forests of the Pegu hills, where it was common.

201.—*Stachyrhis nigriceps*, Hodg. (391.)

Appears to be fairly common in the Pegu hills on the Eastern slopes, where I have twice taken its nest.

* Add 388.—*Alcippe nipalensis*, Hodg.

I have examined a specimen of this from the North Pegu hills.—ED., S. F.

202.—Stachyrhis rufifrons, Hume. (393 bis.)

I have no doubt this bird is pretty common on the Pegu hills, but I only met with it once or twice.

203.—Mixornis rubricapillus, Tick. (395.)

Excessively common in all parts of Pegu, except perhaps in the drier parts near Thyetmyo, where I do not remember to have observed it.

204.—Timalia bengalensis, God.-Aust. (396.)

Common in all parts of the province in the plains both in brushwood and in elephant grass. In all the plains round Pegu it is common to a degree.

205.—Pellorneum tickelli, Bly. ; Trichastoma minus, Hume ; Drymocataphus fulvus, Walden. (387 bis.)

Mr. Hume favored me some time ago with a specimen of the bird he calls *P. tickelli*, and also with one of his *T. minus*. The latter is undoubtedly* the bird described by Blyth and Tickell, and also the bird I recorded from Upper Pegu (S. F., III, p. 119). Mr. Hume's *P. tickelli*, which is much streaked on the breast, will require a new name I think.

I think the Marquis of Tweeddale was right in classing this species under *Drymocataphus*. It is hardly a *Pellorneum*. (See *Ibis*, 1877, p. 451.)

I found this bird common on the Pegu hills in nullahs, creeping on the ground in brushwood on the banks.

I wish to note that Mr. Hume's *P. tickelli* appears so rare in Tenasserim that Mr. Davison got only one specimen. Of *Trichastoma minus* he got ten, and Tickell is therefore hardly likely to have got the former and not the latter.†

206.—Pellorneum subochraceum, Swinhoe ; P. minus, Hume.

Common in every part of the province, except perhaps on some portions of the hills.

207.—Pomatorhinus nuchalis, Tweeddale‡ (403.)

In the list of the birds of Upper Pegu, (S. F., III, p. 121)

* This is rather begging the question. I say *per contra*, and have quoted both descriptions, that they absolutely do not apply to *T. minus*, and do exactly, word for word, agree with the bird I call *tickelli*. But *quot homines tot sententia*.—ED., S. F.

† This is the only real point against my view, but can that outweigh the fact that the descriptions exactly fit one bird, while they can only, with difficulty, be made to cover the other?—ED., S. F.

‡ This is *P. leucogaster*. Gould. I have fully discussed this question, S. F., IX, 251. One Thyetmyo specimen that we have is typical *schisticeps*, while another is inseparable from a Simla *leucogaster*. I suspect Mr. Oates had overlooked my elaborate exposition of this question *loc. cit. sup.*—ED., S. F.

this bird is entered as *schisticeps*, Hodgs. Having received a bird lately from Mr. Hume from Mr. Mandelli's collection made in Sikkim, I find that the Thyetmyo bird is clearly different from the Sikkim bird, differing in the flanks being ferruginous instead of olive brown, and by the absence of white streaks on the lateral breast feathers, and also by having a pale ferruginous collar on the nape.

I found this species common round Thyetmyo, but have not observed it anywhere else.*

208.—*Garrulax belangeri*, Less. (407 bis.)

Distributed over every portion of the province and abundant.

209.—*Garrulax chinensis*, Scop. (408 ter.)

Rarely met with. I have got it once or twice near Kyeikpa-dein and to the west of Shwaygheen.

210.—*Garrulax pectoralis*, Gould. (412.)

Abundant near Thyetmyo and across the Pegu hills to Tounghoo, apparently not further south than the latitude of Prome.

Mr. Hume remarks (S. F., III, p.123) that, as far as he knows, this species and the next are always found together. In the greater portion however of the Pegu province, *moniliger* only is found. I notice also that in Tenasserim Mr. Davison saw the present species only once, † whereas he procured a large series of the next. These peculiarities in the distribution are good evidence of the total distinctness of the two species.

211.—*Garrulax moniliger*, Hodgs. (413.)

Very abundant throughout the province, mingling with *pectoralis* where that species is found, but being found alone in the greater part of Pegu.

212.—*Chatarrhæa earlii*, Bly. (439.)

Very abundant in the grass plains west of the canal. I also met with it at Henzada, and Mr. Blanford says he got it at Thyetmyo.

* Add 402.—*Pomatorhinus schisticeps*, Hodgs.

We had one typical specimen of this form from Thyetmyo and so if *leucogaster* is retained distinct, this (*schisticeps*) must also appear in the Pegu list.

† But this seems to have been a mere personal idiosyncrasy, for Darling got lots of *pectoralis*, and Bingham has found both species equally common in Tenasserim, (vide S. F., IX, 181). I have seen, I may add, specimens of *pectoralis* from near Rangoon.—ED., S. F.

213.—*Chatarrhæa gularis*, Bly. (439 bis.)

Confined to the Thyetmyo and Promé districts up to the foot of the hills. Particularly abundant in Thyetmyo itself, and fairly common elsewhere.

214.—*Megalurus palustris*, Horsf. (440.)

Very common in the grass plains west of the canal and extending south of the canal some distance, possibly as far as Rangoon. It does not seem to be known that the sexes differ not only in size, but also very markedly in colouration.* I am sorry my specimens are all packed up, and that I cannot describe them in this paper.

215.—*Criniger griseiceps*, Hume. (451 bis.)

A common bird in all the forests on the eastern slopes of the Pegu hills.

I received three specimens of a *Criniger* from Mr. deWet, who shot them only a few miles east of Tounghoo, and consequently outside my limits. They agree exactly with *flaveolus* from the Himalayas, with the exception of the crest, which is conspicuously tipped yellow. I note that Mr. Blyth records *flaveolus* from Tenasserim.† Neither Mr. Davison nor Captain Ramsay appear to have found it.

216.—*Ixus davisoni*, Hume. (452 quat.)

Confined to the southern portions of the province. I have procured it at Rangoon, and all the way up the road to Pegu. Also at Kyeikpadein. Dr. Armstrong procured it at Elephant

* This latter is certainly *not* generally known, nor is it in my opinion a fact. The bird being specially familiar to me, I was much surprised when I read Mr. Oates' remark as to the sexes differing materially in colouration—but live and learn—I determined at once to make up, by careful study, for my past ignorance. I had lying handy a large series of this species killed and sexed by myself in Manipur. I examined these, but could detect no sexual difference in plumage. Then I turned out between thirty and forty of each sex, from various parts of India, Assam and Burma, but here too failed to discover any trace of what Mr. Oates contends for. I found that specimens of *both* sexes varied in colouration to an extraordinary extent; first according to season, from the warm rufescent streakless head, nape and extreme upper back, with unspotted, often yellow, throat and breast, and uniform fulvous brown, lower parts of the freshly moulted bird to the cold greyish brown strongly streaked head, white throat, strongly spotted or streaked lower throat and upper breast and dingy white lower parts of some of the April and May birds; and second according to individuals, birds of the *same* (as well different) sexes shot at the same place on the same date, differing very markedly both in tone of colour and in the character and intensity of the streakings of the upper surface (especially of the crown), and the spottings, if I may so call the markings, on the lower throat and upper breast. But I have been able to find no male that I could not match with some female, and no female that I could not match with some male.—ED., S. F.

† *Griseiceps* had not then been discriminated. There is little doubt that the birds Blyth referred to were really *griseiceps*. In those days, we knew so little of the possible variations of what are now common Himalayan birds, that small differences were not much attended to.—ED., S. F.

Point, and Mr. Blanford at Bassein. He records it under the name of *finlaysoni*, which, however, is not found west of the Sittang river. The limits of these two birds are very clearly and curiously defined by the Sittang. On the same day I have shot *davisoni* on the west bank, and *finlaysoni* on the east, but I have never known either of the birds to be found on the contrary sides of the river to these.

217.—*Ixos blanfordi*, Jerd. (452 *quint.*)

Very abundant in all the plains portion of the province, and common as it is at Thyetmyo and Upper Pegu generally, it is much commoner in some places in Lower Pegu, such as Pegu and Kyeikpadein.

218.—*Iole viridescens*, Bly. (452 *dec.*)

This Bulbul is spread generally over Lower Pegu, in the hilly country chiefly, and extends up the Sittang valley to Tounghoo.

219.—*Rubigula flaviventris*, Tick. (456.)

Common throughout Southern Pegu, and extending up to Tounghoo both in the hills and plains.

220.—*Brachypodius melanocephalus*, Gm. (457 *bis.*)

Very common round Rangoon and up to Pegu, thence extending some miles into the hills. I have not met with it elsewhere.*

221.—*Brachypodius cinereiventris*, Bly. (457 *quat.*)

I have no doubt myself that this is a distinct species. I have never found any bird with the lower plumage mixed up with yellowish green; the grey is always uniform. Mr. Hume's theory (S. F., VI, p. 320) that the skin of *cinereiventris* has ceased to secrete the yellow pigment is a very convenient one, if you wish to make away with the species.† The same

* But Blanford got it at Bassein.—Ed., S. F.

† I have not the least wish to make away with any species. I merely stated the fact that the difference between *melanocephalus*, *cinereiventris*, and *chalcocephalus* consisted solely in the extent to which the skin did or did not secrete a certain yellow pigment. I distinctly said, "whether these are species or local races," or what not, this is the sole difference between them. Now whether such differences constitute valid species, depends solely on whether they are normal and constant in a body of birds over a certain area, or whether they are abnormal or sporadic, affecting, like albinism, particular individuals only, and not the bulk of the birds of any locality. From what we read, (I do not know the thing of my own knowledge) the entire inability to secrete the yellow pigment, which gives us *chalcocephalus*, is a constant and persistent character of a vast number of birds covering a huge, but definite area. If this be so, then *chalcocephalus* must be admitted as a good species. But we know nothing of the same kind about the partial inability to secrete the yellow pigment, which gives us *cinereiventris*. On the

argument might, with equal justice, be applied to any other pair of similar species, and one of the two abolished.

The present species has apparently the same distribution as the preceding. I note, however, that Lieutenant Ramsay got it at Tounghoo, where he does not seem to have observed *melanocephalus*.

222.—*Otocompsa emeria*, Lin. (460)

Extremely common, commencing from Prome, extending down to Southern Pegu, and reaching up to Tounghoo, where Captain Ramsay wrote to me it was very abundant. Not found on the hills.

223.—*Pycnonotus burmanicus*, Sharpe. Cat. VI., p. 125. (462 *quat.*)

Of common occurrence everywhere in Pegu except the hills. I cannot find that birds differ at all from each other from one end of the province to the other.

I recorded the finding of the nest and eggs of *P. intermedius* in Pegu (S. F., V, p. 157). This note must be cancelled. It applies to *P. burmanicus*.

224.—*Phyllornis chlorocephalus*, Wald. (463 *bis.*)

Confined to the evergreen forests of the Pegu hills from Rangoon up to the frontier, and pretty common.

225.—*Phyllornis aurifrons*, Tem. (465.)

Extends from Thyetmyo down the valley of the Irrawaddy. Is common throughout Southern Pegu and runs up to Tounghoo. It is I think confined to the plains.

226.—*Iora typhia*, Lin. (468.)

Extremely common in all parts of the province in gardens and waste land.

227.—*Irena puella*, Lath. (469.)

Confined to the evergreen forests of the hills, and not descending far into the plains unless the forest is very thick. It is extremely common wherever it occurs.

contrary, so far as we yet know, this partial inability appears to be rather sporadic, affecting only individual birds, and not general or common to the bulk of the birds anywhere. If this be so, we can no more admit *cinereiventris* as a species, than we can the bright yellow *Xantholæma hamacephala*, *Palæornis torquatus*, and *purpurens*, or any other of the fifty odd familiar, and constantly recurring forms of albinism and lutinism. I believe that this form is more common in Tipperah than elsewhere, but even there it did not seem to me to affect one per cent. of the birds. Still, if hereafter in any area this partial inability to secrete the yellow pigment shall prove to be a normal, persistent, hereditary characteristic of any considerable body of birds, I shall willingly accord specific rank to this form. At present, I must repeat. (and it is a question I have carefully studied) that all available evidence is opposed to any such general diffusion of this peculiarity.—
ED., S. F.

Young birds of both sexes are clothed in the plumage of the female. The male changes into adult plumage when about nine months old or about March. The change takes place without a moult. In one young bird nearly changed into adult plumage, the centres of the upper feathers are still of the dull blue of the female.

228.—*Oriolus indicus*, *Jerd.* (471.)

Confined, as far as my experience goes, to Lower Pegu. It is abundant near Rangoon and Pegu, and in the intermediate tract.

229.—*Oriolus tenuirostris*, *Bly.* (471 *ter.*)

Common in the Thyetmyo district, and extending down to Rangoon and Lower Pegu generally, but rare there. Major Lloyd appears to have sent it from Tounghoo. Where found, it affects the same jungle as *indicus*.

230.—*Oriolus melanocephalus*, *Lin.* (472.)

Extremely common in every part of the province.

231.—*Oriolus trailli*, *Vig.* (474.)

Captain Ramsay records this from Tounghoo, and I have several specimens shot a few miles east of that place.

232.—*Copsychus saularis*, *Lin.* (475.)

Very common in all parts. It does not as a rule frequent forests, but I have occasionally seen them in such places.

233.—*Cercotrichas macrura*, *Gm.* (476.)

A forest bird, remarkably abundant in all parts of Pegu.

234.—*Pratincola caprata*, *Lin.* (481.)

Very abundant in all parts of the province in the plains.

I have not recorded yet the finding of the nest of this bird in Burma. I may as well do so now. I found the nest on the 20th April in a foot-print in an old paddy field, and it contained three eggs quite fresh. This was near Pegu.

235.—*Pratincola maurus*, *Pall.* (483.)

Generally distributed as a dry weather visitor throughout the province in the plains only.

236.—*Pratincola leucurus*, *Bly.* (484.)

I only procured this species at Thyetmyo, where it is rather rare.

237.—Pratincola ferreus, Hodgs. (486.)

I procured this at Prome where it is rare. Captain Ramsay records it from Tounghoo.

238.—Oreicola jerdoni, Bly. (487.)

Mr. Blanford got this at Bassein. I have never met with it.

239.—Ruticilla aureora, Pall. (500.)

Recorded from Thyetmyo by Mr. Hume, on the strength of a specimen sent him by Captain Feilden. I have never met with it.

240.—Larvivora cyane, Pall. (507 bis.)

I shot one specimen, an adult male, at Kyeikpadein. It is probably rare as I have been paying particular attention to this class of birds for some years, and have failed to procure more than one.

241.—Calliope camtschatkensis, Gm. (512.)

Very abundant during the cold weather in the neighbourhood of Kyeikpadein, and near Myitkyo on the canal. At the former place it frequents tangled brushwood, and in the latter, elephant grass. It keeps to the ground a good deal, but perches on shrubs when not feeding. It is very difficult to get a shot at this bird unless it happens to be running along a footpath. The male bird, even in December, has a very pretty little song, by hearing which I got first acquainted with the species. Feilden procured it at Thyetmyo.

242.—Cyanecula suecica, Lin. (514.)

Very abundant in the grass plains west of the canal. It comes out habitually into burnt-up open patches to feed, and is very easy to procure. It is silent. It has the habit of running with great speed about ten feet at a time, then stopping suddenly, elevating and jerking its tail a good deal when stopping still. It is by no means shy, and at Wan it may frequently be seen running about the compound of the Inspection Bungalow from 7th November to 15th May.

243.—Acrocephalus stentoreus, Hemp. & Ehr. (515.)

Not uncommon at Kyeikpadein, and mixed up with *orientalis*, from which it is difficult to separate it if the wing is imperfect. As a rule these birds want the marks on the breast, which are almost always present in *orientalis*.

244.—Acrocephalus orientalis, Tem. & Schl. (515 bis.)

I described this bird in S. F., III, p. 337. I have nothing to add to what I then said, except that the amount of striation

on the breast varies much, in some being very pronounced, and in others obsolete.

It is an extremely common species from Kyeikpadein up to Myitkyo, remaining from the beginning of October to the middle of May. Although fond of patches of grass, it is found more frequently in trees, bamboo hedges, and weeds. It has a hoarse croaking note which develops into something like a song in April and May.

In *orientalis*, the second primary equals the fourth, and they fall short of the tip of the third, the longest by $\cdot 04$ to $\cdot 08$; sometimes the second is longer than the fourth by a trifle.

In *stentoreus*, the second primary is equal to the fifth or thereabouts, and they fall short of the tip of the third, the longest, by $\cdot 15$ in typical examples.

In size and plumage both species are so much alike that they cannot be discriminated by these alone.

245.—*Acrocephalus dumetorum*, Bly. (516.)

Rare, as compared with *agricolus*. Frequents paddy, and when this is cut, takes to long grass. I have procured it only near Kyeikpadein.

246.—*Acrocephalus agricolus*, Jerd. (517.)

Very abundant from Kyeikpadein up to Myitkyo in paddy and elephant grass. In marching up to Tounghoo this year I saw it on the banks of the Sittang once or twice, and I have no doubt it is common in most parts of the plains. Burmese examples are very rufous, strikingly more so than birds from India.

247.—*Acrocephalus bistrigiceps*, Swinh. (517 ter.)

Apparently very common, but so difficult to get that six specimens in one season is good work. It arrives at the commencement of November, my first bird having been procured on the 5th of that month. On its arrival it takes to the paddy fields, and remains till the crops are cut, when it betakes itself to the thicker patches of grass. It moves about from stalk to stalk, searching for minute insects, and has a low note. I have never heard anything like a song proceeding from the bird. It remains in this country at least as late as the 15th April, on which day I shot a specimen.

This bird undergoes no change of plumage during the five or six months it remains in Pegu. The sexes also are alike in plumage.

A line from the nostril over the eye to the nape is pale yellowish buff; over this runs a broader streak of blackish

brown, widening posteriorly; lores brown; cheeks, ear-coverts, sides of neck and breast, and the flanks, the same as the eye streak, but darker; breast, abdomen, vent, and under tail-coverts pale yellowish buff; chin and throat white, tinged with yellowish; the head and whole upper plumage olive brown, tinged with rufous, brightest on the rump and upper tail coverts; all the quills brown, edged narrowly on the outer webs with the colour of the back and upper plumage; tail brown, very narrowly edged rufous; upper wing-coverts brown, very broadly edged with rufous olive brown.

A male measured:—Length, 5·12; expanse, 6·6; tail, 2·1; wing, 2·05; tarsus, ·08; bill from gape, ·68. The iris was brown; mouth pale yellow; upper mandible brown; lower mandible flesh-coloured, slightly dusky at tip; legs plumbeous flesh colour; soles of feet yellow; and the claws horn colour.

I have met with this bird only in the immediate vicinity of Kyeikpadein, chiefly in the plain in front of the bungalow there.

I may as well add that the first primary is uncommonly large for birds of this genus, measuring half an inch in length. The second primary equals the seventh, or falls sometimes between the sixth and seventh. The third, fourth, and fifth primaries are nearly equal in length.

248.—*Arundinax aëdon*, *Pall.* (518.)

Very abundant in all the country lying west of the canal, and also for some distance away from its eastern bank. Captain Ramsay got it at Tounghoo, and Dr. Armstrong at Elephant Point. It seems, therefore, to be universally distributed over the province.

It is far more aquatic than any of the five *Acrocephali* just noted. It is generally found on the banks of streams and ponds in long grass, or even in shrubs.

249.—*Locustella lanceolata*, *Tem.* (520 *bis.*)

This bird is very common near Kyeikpadein from the middle of October to the end of February, and probably later. On first arrival it goes into the paddy, and when this is cut, it remains in the stubble, and when this is trodden down or burnt it takes refuge in grass, the thickest clumps being selected. As long as the paddy fields are wet it feeds from stalk to stalk, but when the ground gets dry, it seems to feed habitually on the ground, running about among the roots of the herbage and rice.

Mr. Hume has described this bird at length (*S. F.*, I, p. 409; VI, p. 339).

The second primary is generally equal to the fourth. Out of 50 birds only three have the second equal to the third. The first varies in length from .35 to .5.

The streaks on the lower surface become reduced in what I take to be aged birds. The bird least marked in my series has a few streaks only on the centre of the breast and on the flanks, with one or two faint marks on the under tail-coverts. In this state it is very like the Indian *L. hendersoni*. The majority of the birds are densely streaked from the chin to the tail-coverts, except on the abdomen, and all these are characterized by a richer tone of colouring beneath.

The tail-coverts vary in the most extraordinary manner. In many of the birds they are entirely unmarked; in others densely streaked, and this follows no rule viewing it in connection with the amount of streaking on the other parts of the lower plumage. I can make no deductions of value from the examination of my large series. We require authenticated birds of the year, and old birds shot off the nest before anything can be made out for certain.

250.—*Locustella certhiola*, *Pall.* (521.)

Another bird, which is extremely common near Kyeikpadein and portions of the canal, but one which is never by any chance seen except by accident. It swarms in inundated paddy fields to an incredible extent. I have procured it from the 18th October to the 16th December. At this latter date the paddy harvest begins, and the bird disappears entirely. Unlike *lanceolata* it does not appear to go into grass at all.

It frequents those fields in which the paddy is very high and thick, and very swampy. It rises at one's feet and settles again at once, affording only a snap shot at about two yards distance.

The young bird up to October has the whole upper plumage, including the coverts and tertiaries, blackish brown; the feathers of the head narrowly, and all the others broadly, margined with reddish brown; rectrices chiefly blackish brown, irregularly margined with rufous brown, and very broadly terminated with whitish.

The lower plumage is buff, pale on the throat and upper breast, dark on the breast, and increasing in depth of colour down to the tail-coverts; the throat and breast are closely spotted with triangular blackish brown marks; stripe over the eye, and a streak from the bill under the cheeks and ear-coverts, yellowish buff; ear-coverts hair brown; under wing-coverts whitish; primaries and secondaries dark brown, narrowly edged with reddish brown.

Birds in this plumage are undoubtedly nestlings. But they differ from what Mr. Seebohm says of this stage by not being yellowish below to such an extent as his description implies, or Mr. Dresser's plate shews it to be. In the latter also the spots on the throat and breast are hardly numerous enough for an average young specimen, and the tippings to the tail feathers are too narrow, they being really about $\cdot 2$ in breadth.

Birds with the bright yellowish buff lower plumage are not spotted, and I take this to be the stage into which the nestling moults in October or November. In this stage the upper plumage is much brighter, caused by the black centres to the feathers being smaller, and the margins larger; the rump is almost unstreaked. The black on the rectrices is less in extent, and the white tips reduced to the same size as in the adult; the eye streak, the chin, throat, and the whole lower plumage are lively yellowish buff, intensifying and becoming warm ochreous on the flanks and under tail-coverts. There are no spots, but a few of the feathers on the sides of the neck are obsoletely tipped darker, but so slightly as not to be noticeable without close inspection.

From this stage the bird in spring moults into the full plumage. The adults, according to Mr. Seebohm, (*Ibis*, 1879, p. 13) have both a spring and an autumn plumage, differing from each other in the colour of the underparts, but my large series does not support this view.

The adults—both sexes seem alike—have the head blackish brown, each feather narrowly edged with pale reddish brown. A collar behind the nape is reddish brown without marks. This unspotted collar is only seen in a very few birds, and I take it to indicate very old birds; the back, scapulars, and wing-coverts dark blackish brown, rather broadly edged with reddish brown; the rump reddish brown, without marks; the upper tail-coverts reddish brown, each feather with a large central drop of black; the outer tail feathers are nearly all black, the rufous margins being small. Towards the middle of the tail each pair of rectrices becomes progressively less black and more margined with rufous, and the middle pair are rufous with a broad shaft line of black. All the rectrices are tipped with white, the breadth of the tips being about $\cdot 05$ of an inch.

Eye streak yellowish white; ear-coverts hair brown, and a patch below the ear-coverts yellowish buff; chin, throat, and centre of abdomen whitish; remainder of the underparts delicate buff, darkening on the flanks and under tail-coverts; the wings are brown, the tertiaries being edged with whitish, and the other quills with pale rufous brown.

As a rule, the underparts are quite unmarked; but in many

birds in adult plumage there are a few tiny marks on the feathers of the side breast.

The second primary is equal to the fourth, and the first primary projects very slightly indeed beyond the tips of the primary coverts.

I have mislaid my measurements of this bird in the flesh, and also the notes on the colours of the soft parts.

In skins the wing measures 2·3 to 2·45, and the tarsus 0·8; tail, 2·1 to 2·3.

251.—*Tribura taczanowskia*, *Swinh.* P.Z.S., 1871, p. 355. *Tribura intermedia*, *Oates*, S. F., IX, p. 220. (522 A.)

Mr. Brooks has recently examined in England the young specimen of this species which was Swinhoe's type, and he assures me that the two species are identical. The first specimens I got I identified with *taczanowskia*, and under this name it will be found recorded in my list of Burmese birds furnished to the *B. B. Gazetteer*. Mr. Brooks, however, was of opinion that the bird was new, and I was induced to describe it as *intermedia*.

The adult bird was described (*l. c.*), and it now remains to deal with the immature plumage. Mr. Swinhoe's description applies to the bird after the first autumn moult, in which, as in *L. certhiola*, the bird is characterized by its yellow tone of plumage. The whole upper plumage is olive brown, as in the adult; the wings and tail hair brown, margined with the colour of the upper plumage; shafts of rectrices, viewed from below, conspicuously pale; ear-coverts, hair brown; superciliary streak, cheeks, under the ear-coverts and whole lower plumage yellowish buff, tinged with olive brown on the breast, sides of body, thighs, and tail-coverts; the cheeks are faintly barred with olive brown. This description is taken from a bird shot in February, and in beautiful new plumage.

Several birds shot in November and December are, I think, birds of the year before the autumnal moult; the chin and throat are nearly white; the breast is tinged with brown and spotted; the whole remaining underparts are ochraceous brown, except the tips of the under tail-coverts, which, as in the adult, are broadly whitish; the superciliary streak and cheeks are yellowish brown, the latter conspicuously barred.

The bird was so fully dealt with when I described it first that any further description appears unnecessary.

I met again with it this year from November to the middle of February, and had better opportunities of observing its habits. On first arrival, and until the crops are cut, it keeps to the standing paddy together with the *Locustellas* and

Acrocephali, and it is impossible to distinguish one species from another till dead, and in the hand. All have the same habit of springing up at your feet and settling again a few feet off.

When the rice is cut, it remains in the stubble, creeping about on the ground, and never shewing itself. At sunset it frequently flits about in a restless manner, and it was at this time that I found it possible to get a few specimens with tolerable certainty.

The bird is also found in scrub and grass jungle, running about among the roots on the ground. It is abundant all round Kyeikpadein, and near the banks of the Pegu river.

252.—*Orthotomus sutorius*, Penn. (530.)

Very abundant over the whole province in the plains and lower hills.

253.—*Orthotomus atrigularis*, Tem. (530 bis.)

I have found this bird common from Rangoon to Pegu, and further up into the hills in the Pegu river valley. It is a forest species, uttering its loud call from the top of some high tree, which the preceding species never does I think.

254.—*Prinia flaviventris*, Deless. (532.)

I found this species common in the swamps round Rangoon, and it occurs abundantly in the thick grass on the upper parts of the canal, and in the plain to the west of it.

255.—*Prinia gracilis*, Frankl. (536.)

A common bird over the whole province. It does not appear to occur on the hills or in thick forest where the next species replaces it.

256.—*Prinia beavani*, Walden. (538 bis.)

I have observed this bird in every part of the province I have visited. It frequents the forests, or at all events very well-wooded localities.

257.—*Cisticola cursitans*, Frankl. (539.)

An excessively common bird in all grass land and cultivated ground, and generally distributed in the plains.

258.—*Cisticola volitans*, Swinhoe.* (541.)

Originally found in Formosa. This little Warbler, like so

* Blyth's name has, I believe, precedence. I cannot discover where Blyth first published the name, but as early as 1856 he wrote it on the tickets of Tytler's Dacca specimens. So I presume he must have published it at or about that time—but where? Swinhoe's name was first published in 1859 in the Journ. N. Chin. A. S. Jerdon only published Blyth's name in 1863. So of course if Blyth himself did not publish the name, Swinhoe's name will stand. But I feel pretty sure Blyth did publish the name.—ED., S. F.

many other Chinese species, occurs very abundantly along the banks of the canal wherever there is thick grass and deserted patches of cultivated land. In habits it resembles *cursitans*, but it has a very different note, and one easily recognizable from it. It flies in the air in the same eccentric manner as *cursitans*.

The male in breeding plumage has the top of the head from the bill to the nape golden fulvous; the nape dusky fulvous; ear-coverts whitish; centre of the abdomen and under tail-coverts white. With these exceptions the whole lower surface is pale yellowish buff; the back and scapulars are dark brown, each feather broadly edged with grey; wing-coverts and wings brown, edged with rufous grey; tail very dark brown, almost black, each rectrix narrowly tipped with white; rump and upper tail-coverts plain fulvous.

The female in breeding plumage is different from the male in the following respects:—The top of the head is streaked with blackish brown; the nape is darker, and the tips to the tail feathers are double the width, nearly as wide in fact as in *cursitans*. The amount of streaking on the head varies somewhat, in some being very thick, in others rather spare.

Mr. Swinhoe's type was measured by Mr. Dresser, and recorded in the Birds of Europe in the article relating to *C. cursitans*. The wing measured 1·7; tail, 1·1; tarsus, ·77; and culmen, ·42.

In two Pegu specimens, both males, the measurements were:—Length, 4·05, 3·85; expanse, 5·8, 5·7; tail, 1·25, 1·15; wing, 1·7, 1·75; tarsus, ·7, ·72; and bill from gape to tip, ·5, ·55.

The females are about the same size.

The third, fourth, and fifth primaries are about equal and longest, the second is about ·2 shorter, and the first primary measures ·4 in length, the tip projecting beyond the wing-coverts by ·25. The outer tail feathers fall short of the tip of the tail by ·25.

I cannot describe the bird in winter plumage, but I think the male then has the head streaked like the female, for I have an April bird with a golden head, but with one black feather in the centre. The female probably undergoes no change.

Breeding operations commence in the middle of May. On the 28th of this month I found two nests, one containing four eggs, slightly incubated, and the other, two quite fresh.

The nest is a small bag about four inches in height and two to three in diameter, with an opening about one inch in diameter near the top. The general shape of the nest is oval. It is composed entirely of the white feathery flowers of the thatch grass. The walls of the nest are very thin, but strong. The nest is

placed about one foot from the ground in a bunch of grass, and in the two instances where I found the nest, against a weed, with one or two leaves of which the materials of the nest were slightly bound.

The eggs are very glossy pale blue, spotted all over with large and small blotches of rusty brown. I have no eggs of *cursitans* which match them, in this species the spots being always minute and thickly scattered over the shell, whereas in *volitans* the marks are large, and fewer in number. Six eggs measured in length from .54 to .57, and in breadth from .42 to .43.

This species is easily distinguished from *cursitans* by its small size, the total absence of rufous on the upper plumage, and by the narrow tipplings to the tail feathers. The colour of the head is also quite sufficient to separate the males.

Since writing the above I am inclined to think that *C. ruficeps*, Gould, *C. erythrocephala*, Jerdon, *C. volitans*, Swinhoe, and the Pegu bird may be all one species.*

259.—*Drymœca blanfordi*, Wald. (543 ter.)

Recorded from Tounghoo by Ramsay. It is probably *Phylloscopus fuscatus*. I have not met with it.

260.—*Drymœca extensicauda*, Swinh.

Mr. Brooks took home lately a very large series of this bird which I gave him. He has compared them with the birds in the Swinhoe collection, and found them identical.†

I have already described the bird, (S. F., III, 340). It occurs very abundantly round Pegu and Kyeikpadein, and along the canal and plains on both sides. It also occurs at Rangoon and all the way up to Pegu, but is not so abundant anywhere as it is in the grass plains near Pegu.

261.—*Suya crinigera*, Hodgs. (547.)

Occurs only near Thyetmyo so far as I am aware.

262.—*Neornis flavolivaceus*, Hodgs. (552.)

Mr. Hume identified a bad specimen of this bird I sent him from Thyetmyo. I have the bird still, and I think the identi-

* Of *C. ruficeps*, Gould, I have no knowledge, but *C. erythrocephala*, Jerdon, with the wing 1.9 to 2.0 is quite distinct. But *C. volitans*, Swinhoe, is of course nothing but *C. tyleri*, Blyth, and as I long ago pointed out, (S. F., V, 351) *C. melanocephala*, Anderson, and *C. ruficollis*, Walden, are only the females of *tyleri* or *volitans*, whichever name stands—a point I have already discussed, ante p. 219 n.—Ed., S. F.

† Seven years ago (vide S. F., III, 340) I identified this species for Mr. Oates, by comparison with birds sent me by Mr. Swinhoe. It hardly needed to send a large series home for comparison.—Ed., S. F.

fication is correct. All I know about this bird is recorded in S. F., III, p. 139.

263.—*Phylloscopus fuscatus*, Bly. (555.)

Very abundant all over the province. It is a ground Warbler, being found in grass and brushwood, and not in trees as a rule.

264.—*Phylloscopus borealis*, Blas. (556 bis.)

I have procured a few specimens near Pegu and Kyeikpadein. It cannot be called a common bird. It frequents mango and other trees infested with minute insects.

The first primary of this species is always very minute, varying in length, in seven birds, from .3 to .45; and the second primary is very constantly intermediate in length between the fifth and sixth. In one specimen only was it equal to the sixth. It is one of the easiest species to discriminate.

265.—*Phylloscopus schwarzi*, Radde. (556 ter.)

Apparently rare. I procured one specimen at Kyeikpadein in the same jungle with *Locustella* and *Tribura*. This species has been very fully dealt with in various volumes of STRAY FEATHERS.

266.—*Phylloscopus tenellipes*, Swinh. (556 quat.)

One of the rarer species. I have procured it two or three times near Kyeikpadein.

A male specimen measured:—Length, 5.15; expanse, 8.2; tail, 2.0; wing, 2.67; tarsus, .73; bill from gape, .63; upper mandible brown; lower mandible pale fleshy, dusky at tip; legs and claws pale flesh colour; iris brown; the second quill is intermediate between the sixth and seventh. The peculiar tint of buff on the plumage is alone sufficient for the identification of this species.

267.—*Phylloscopus lugubris*, Bly. (558.)

One of the commonest species. Appears to be generally distributed throughout Southern Pegu. It abounds round Kyeikpadein, and Dr. Armstrong got it at Elephant Point.

268.—*Phylloscopus plumbeitarsus*, (558 bis.)

This is a very common species round Pegu and Kyeikpadein, from September to April. It is strictly arboreal in its habits, and I have never found it near the ground.

I do not know how the species ever could have got confounded with *viridanus*. Comparing 29 specimens of the latter

from India, with a large series of *plumbeitarsus*, the differences between them are sufficiently striking. The smaller size, the constant *two* wing bars, and the abrupt connection of the colour of these with the adjoining green, are always sufficient to separate *plumbeitarsus* from *viridanus*.

The wing of this species varies from 2·1 to 2·5, the latter dimension being however exceptionally large. The tail varies from 1·55 to 1·9; the tarsus from ·68 to 75; the second primary is almost always intermediate between the seventh and eighth; in one or two cases it is equal to the eighth.

The upper mandible is brown, the lower clear yellow; iris brown; mouth yellow; legs pale plumbeous brown; and the toes are tinged with yellow; the claws are pale horn colour.

Mr. Brooks has now come to the conclusion that *P. burmanicus* must be suppressed in being only *plumbeitarsus* with the second wing bar worn away.*

269.—Phylloscopus coronatus, Tem. & Schleg.
(563 *bis.*)

Not uncommon during migration in September and April, but I have not met with it at other times.

270.—Phylloscopus trochiloides, Sund. (564.)

It seems quite clearly proved now that *flavo-olivaceus*, Hume, and *viridipennis*,† Blyth, are synonymous with the present species. It is abundant in all parts of the province during the winter months. Burmese birds cannot be separated from those procured in Bengal.

271.—Phylloscopus superciliosus, Gm. (565.)

By far the commonest species of *Phylloscopus* in Pegu. It abounds everywhere from October to April. I have never met with a specimen which could be mistaken for *humii* or *mandellii*.

272.—Cryptolopha tephrocephalus, Anders. (569 *bis.*)

A very abundant cold weather visitor to all parts of the province I have visited, except perhaps in the northern portions, where it appears to be rare.

* Mr. Oates is doubtless correct, but this is not the tenor of a letter from Mr. Brooks from Canada, received at the same time as this paper.—ED., S. F.

† The identity of *flavo-olivaceus* with *trochiloides* is discussed, *ante*. p. 169, but the identity of *viridipennis* with this latter is not only not proved, but I believe not even supposed now by any ornithologist but my friend Mr. Brooks—*vide* for the distinctness of *viridipennis*, not only the numerous notes in this journal, but the B. M. C., V, 53. Possibly however Mr. Oates means *viridipennis*, Blyth, *apud* Jerdon, which may be identical with *trochiloides*, though it is by no means proved.

Note that if this bird is to be retained as *Phylloscopus*, the genus *Reguloides* being suppressed, then it must stand under Blyth's name *Phylloscopus reguloides*, which dates from 1842, against 1846 for Sundevall's name. If, however, you retain the genus *Reguloides*, as I prefer to do, then Sundevall's specific name will stand.—ED., S. F.

273.—*Abrornis superciliaris*, Tick. (574.)

I procured this on the hills between Thyetmyo and Tounghoo, and I have met with it in Southern Pegu between Pegu and Rangoon. It appears to be rare.

274.—*Henicurus immaculatus*, Hodgs. (585.)

Very common in all the rocky hill streams of the Pegu range of hills.

275.—*Motacilla leucopsis*, Gould. (590.)

Very abundant in the plains of the whole province from the middle of September to April. According to my views this species never has more than a mere patch of black on the breast, varying in breadth from half to a quarter of an inch. Birds just arrived in early autumn, and those leaving in late spring, are uniformly the same with regard to this patch. Not a particle of black is ever present on the throat.

276.—*Motacilla felix*, Swinh. P. Z. S., 1870, p. 121. (590.)

This is in my opinion a perfectly good species, always to be distinguished from the preceding by the presence of black on the upper breast and throat.

It may be said that Wagtails with this amount of black on the throat are merely *leucopsis* in breeding plumage. I am, however, very certain they are no such thing.* *Leucopsis*

* Such a very positive assertion puts me in a peculiar position. I have the greatest respect and regard for my friend Mr. Oates. I know what a patient and earnest questioner of nature he is, and when I read this statement, I accepted it unhesitatingly. I knew that I had a good many specimens of *felix*, and I thought I would separate these out and have the catalogue corrected.

There are about 100 specimens of this species in the collection, but I had to get out also those in the Assam collection, in the Malayan collection, and in the duplicate collection—in all over 400 specimens. I spent the whole day, yesterday, in getting these out and studying them, and now I am compelled to say that in my humble opinion Mr. Oates is quite wrong, and that *felix* is nothing but the breeding plumage of *leucopsis*. My conviction is founded on the following facts:—

1. From every locality where Mr. Brooks and I made, or caused to be made, systematic collections of *leucopsis*, viz., Darjeeling, Dinapoor and Patna, Calcutta, Cachar, Shillong, Debrugarh, Rangoon, and Northern Tenasserim, we have both *leucopsis* and *felix*.

2. Out of this immense series, there is only one single specimen killed between the 1st September and the 15th February, at all of the *felix* type, and that is only so far of this type that the patch on the breast is about $\frac{3}{4}$ of an inch deep.

3. Every single bird killed on and subsequent to the 18th March is *distinctly felix*, or passing to *felix*.

4. Fully half the birds killed between the 1st and 17th March show *distinctly* that they are passing to the *felix* stage.

5. A few specimens obtained in the latter half of February show more or less of the same, and one killed 25th February is *distinctly felix*.

Now Mr. Oates refers to *April* birds. In every locality in which our collections were made the mass of the birds disappeared by the end of March. They come in *quite* at the beginning of September, we have at least fifty September specimens,

is extremely common in Pegu, and if it assumes a black throat in summer, a certain proportion of the specimens shot in September and April would shew traces, at any rate, of this colour on the throat. *Dukhunensis* invariably shows a good deal of its breeding plumage in those months, so does *ocularis*. Now the only specimens of the *leucopsis* type that I have been able to shoot with black throat, during the course of some years, are eight in number. It is preposterous to suppose that if *leucopsis* ever assumes a black throat, specimens should be so rare especially when it is remembered that the bird comes in very early, and leaves very late.*

I am bound to believe that *felix* is a good species, a rare one in Pegu, but common in some parts of China. It probably does not extend to India; but it would be extremely interesting to go through a large series of Indian killed birds to ascertain whether *felix* does occur, and if it does, in what proportion compared with the true *leucopsis*.

The plumage and the changes of plumage of *felix* appear not to differ from those of the common species, except in regard to the throat patch. The wing-coverts are perhaps more white, but there are no other constant differences.

In summer, *felix* probably has the whole chin black, and to this bird Mr. Swinhoe applied the name *sechuensis*.

I find that *felix* is a smaller bird than *leucopsis*. The wing runs from 3·2 to 3·5† in my specimens.

277.—*Motacilla dukhunensis*, Sykes. (591 *bis*.)

Common in Lower Pegu, but not nearly so much so as *leucopsis*.

278.—*Motacilla ocularis*, Swinh. (591 *quat*.)

Very common along the banks of the Canal, and less so in

and they leave by the end of March. This is our experience. We have, therefore, very few April birds, only seven altogether, and they are one and all "*felix*."

Now in the face of the evidence afforded by this gigantic series, it will not be sufficient to show one or two "*felix*" killed between the 1st September and the 15th February, or one or two *leucopsis* killed later than the 18th March, because, as every one knows, who has studied this group of black, white and grey Wagtails, these birds are a little irregular in their changes of plumage; not only are some exceptional birds considerably earlier and later than the rest, but here and there you come across individuals that retain the breeding plumage right through the year, (I have a *hodgsoni* killed on the 3rd January in the fullest breeding plumage) while others again seem not to assume the breeding plumage at all, these being, we think, backward late or sickly birds of the last year.

I hope Mr. Oates will give us the dates of all his *felix*, and also state how many *leucopsis*, as defined by him, he had killed in April. I may here note that I am inclined to believe that *Motacilla francisi*, Swinh., P. Z. S., 1870, 123, is nothing but *M. hodgsoni*.—ED., S. F.

* Yes; but is this a fact? It comes in early no doubt, by the first week in September, but according to our experience 999 out of every 1,000 have; in most years, left by the 1st of April.—ED., S. F.

† In 37 birds, more or less developed *felix*, the wings run from 3·3 to 3·72.—ED., S. F.

other parts of Lower Pegu. It does not arrive till November, and remains on to April, when they are in perfect breeding plumage.

Males up to December have the head pure black. After this date the black gives place to an ash, more or less marked with black, and in April the pure black is resumed.

Females from first arrival up to their departure have the head more or less mixed black and ashy. I have never seen a black-headed female, nor is the head in this sex ever pure ashy.

The upper plumage in both sexes is always a pure grey.

In the breeding plumage, both sexes are black from the bill down to the breast. In winter the chin and throat become white, but there are always traces of black spots on the throat, especially on its sides.

The white on the wing-coverts is not of great extent, being about the same as in *dukhunensis*. In other respects the plumage does not differ from *dukhunensis*.*

A male measured :—Length, 8· ; expanse, 12· ; tail, 4· ; wing, 3·85 ; tarsus, ·94 ; bill from gape, ·8.

The iris is brown ; legs and claws black ; bill black, slightly plumbeous at the base.

The females are rather smaller than the males.

It is a very sprightly bird, and very seldom seen away from water.

279.—*Calobates melanope*, *Pall.* (592.)

A fairly common bird, and probably extending to all parts of the province.

280.—*Budytes cinereocapillus*, *Savi.* (593.)

Extremely abundant in all the swamps and paddy fields of the province. A very large series of these yellow Wagtails sent to Mr. Brooks were all identified by him with this species. I notice that Dr. Armstrong found *B. flava* common in the Irrawaddy delta, but he did not get the present species. I fear there must have been some confusion of species, the more so as *B. flava* of Dr. Armstrong's Catalogue (S. F., IV, p. 329) is numbered 593 *quat* by Mr. Hume ; whereas there is no such number in the Catalogue, Birds of India, † (S. F., VIII). Mr. Brooks is, however, such a very excellent authority of these birds that I enter *cinereocapilla* in this list, and exclude

* Except in the conspicuous black line through the lores, by which the bird is at once distinguished.—ED., S. F.

† No, but *flava* was 593 *quat* in the *old* catalogue, which the list published in Vol. VIII, superseded.—ED., S. F.

flava, about the occurrence of which there may be reasonable doubts.*

281.—*Limonidromus indicus*, Gm. (595.)

Rather rare, but found in all parts of Pegu.

282.—*Pipastes maculatus*, Hodgs. (596.)

A very common winter species abounding in all parts of the province.

283.—*Pipastes trivialis*, Lin. (597.)

I have only met with this bird once on the Pegu hills (S. F. III, p. 142.)

284.—*Corydalla richardi*, Vieill. (599.)

Very abundant throughout Lower Pegu in paddy fields and short grass, in winter only.

285.—*Corydalla rufula*, Vieill. (600.)

Also very abundant in Lower Pegu throughout the year. I do not remember to have met with it in the north.

286.—*Anthus cervinus*, Pall. (605 bis.)

An abundant cold weather visitor throughout the vast plains of Lower Pegu.

287.—*Herpornis xantholeucus*, Hodgs. (630.)

Appears to be generally distributed. I met with it on the hills between Tounghoo and Thyetmyo, and also on some low spurs some few miles from Pegu.

288.—*Zosterops palpebrosa*, Tem. (631.)

A comparatively rare species. I have procured a few specimens at Kyeikpadein, and Captain Feilden got it at Thyetmyo.

* Add 592 *ter.*—*Budytes beema*, Sykes.

The oriental form of *Budytes flavus*, Lin., certainly occurs in Pegu; not only did Dr. Armstrong bring me two specimens which I identified for him, but I have another specimen, from "12 miles north of Rangoon," and one from the Bassein river. Considering that at page 297 Dr. Armstrong expressly says that I identified all his specimens for him, and that only a tyro could possibly make a mistake between *flavus* and *cinereocapillus*, I cannot think Mr. Oates justified in omitting this species, simply because he never happened to meet with it. Dr. Armstrong himself of course did not in those days know one bird from another; he was only commencing, he happened to shoot two *flavus*, and for all I know may have observed numbers of *cinereocapillus*, and thought them the same, and so concluded that *flavus* was very common. I should say, seeing how few specimens of this, and how many of the former, we have from Pegu, that *flavus*, *i.e.*, *beema*, was rare, and *cinereocapillus* common. In Northern Tenasserim *beema* is still rarer. I have only one specimen from north of Moulmein, and Davison never met with it north of this. But surely this is no valid reason for excluding a bird, the occurrence of which has been duly recorded by a reliable collector, all of whose specimens have been carefully identified by a competent ornithologist.—ED., S. F.

289.—*Zosterops siamensis*, Bly. (631 quat.)

Very abundant from Rangoon up to Kyeikpadein and Pegu, going about in flocks and frequenting tall trees.

290.—*Parus nipalensis*, Hodg. (645.)

A rather rare bird, hitherto only found in the Thyetmyo district.*

291.—*Melanochlora sultanea*, Hodg. (650.)

Common on the Pegu hills, not descending, I think, into the plains.

292.—*Corvus macrorhynchus*, Wagl. (660.)

Common in all parts of Pegu, both in the jungle and in towns and villages.

293.—*Corvus insolens*, Hume. (663 bis.)

Excessively common in all parts of the province, except on the higher hills.

294.—*Garrulus leucotis*, Hume. (669 bis.)

I got this bird at Tounghoo and at Shwaygheen, and Mr. Olive, Superintendent of Police, who knows the bird well, assures me he has shot it on the hills near Prome. It is however rare in the province.

295.—*Urocissa occipitalis*, Bly. (671.)

I cannot separate the Pegu birds from several birds from the Himalayas with which I have compared them. The colour of the iris and legs is apparently the only point in which the two races differ.

It is common in the Thyetmyo district, and Captain Ramsay met with it at Tounghoo.

296.—*Cissa chinensis*, Bodd. (673.)

Abundant on the hills, but not found in the plains.

297.—*Dendrocitta rufa*, Scop. (674.)

Very abundant in all parts of the province.

298.—*Crypsirhina cuculata*, Jerd. (678 ter.)

Confined to the country between Thyetmyo and Prome, and extending laterally on both sides the Irrawaddy to the foot of the hills.

* But see that Armstrong says, IV, 350: "Met with abundantly in the open tidal jungle bordering portions of the coast, between Elephant Point and China Baker, and also in similar localities along the margin of the Rangoon river at Eastern Grove."—ED., S. F.

299.—*Crypsirhina varians*, Lath. (678 quat.)

Very abundant throughout Lower Pegu, extending up the Sittang valley to Tounghoo, and up the Irrawaddy valley only as far as Prome, although on one occasion I saw a specimen near Thyetmyo.

300.—*Sturnopastor superciliaris*, Bly. (683 bis.)

Excessively abundant over all parts of the province except the hills.

301.—*Acridotheres tristis*, Lin. (684.)

Generally distributed, and common.

302.—*Acridotheres fuscus*, Wagl. (686.)

Found along with the preceding in all parts of the forest country.

303.—*Sturnia malabarica*, Gm. (688.)**304.—*Sturnia nemoricola*, Jerd. (688 bis.)**

Both these species occur together all over the province, except perhaps in the northern parts. In Lower Pegu they are excessively abundant. I have never any difficulty in separating birds of the two species. I have already pointed out (S. F., VII, p. 48) how the two species are distinguished, and notwithstanding that *nemoricola* has occasionally the first primary black, and *malabarica* has it occasionally white, yet the combination of the characters I gave will always suffice.

305.—*Sturnia sinensis*, Gm. (688 ter.)

This very beautiful species is rare in Pegu. I have succeeded in procuring only three specimens, all near Kyeikpadein, where, on the occasions I met with the bird, it occurred in small flocks feeding on the ground and flying right away when fired at. Mr. Swinhoe's surmise that this bird wintered in Pegu is erroneous.

The following is the description of a fine mature male in its very best plumage:—

The head, from the forehead to the crown, the lores, gape, yellowish buff, tinged with ferruginous on the eyelids and adjacent parts; back and sides of the head, the cheeks, ear-coverts, and the whole back, deep grey; lower back, rump and upper tail-coverts yellowish buff; quills deep black, the tertiaries and the edges of the outer webs of the secondaries glossed with bright steel blue; winglet and primary-coverts black; the upper and lower wing-coverts and scapulars white,

tinged with pale yellowish buff; the lower neck, breast, and abdomen grey. With this exception the whole lower plumage is a beautiful rosy buff, deeper in colour on the flanks. Tail black, the outer five pairs of feathers broadly, the middle pair narrowly, tipped with buff.

A younger bird has some of the secondaries plain brown, the wing-coverts and scapulars pure white, and the rosy buff tinge on the lower surface is much duller. In other respects it resembles the adult.

A male measured:—Length, 8; expanse, 12·5; tail, 2·6; wing, 4; tarsus, 1·08; bill from gape, 1·05. The bill was uniformly blue; the mouth darker; iris white; legs plumbeous; claws horn colour.

306.—*Sturnia burmanica*, *Jerd.* (689 *bis.*)

Very abundant in the Thyetmyo district, becoming less common, but extending south down to Rangoon. In the Sittang valley I have never seen it, but I note that Captain Ramsay got it at Tounghoo.

307.—*Sturnia sturnina*, *Pall.* (689 *sex.*)

I have only seen this bird once. It was a specimen in Mr. Raikes's collection, and was shot about ten miles north of Pegu. It was an adult bird, with a distinct patch of violet black on the head.

308.—*Eulabes intermedia*, *A. Hay.* (693.)

Very common over the whole province. It also extends without change down to the extreme end of Tenasserim, from which province I have a large series. At Malewoon, however, another quite distinct species is also met with, which, if not *javanensis*, is the Malaccan species indicated by Lord Walden. (*Ibis*, 1871, p. 176.)

From *intermedia* it differs in the very large size of the bill and legs, and in having a longer tail and wing. The feathered patch across the side of the head is joined on to the ear-coverts, or is separated by an interval less than the thickness of a hair pin, whereas in *intermedia*,—and I have examined a hundred birds or more—the interval is never less than ·15 of an inch—a very striking difference. The first primary is ·9 long; in *intermedia* only ·75. The fifth primary is frequently the longest, and in no case falls short of the others by more than ·1, whereas in *intermedia* the fifth primary is always about ·25 shorter than the longest. The colour of the bill in dried specimens of the two species is strikingly different.

Mr. Hume does not admit these different species.* I have however examined enough specimens of both these species to convince myself of their absolute distinctness. I can of course form no opinion of the other Indian species. They are probably like the *Phylloscopi*, all very much alike, till small structural differences are discovered.

309.—*Saraglossa spiloptera*, Vig. (691.)

Captain Ramsay records this bird from Tounghoo. I have not met with it. †

310.—*Ampeliceps coronatus*, Bly. (693 *ter.*)

A few specimens have been procured by me near Kyeikpadein in the course of some years. It appears to be rare. It is recorded from Tounghoo (? district) by both Blyth and Major Lloyd, and Dr. Armstrong got it at Elephant Point.

311.—*Ploceus baya*, Bly. (694 *bis.*)

Very common over the whole province in the plains.

312.—*Ploceus manyar*, Horsf. (695.)

Very common, but confined to the grassy plains, never building its nest in any thing but elephant or similarly large grass.

313.—*Ploceus bengalensis*, Lin. (696.)

Mr. Blanford records this from Thyetmyo. I have never met with it. ‡

314.—*Ploceella javanensis*, Less. (696 *bis.*)

I think Mr. Hume will prove to have been correct in separating the Pegu bird from the Java bird (S. F., VI, p. 399 n.) under the name of *chrysea*. Our bird appears to be remarkably local, not even occurring in Tenasserim. It is very common in the Pegu province, extending up to Thyetmyo and Tounghoo. The Sittang and Irrawaddy appear to be the boundaries of its distribution.

* No, because while admitting that these and a dozen other minute differences can be pointed out between groups collected in different localities, I hold that as all these can be shown to be bridged over by intermediate forms, none of these races are entitled to specific rank. There is no dispute about the facts; it is merely a question of opinion as to how we shall treat them.—ED., S. F.

† Dr. Armstrong gave me a pair shot near Elephant Point, and we have three other specimens from near Rangoon.—ED., S. F.

‡ Nor have I ever seen it from any part of British Burma, and when Blanford wrote the paper referred to he was only just taking up birds, and I am by no means sure that there was not some mistake in his identification.—ED., S. F.

The genus *Ploceëlla* may be described thus: Tail rounded, the outer tail feathers falling short of the centre ones by double the distance of that in *Ploceus*; bill from nostrils to tip as long as the height of the bill at the nostrils. Its mode of nidification removes it widely from *Ploceus* as already pointed out ("Nests and Eggs of Indian Birds.")

The male commences to change into breeding plumage about the middle of May, and the full change is effected by the 1st June. In the winter months the male is undistinguishable from the female.

315.—*Amadina rubronigra*, Hodgs. (698.)

Very abundant in all the plains of the province.

316.—*Amadina superstriata*, Hume. (699 bis.)

Pegu birds appear referable to this species and not to *subundulata*.* It is excessively common over the whole province in suitable localities.

317.—*Amadina acuticauda*, Hodgs. (702.)

Comparatively rare, but found in all parts of Pegu.

318.—*Estrelida flaviventris*, Wall. (E. burmanica, Hume.) (704 bis.)

Very common in the plains on both sides the Canal and extending down to Rangoon and Elephant Point.

The adult male undergoes no changes of plumage, being the same all the year round.† The sides of the face, the chin, throat, breast, and sides of neck are crimson, the two latter parts speckled with white; sides of the body pale red, much spotted with white; belly and vent yellowish red; the under tail-coverts vary somewhat. In most they are blackish brown or black, tipped with maroon. Some have the centres of the feathers whitish, tinged with pink, the edges paler, and the tips maroon; in others the feathers are uniformly blackish brown. Upper surface of body pale greenish, washed with crimson; the rump with short transverse lines or elongated spots of white; upper tail-coverts crimson, speckled with white; tail black, the four outer pairs of rectrices tipped white; the upper series of wing-coverts plain brown, the others brown, each feather with a terminal spot of white; quills plain brown, the tertiaries with white tips.

* I am in fault here. This species is very variable. Having now procured an immense series in Manipur, whence Godwin-Austen's types came, I find that *subundulata* covers both *superstriata* and *inglisi*, and in my account of the birds of Manipur I have suppressed both these species.—ED, S. F.

† This is very remarkable. Is Mr. Oates quite certain of the fact? In the very closely allied *E. amandava*, the adult male has two quite distinct plumages, the breeding crimson, and non-breeding brown.—ED, S. F.

The female has the lores black; the sides of the face and neck, and the upper surface from bill to rump hair brown; upper tail-coverts dull crimson, generally uniform, but sometimes with each feather tipped with a minute spot of white; tail blackish brown; the two outer pairs with the terminal half of outer web broadly edged with white, this white extending to the tip of the inner web. The next two pairs are tipped with white, as in the male, and the two central pairs are wholly blackish brown; chin, throat, breast, and flanks greyish yellow; abdomen and vent saffron yellow; wings brown; the tertiaries and greater coverts each with a terminal white spot; under tail-coverts saffron yellow, paler than the abdomen, and in some birds a few of the feathers have a mesial black line.

Occasionally in both sexes the two centre rectrices are slightly tipped white.

Young birds from the nest are like the female adult. The change to male adult plumage takes place in April, the red appearing first on the head. By May the greater portion of the head and breast are red, and the abdomen becomes tinged with red. By July the change is almost complete, and in August there are no immature birds.

The length is 4; expanse, 5·9; tail, 1·5; wing, 1·8; tarsus, ·6; bill from gape, ·35.

319.—*Passer domesticus*, *Lin.* (706.)

There is no part of the province where this species is not found, but in general it is less common than *montanus*.

320.—*Passer flaveolus*, *Bly.* (708 *bis.*)

Pretty common at Thyetmyo, and extending down to Rangoon. Near Pegu I see a few every year. It has a very loud note, which immediately attracts attention.

The male has already been described (*S. F.*, III, p. 156), and so has the female; but as the description of the latter is brief—too brief for the identification of the bird—I subjoin a fuller account.

The chin, throat, cheeks, and the whole lower plumage with the under wing-coverts pale yellow; a streak from the eye to the nape yellowish white; the upper plumage, including the scapulars and lesser wing-coverts, hair brown, the shafts of all the feathers being darker; the median and greater coverts and quills dark brown, each feather edged with yellowish white; tail brown, edged with whitish on the outer webs.

In the male, the iris is dark hazel; bill black; legs, feet

and claws fleshy plumbeous. The female differs in having the bill flesh coloured.

A pair of these birds had a nest with young ones in Kadote bungalow at the end of March. The nest was placed in exactly the sort of place a sparrow usually chooses.

The following are the dimensions of a male and female:—Length, 5·5, 5·2; expanse, 9, 8·4; tail, 2·1, 2·0; wing, 2·7, 2·5; tarsus, ·62, ·6; bill from gape, ·52.

321.—*Passer montanus*, *Lin.* (710.)

Excessively common in all parts of the province.

322.—*Emberiza fucata*, *Pall.* (719.)

This Bunting is fairly common in some portions of the plains round Pegu, in winter.*

323.—*Emberiza rutila*, *Pall.* (722 *bis.*)

Mr. Blanford records this from near Bassein, and Captain Ramsay from Tounghoo. I have never met with it.†

324.—*Emberiza aureola*, *Pall.* (723.)

Extremely abundant in every portion of the plains of the southern part of the province, and extending up to Thyetmyo and Tounghoo sparingly.‡

325.—*Carpodacus erythrinus*, *Pall.* (738.)

Captain Ramsay records this bird from Tounghoo. I have no doubt it occurs in other parts of the province.§

326.—*Mirafra microptera*, *Hume.* (755 *bis.*)

Very abundant at Thyetmyo, and not, I think, found elsewhere in my limits.

327.—*Alaudula raytal*, *Bly.* (762.)

Very abundant on the banks of the Irrawaddy from the frontier down to Prome.

328.—*Alauda gulgula*, *Frankl.* (767.)

A very common bird in the cultivated portions of Lower Pegu, extending up the Sittang to about Shwaygheen. It is

* Also west of Tounghoo, and “between Tounghoo and Thyetmyo.”—ED., S. F.

† The first specimen I think I ever saw of this species was sent from Rangoon, and procured in its immediate neighbourhood.—ED., S. F.

‡ Mr. Oates does not notice that Blyth gives 724. *MELOPHUS MELANICTERUS*, *Gm.*, from Pegu. I have never seen it thence, and I think it very doubtful whether it occurs there, though we got it in the plains country of Tenasserim between the Sittang and Salween, and I have received it from Arakan.—ED., S. F.

§ We received it from near Thyetmyo.—ED., S. F.

not found to my knowledge in the Irrawaddy valley, but was procured by Dr. Armstrong in the Rangoon district.

329.—*Treron nipalensis*, *Hodgs.* (771.)

Common in all the hill tracts, descending at times to the well-wooded portions of the plains.

330.—*Crocopus viridifrons*, *Bly.* (773 *bis.*)

Common alike in the hills and plains.

331.—*Osmotreron bicincta*, *Jerd.* (774.)

As common or more so than the above.

332.—*Osmotreron phayrii*, *Bly.* (776.)

Confined to the hills where it is abundant.*

333.—*Sphenocercus sphenurus*, *Vig.* (778.)

Confined to the hills and the forests skirting them.

334.—*Carpophaga ænea*, *Lin.* (780.)

Very abundant in every portion of the province.

335.—*Alsocomus puniceus*, *Tick.* (782.)

Generally distributed, but comparatively rare.

336.—*Turtur meena*, *Sykes.* (793.)

Abundant on the hills, but less so in the plains.

337.—*Turtur tigrinus*, *Tem.* (795 *bis.*)

Very common in all the plains of the province.

338.—*Turtur risorius*, *Lin.* (796.)

I met with this bird only at Thyetmyo, where it is decidedly rare.

339.—*Turtur humilis*, *Tem.* (797 *bis.*)

Not very common anywhere, but generally spread over the province. It is commoner in the Thyetmyo and Prome districts than elsewhere.

340.—*Chalcophaps indica*, *Lin.* (798.)

Common in every part of the province, in bamboo jungle generally.

341.—*Pavo muticus*, *Lin.* (803 *bis.*)

An extremely difficult bird to get, but very common in most parts of the province where the forests are thick.

* Blanford gives this from the "Irrawaddy delta, near Bassein."—ED., S. F.

342.—Euplocamus lineatus, Lath. (811 ter.)

Found wherever there is rocky ground and good cover, and extremely abundant on the higher hills.

343.—Gallus ferrugineus, Gm. (812.)

Abundant alike in the hills and plains.

344.—Francolinus chinensis, Osb. (819 bis.)

Confined to the Irrawaddy valley from about Prome up to the frontier, where it is common. It is not found in the Sittang valley till the mountains on the east are reached, far out of my limits.

345.—Arboricola brunneopectus, Tick. (824 ter.)

Confined to the mountain streams of the evergreen forests, where it is abundant.

346.—Arboricola chloropus, Tick. (824 quat.)

Of the same distribution as the preceding, and equally abundant.*

347.—Coturnix coromandelica, Gm. (830.)

I have found this bird only† in the Thyetmyo district where it is common.

348.—Excalfactoria chinensis, Lin. (831.)

Arrives in Lower Pegu in great quantities in May, and after breeding goes away again I think. In the cold weather I have never met with the bird. In January 1874 I trod on a small nestling Quail which must have been a young one of this species, or the preceding. It was too young to make sure. The present bird I know breeds in August, and it quite puzzles me to account for this chick.

349.—Turnix plumbipes, Hodgs. (833.)

A tolerably common species, found singly or in couples over the whole province. Pegu birds are identical with Malacca specimens.

350.—Turnix maculosa, Tem. (834 bis.)

The commonest species of *Turnix* found everywhere from

* Add 829.—*Coturnix communis, Bonn.*

Procured by Blanford in Pegu, and of which a single specimen was sent us from near the mouth of the Bassein river.—Ed., S. F.

† But I have received it from the Bassein district from close down to the sea.—Ed., S. F.

the frontier down to the sea. I got it high up on the hills, but it is not so common there as in the plains.

351.—*Turnix dussumieri*, Tem. (835.)

I procured a pair of this species at Pegu, but I have not been able to compare them with Indian birds. It appears to be rare.

352.—*Glareola orientalis*, Leach. (842.)

Abundant in the plains throughout Lower Pegu. It arrives in February, and leaves in June or July, a very few birds remaining till August. It affects burnt up paddy fields, and does not appear to be a bird of the larger rivers like the next.

353.—*Gareola lactea*, Tem. (843.)

Extremely common on the sandbanks of the Irrawaddy, and less so in the Sittang.* Immense flocks of this bird come inland in the evening and hawk about for insects, wheeling about on the same spot for some ten minutes at a time.

354.—*Squatarola helvetica*, Lin. (844.)

Dr. Armstrong procured this bird at Elephant Point.† I have never seen it.

355.—*Charadrius fulvus*, Gm. (845.)

Very abundant throughout the plains portion of the province, coming in about 8th October.

356.—*Ægialitis geoffroyi*, Wagl. (846.)

Procured at Elephant Point by Dr. Armstrong.‡

357.—*Ægialitis mongola*, Pall. (847.)

Very abundant in the dry season.

358.—*Ægialitis cantiana*, Lath. (848.)

Procured in the Rangoon river by Dr. Armstrong, and at Tounghoo by Captain Ramsay.

359.—*Ægialitis dubia*, Scop. (849.)

Distributed throughout the delta of the Irrawaddy, and the streams of Lower Pegu, but not very abundant.

* Armstrong got it at Elephant Point below Rangoon, and we received it from near the mouth of the Bassein river.—ED., S. F.

† And Ramsay got it at Tounghoo.—ED., S. F.

‡ And we received numerous specimens from near the mouth of the Bassein river.—ED., S. F.

360.—*Ægialitis minuta*, *Pall. (850.)**

I got this bird at Thyetmyo, and I have not met with it elsewhere.

361.—*Chettusia cinerea*, *Bly.* (854.)

Common in all large swamps.

362.—*Lobivanellus atronuchalis*, *Bly.* (855 *bis.*)

A common bird throughout the province, even ascending the hills.†

363.—*Hoplopterus ventralis*, *Cuv.* (857.)

Distributed over the province in the larger rivers, but not very common.

364.—*Æsacus recurvirostris*, *Cuv.* (858.)

Found sparingly in the large rivers.

365.—*Œdicnemus crepitans*,† *Tem.* (859.)

Fairly common in all parts.

366.—*Strepsilas interpres*, *Lin.* (860.)

I shot one young bird of this species in a flooded paddy field, near Kyeikpadein, on the 23rd September.

367.—*Grus antigone*, *Lin.* (863.)

Common in the vast plains of Lower Pegu, but becoming less common every year. I did not find it at Thyetmyo, but Captain Ramsay got it at Tounghoo.

368.—*Scolopax rusticula*, *Lin.* (867.)

A Woodcock is shot in the province almost every year. At Tounghoo it is far from rare. I am informed that an officer in that station has shot seven in one morning.

369.—*Gallinago sthenura*, *Kuhl.* (870.)

The common Snipe of the country.

* Must stand as *Æ. jerdoni*, Legge. Ramsay procured it at Tounghoo.—ED., S. F.

† Add 856.—*Lobipluvia malabarica*, *Bodd.*

Procured by Blanford at Thyetmyo —ED., S. F.

‡ Surely S. G. Gmelin's specific name *scolopax* has precedence.—ED., S. F.

370.—*Gallinago gallinaria*, Gm.* (871.)

Less common than the preceding, arriving much later. †

371.—*Rhynchæa bengalensis*, Lin. † (873.)

Tolerably common in suitable localities.

372.—*Pseudosclopax semipalmatus*, Jerd. (874.)

Of this rare wader I have only been able to shoot two specimens. This was near Kyeikpadein on the 29th September. I never met with it again. They were a pair. The male still shewed a good deal of the breeding plumage; the breast and flanks being rufous, as well as the edges of the back and scapular feathers. The female was in winter plumage with no trace of rufous.

The male and female measured:—Length, 13·5, 13·4; expanse, 23, 21·5; tail, 2·9, 2·5; wing, 7, 6·8; tarsus, 2·05; bill from gape, 2·9, 3·25.

The bill is black, turning to plumbeous at base; iris dark brown; legs and toes dark plumbeous; claws black.

They were feeding on the banks of a small pool, and were, as far as I could see, probing the mud with their bills. The white on the wing is very conspicuous when the bird is flying.

373.—*Limosa ægocephala*, Lin. (875.)

Abundant in the Sittang and the Canal and adjacent creeks. § The 11th May is the latest date I have seen them.

374.—*Terekia cinerea*, Gld. (876.)

Dr. Armstrong procured this species at Elephant Point.

375.—*Numenius lineatus*, Cuv. (877.)

Not uncommon in Lower Pegu. || Captain Feilden found it at Thyetmyo.

* Must stand as *G. celestis*, Frenzl.—Ed., S. F.

† Add 872.—*Gallinago gallinula*, Lin.

This species certainly occurs in Pegu, as I had a specimen sent me shot somewhere near the mouth of the Bassein river in Pegu. I note too that, though he now excludes this species, Mr. Oates himself formerly said of it referring to Upper Pegu: "A single specimen is occasionally killed, but it is very far from common," III, 182). I find too that I had two notes for "The Game Birds"—one that a Jack Snipe was killed about seven years ago near Rangoon, and another of one being killed near Tounghoo. It is doubtless extremely rare, but there can be no question that the bird has occurred as a straggler in many parts of Pegu.—Ed., S. F.

‡ Must stand as *R. capensis*, Lin.—Ed., S. F.

§ And I have received it from the Bassein estuary.—Ed., S. F.

|| Very common all along the coast line, and in its neighbourhood from the Bassein river to the Sittang.—Ed., S. F.

376.—Numenius phæopus, Lin. (878.)

Less common than the preceding, but generally distributed.

377.—Machetes pugnax, Lin. (880.)

Very abundant in the creeks near the mouth of the Sittang and near the Canal.*

378.—Tringa crassirostris, Tem. & Schl. (881 bis.)

Dr. Armstrong procured this species in the China Bukeer, one of the numerous streams of the Irrawaddy delta.

379.—Tringa subarquata, Gld. (882.)

Common in the creeks of Lower Pegu in tidal waters, and neighbouring lagoons.

380.—Tringa minuta, Leisl. (884.)

Rather rare. I have procured it near Kyeikpadein, and Dr. Armstrong at Elephant Point.

381.—Tringa ruficollis, Pall. (884 bis.)

A common bird in all parts of the province.

382.—Tringa temmincki, Leisl. (885.)

The rarest of the small waders. I procured a specimen at Thyetmyo, and one at Kyeikpadein.

383.—Limicola platyrhyncha, Tem. (886.)

Appears to be rare. I have only met with it once at Kyeikpadein. Dr. Armstrong procured it in the Rangoon river.

384.—Eurynorhynchus pygmæus, Lin. (887.)

Dr. Armstrong procured this species at Elephant Point. I have never met with it in Pegu, but I have specimens procured on the Arakanese coast.

385.—Calidris arenaria, Lin. (888.)

This is another species, for the discovery of which, in Pegu, we are indebted to Dr. Armstrong. He shot it at Elephant Point.

386.—Rhyacophila, glareola, Lin. (891.)

Not common but generally distributed.

387.—Totanus ochropus, Lin. (892.)

Fairly common in all parts of the province.

* Also sent from the Bassein estuary.—ED., S. F.

388.—*Tringoides hypoleucus*, *Lin.* (893.)

Extremely abundant wherever there is a drop of water lying on the ground, and in every stream both tidal and sweet.

389.—*Totanus glottis*, *Lin.* (894.)

Very abundant in all streams.

390.—*Pseudototanus haughtoni*, *Armstrong.* (894 *bis.*)

Procured by Dr. Armstrong at Elephant Point.

391.—*Totanus stagnatilis*, *Bechst.* (895.)

Common and generally distributed in Lower Pegu.

392.—*Totanus fuscus*, *Lin.* (896.)

Fairly common throughout Lower Pegu.

393.—*Totanus calidris*, *Lin.* (897.)

Less common than the preceding, but found in most parts of Lower Pegu.

394.—*Himantopus candidus*, *Bonn.* (898.)

Rather common on the Canal and in the Sittang river. It occurs in other parts of the province, such as the Thyetmyo district.*

395.—*Para indica*, *Lath.* (900.)

Very common in all swamps and weedy tanks.

396.—*Hydrophsianus chirurgus*, *Scop.* (901.)

I have seen this bird in most parts of the province, but it is not very abundant anywhere.

397.—*Porphyrio poliocephalus*, *Lath.* (902.)

Common in very large swamps and flooded tracts of grass land.

398.—*Fulica atra*, *Lin.* (903.)

This bird was rather common in a large swamp about 20 miles north of Pegu, at a place called Payagalay. I have not seen it elsewhere. Captain Ramsay procured it near Tounghoo.

399.—*Podica personata*, *G. R. Gray.* (903 *bis.*)

I got one specimen in the Engmah swamp below Prome, and

* And near the mouth of the Bassein estuary.—ED.; S. F.

I once saw the bird in a forest stream a few miles west of Shwaygheen. Lieutenant Lloyd, R.E., brought me a fine specimen from Karennee shot during the expedition sent out to demarcate the boundaries between Burma and Karennee. It is undoubtedly a rare bird in the province of Pegu.

400.—*Gallicrex cinereus*, *Gm.* (904.)

A common bird in all suitable localities.

401.—*Gallinula chloropus*, *Lin.* (905.)

I only procured this Waterhen at Thyetmyo. Captain Ramsay found it at Tounghoo.

402.—*Erythra phoenicura*, *Penn.* (907.)

Very abundant in all the plains where there is water and tree, or bamboo jungle.

403.—*Porzana bailloni*, *Vieill.* (910.)

I got only one specimen at Kyeikpadein in a paddy field. It may be, and probably is, common.

404.—*Porzana fusca*, *Lin.* (911.)

Generally distributed, and fairly abundant.

405.—*Rallina euryzonoides*, *Lafr.* (912.)

I procured one specimen at Thyetmyo, and have seen no other from my limits.

406.—*Hypotaenidia striata*, *Lin.* (913.)

Very abundant in all parts of the province which are suitable to it.

407.—*Leptoptilus argalus*, *Lath.* (915.)

Occurs in immense numbers in some parts of Lower Pegu, where it arrives in October, and immediately commences to breed. It leaves about February or March. A few birds appear to remain throughout the year.

408.—*Leptoptilus javanicus*, *Hcrsf.* (916.)

Occurs throughout the province, but not in very large numbers. It does not migrate to any great extent.

409.—*Xenorhynchus asiaticus*, *Lath.* (917.)

Occurs singly or in pairs, more numerous in Lower than in Upper Pegu.

410.—*Dissura episcopa*, Bodd. (920.)

The remarks about the preceding bird apply equally to this.

411.—*Ardea cinerea*, Lin. (923.)

Rather a common bird in the plains throughout the dry weather, and probably occurs also in the northern dry parts, though I do not remember seeing it there.*

412.—*Ardea purpurea*, Lin. (924.)

Extremely abundant in all parts of the province.

413.—*Herodias torra*, B. Ham. (925.)

As the preceding. Wing, 13·5 to 14·7; bill at front, 4·0 to 4·6; tarsus, 5·2 to 6·1.

414.—*Herodias intermedia*, Hass. (926.)

Less common than the preceding, but generally distributed.

415.—*Herodias garzetta*, Lin. (927.)

Very common in all parts of the province. Wing, 9·6 to 11·5; bill at front, 2·8 to 3·7; tarsus, 3·1 to 3·8.†

416.—*Bubulcus coromandus*, Bodd. (929.)

Found pretty commonly all over Pegu.

417.—*Ardeola grayi*, Sykes. (930.)

Extremely common.

418.—*Butorides javanica*, Horsf. (931.)

Abundant in all rivers and creeks, the banks of which are well wooded.

419.—*Ardetta flavicollis*, Lath. (932.)

Very common in all the plains, and found also sparingly in the nullahs on the hills.

420.—*Ardetta cinnamomea*, Gm. (933.)**421.—*Ardetta sinensis*, Gm. (934.)**

Both these are equally common, but of course comparatively seldom seen.

* But Feilden sent it from Thyetmyo.—ED., S. F.

† Add 928 bis.—*Demiegretta sacra*, Gm.

From near the mouth of the Bassein estuary.—ED., S. F.

422.—*Botaurus stellaris*, Lin. (936.)

Captain Jenkins shot two of these Bitterns near Pegu on the 2nd December. He saw several others. These were all in a swamp surrounded by paddy land.

Both birds were females and measured:—Length, 28; expanse, 46 and 44; wing, 12·5 and 12·2; bill from gape, 3·75 and 3·80.

Iris yellow; eyelids greenish; lower mandible and margins of the upper pale green; remainder of upper mandible, and in front of eye, smoky brown; legs green, with a tinge of yellow; claws horn colour.

423.—*Nycticorax griseus*, Lin. (937.)

Very common all over the province.

424.—*Tantalus leucocephalus*, Penn. (938.)

Occurs numerously from Pegu down to Rangoon, and up the Irrawaddy river as far as the plains extend. It is far more numerous in the rains than at other times.

425.—*Anastomus oscitans*, Bodd. (940.)

I procured one specimen at Thyetmyo many years ago, and have never met with it again.

426.—*Ibis melanocephala*, Lath. (941.)

Occurs in very large flocks in all the plains of Lower Pegu.

427.—*Grptocephalus davisoni*, Hume, (942 bis.)

A few pairs of this bird may be generally seen in the less frequented parts of the plains on either side the Canal, but they are very wary and difficult to shoot. In the dry weather they are fond of recently burnt up patches of grass land, where they may be seen stalking about for hours looking into cracks of the soil for small reptiles.

I have heard of there being Black Ibis in the Irrawaddy valley, about Henzada and Bassein, and I expect they belong to this species.

A note on the nidification of this Ibis will be found in S. F., V, p. 168, under the name *I. papillosus*. At the breeding season it has a most fearful cry which can be heard a couple of miles off.

An adult bird from Pegu had the bill bluish, the iris orange, the skin of the head blackish brown, and the band round the neck white, tinged with blue; the legs pale coral colour, and the claws brown.

428.—*Falcinellus igneus*, S. G. Gm. (943.)

I once saw a flock of these birds at Thyetmyo, where also Captain Feilden procured it. I have met with it nowhere else in Pegu.

429.—*Sarcidiornis melanonotus*, Penn. (950.)

A permanent resident and common in most swamps and lakes.

430.—*Nettopus coromandelianus*, Gm. (951.)

Very common in all parts of the country.

431.—*Dendrocygna javanica*, Horsf. (952.)

Very common throughout Lower Pegu, and less so in the drier northern portions.

432.—*Dendrocygna fulva*, Gm. (953.)

Less common than the preceding, and found all over the province.

433.—*Casarca rutila*, Pall. (954.)

Very abundant in the dry weather on all the sandbanks of the Irrawaddy river, and occurring in pairs sparingly in other suitable localities.

434.—*Dafila acuta*, Lin. (962.)

Very abundant during the dry weather in all large jheels.*

435.—*Querquedula crecca*, Lin. (964.)

This Teal is rather rare. One or two may, however, be shot in the course of a long day's Duck shooting in most parts of the province.

436.—*Querquedula circia*, Lin. (965.)

Very abundant, occurring in large flocks in such jheels as the Engmah, and the one at Payagalay. It is also found in pairs, or singly on smaller pieces of water. I am not sure whether some remain through the rains to breed or not.

437.—*Podiceps minor*, Gm. (975.)

The small Grebe is found in every part of Pegu, and is very abundant.

* I fully believe that we ought to add 963.—*Mareca penelope*, Lin. I attach little importance to the fact that Mason included it in his List of Pegu Birds. But Colonel McMaster was a great sportsman, and thoroughly reliable, and he knew Waterfowl well, and having been stationed two or three years in Pegu, he liberally wrote that the Wigeon was more common in Burma than in India. I suppose he meant the parts with which he was acquainted, and in many parts of Upper India the Wigeon is very rare.—ED., S. F.

438.—*Larus ichthyaetus*, *Pall.* (979.)

During the cold weather considerable numbers of this large Gull may be seen in the Sittang river, near Kayasoo, and occasionally on the Canal. They are mostly young birds. One young bird measured :—Length, 25·7 ; expanse, 62 ; tail, 6·6 ; wing, 18·6 ; tarsus, 2·85 ; bill from forehead, 2·2 ; middle toe and claw, 2·6.

The iris was dark brown ; the edges of the eyelids black ; gape and basal half of the margins of the bill pale yellow ; remainder of the bill very dark brown ; inside of the mouth pale salmon colour ; legs, feet, and webs pale purpurescent brown ; claws black.

This young bird agrees exactly in colour and dimensions with a bird shot in the Akyab harbour. It is also undoubtedly of the same species as four adult birds, two in full summer plumage, shot at Bhamo. In these adult birds the colouration of the bill, so peculiar, clearly shews them to be *ichthyaetus*. As Mr. Hume has already pointed out, the full grown bird has the tail pure white, and not with a black bar across. This bar seems peculiar to the young birds only.

439.—*Larus brunneicephalus*, *Jerd.* (980.)

Very common in all tidal waters. I do not remember to have ever seen it far from salt water.

440.—*Sterna caspia*, *Pall.* (982.)

Uncommon. I shot two in the Sittang river during a gale of wind and rain, and have never met with it again.

441.—*Sterna anglica*, *Mont.* (983.)

Doctor Armstrong procured this species at Elephant Point.*

442.—*Hydrochelidon hybrida*, *Pall.* (984.)

Abundant in all the rivers and creeks of Lower Pegu in the cold weather.

443.—*Hydrochelidon leucoptera*, *Meis. & Schl.* (984 *bis.*)

A large series of these birds have been kindly identified for me by Mr. Howard Saunders. It is as common as the preceding, and found in the same localities.

444.—*Sterna seena*, *Sykes.* (985.)

Very abundant over the whole province.†

* And I have received it from the Bassein estuary.—ED., S. F.

† Add 985 *bis.*—*Sterna dougalli*, *Mont.*

Several specimens from the Bassein estuary.—ED., S. F.

445.—*Sterna melanogastra*, Tem. (987.)

Distributed like the preceding, but not quite so common.

446.—*Sterna gouldi*, Hume. (988 quat.)

All the little Terns of Pegu belong to this species. It is very common in the Pegu and Sittang rivers, and probably also in the Irrawaddy, though I do not remember to have seen it in that river.*

447.—*Sterna fuliginosa*, Gm. (992 bis.)

I shot one specimen in the dusk of the evening as it was flying along the Canal. There were two birds. I have never met with it again. By some oversight Mr. Hume returned me the specimen labelled *Anous stolidus*, and Mr. Howard Saunders drew my attention to the mistake.†

448.—*Rhynchops albigollis*, Sws. (995.)

Very abundant in all the streams.‡

449.—*Pelecanus philippensis*, Gm. (1004.)

This Pelican is generally distributed over the province, but is common only in the vast plains of the lower portions of the province which are intersected by tidal streams, and covered with pools of water. From October to February there are more birds than at any other period of the year, and Burma is undoubtedly their chief breeding place.

I have kept this bird in captivity for years, rearing the young birds from the nest, and noting the changes of plumage from year to year. I hope to give a full account of these changes soon in another place.

450.—*Pelecanus minor*, Rüpp. (1003.)

The Pelican, which usually figures under the name of *javanicus* is abundant in Southern Pegu from August to February

* Add 989.—*Sterna bergii*, Licht.

Common near the mouth of the estuary of the Bassein river.

Add 991.—*Sterna sumatrana*, Raffl.

Two specimens from the south coast, near the mouth of the Bassein estuary.—ED., S. F.

† These birds, were all named by my friend Mr. Davison.

Add 993.—*Anous stolidus*, Lin.

I have a specimen procured off the south coast of Pegu, between Cape Negrais and Rangoon.—ED., S. F.

‡ Add 997.—*Phaeton flavirostris*, Brandt.

Has been procured on the south coast of Pegu near the mouth of the Bassein estuary.

998.—*Sula australis*, Steph.

Specimen procured on voyage from Calcutta to Rangoon after rounding Cape Negrais.—ED., S. F.

or March. I have had its breeding places indicated to me by Burmans, but I have not been able to visit them.

The white Pelicans are too difficult a group of birds to be dealt with here in Burma. I have studied them carefully for years, and I hope to be able to throw some light on them when working up my series of these birds in England.*

451.—Phalacrocorax carbo, Lin. (1005.)

Extremely abundant in all the streams and fisheries of Lower Pegu, and somewhat rare in the high northern parts of the province.

452.—Phalacrocorax fuscicollis, Steph. (1006.)

In some parts of Pegu this Cormorant is very common. Such is the case in the Canal and the Sittang river about Myitkyo. Elsewhere it does not appear to be common, occurring in pairs only, or in very small flocks.

453.—Phalacrocorax pygmæus, Pall. (1007.)

Generally distributed, and very common both in large and small streams.

454.—Plotus melanogaster, Penn. (1008.)

As the preceding, but perhaps not quite so numerous.

On the Flight of Birds.

THERE is a high hill behind my house, rising to an elevation of above 8,000 feet, which I often ascend in the early mornings. A little below the summit is a broken precipitous slope, nearly a quarter of a mile in length, close along the base of which, in the early mornings, Lammergeyers and Vultures (the latter almost exclusively *Gyps himalayensis*, nobis), are wont

* I too have been studying these Pelicans for years, and have several hundred specimens collected from all parts of the British Asian Empire. Unable to procure specimens of *onocrotalus* from Europe, I cannot decide what bird it is; but I am certain that the three specimens, still in the Asiatic Society's Museum, on which Jerdon founded his three supposed species, *onocrotalus*, Lin, *mitratus*, Licht., and *javanicus*, Horsf., one and all belong to the same species. I pointed this out nine years ago, *vide* S. F., I, 128. Of course there is a small Pelican in Lower Bengal, and that is what Jerdon had seen and referred to under *P. javanicus*, but there is no specimen of this in the Asiatic Society's Museum, nor, though I have twice seen it, have I ever procured a specimen, and the bird he did describe (I have verified the measurements), and which is in the Asiatic Society's Museum, is not of this small species, but of the same species as those he described under *onocrotalus* and *mitratus*. If Mr. Oates will only set us right by careful comparison as to what the *Burmese javanicus*, of which I have some 70 specimens of different sexes and ages really is, it will be a great boon to Indian ornithologists.—ED, S. F.

to sweep on their way to the slaughter-houses and more populous parts of Simla, where they mostly resort during the day.

A large colony of Vultures and several pairs of Lammergeyers always roost and breed in some nearly inaccessible cliffs at the back of the Mahassu range, the crest of which may be distant about four miles, as the crow flies, from the Jacko precipices already referred to. It is the denizens of this colony whose "march past" I almost daily observe from a recess about half way down the slope, along which, often within five yards of the cliff, the birds sweep, one after the other, *en route* to their breakfasts.

On fine summer mornings the birds begin to pass between six and seven o'clock, but on cold winter days, especially on cold *wet* days, they will not appear till nearly 9 A.M. From where I sit, I can, on bright mornings, with a glass, clearly see them as they top the Mahassu ridge, and thence observe their whole course until they pass me and for from one to two miles after they *have* passed me.

Now it often happens that one of the Vultures comes the whole way from the Mahassu ridge to my nest, and passes thence southwards, out of sight, a distance of at least five, and often six miles, without having made, during the time it was in sight, a single movement of the wings, or more than three or four gradual shifts of the tail when slightly altering its course.

Wishing to ascertain the velocity with which they pass—a velocity which varies very greatly—I put up two posts on two projecting points right and left of my seat, and somewhat further out. I then, for several mornings, noted the times of each bird's passing each post, and approximately the distance at which each passed outside the posts, and then having previously ascertained all the sides of my fixed triangle, of which my own position was the apex, while the two posts marked the basal angles, it was of course easy to calculate the actual length of that portion of the Vulture's path visible to me between the two posts.

The Vultures, as a rule, slacken speed a good deal in passing my precipice. This faces the east, and is very warm and pleasant in the mornings, and commands a vast view down a deep valley, and not unfrequently, when I have come up a little later than usual, I have found several Vultures, and once or twice a Lammergeyer, sunning themselves on the ledges. So I suspect they slacken speed, intending, if the coast be clear, to alight and enjoy the warm sun awhile before continuing their matutinal cruise for a meal.

Well, I found that between seven and eight miles an hour was the lowest speed at which any Vulture passed

me, and between 26 and 27 miles the greatest speed. At the same time, I believe that elsewhere, when not thinking of alighting, or wishing to examine the ground closely, they travel with far greater rapidity. As far as I can make out that portion of the Mahassu ridge, above which they generally first appear, is almost exactly four miles distant from my post of observation, and on more than one occasion only six or seven minutes have elapsed between my first sighting a bird over the ridge, and its passing me, which would give a speed of 34 to 40 miles an hour. But then, of course, it is impossible to be *certain* that I *really* sighted the bird directly it did top the ridge. I may only have caught sight of it after it had progressed some considerable distance towards my position.

Be this as it may, as a rule, the majority of the Vultures pass my station at a velocity of between 12 and 15 miles per hour.

These Vultures are about four feet long, have an expanse of about nine feet, and weigh from 18lbs. to 20lbs. But in flight they retract the neck, and so appear much less than their full length, and laying out a freshly killed bird, with the neck drawn in as in flight, and with wings and tail spread to the utmost and tracing the outline, I found that at the *outside* the flying Vulture does not subtend a total surface of *above* 12 square feet.

It is to be observed that when you shoot these birds dead, they fall like stones; when you wound one badly, in the body, it also falls like a stone for 10, 15 or 20 yards, and then recovering itself by a few laboured strokes, sails away, without another flap of the wings, quite out of sight. Nay, at times, if you only suddenly frighten them, down they drop as if shot. There is a projecting point, which they generally pass *very* closely. On several occasions I have hid in a clump of bushes, which is just at the hang of the point, and when a bird has been about to pass me at the distance of a very few yards have started up shouting and firing both barrels (with powder only) just as he was abreast of me. In many cases, thus assailed, the birds have merely given a shudder, and have swung on with the irresistible sweep of some planet in its course. But, occasionally, almost exclusively in the case of young, striped or lineated birds, the Vulture has fallen head over heels as if wounded, only recovering itself after a perpendicular descent of several yards.

Near my favourite post of observation live two pairs of Black Crows (*C. macrorhynchus*). These Crows know me perfectly; they are quite aware that, though I do carry a gun, I shall not shoot *them*, but still, on principle, they disapprove of men

going about with guns, and some time or other during my morning's visit, they think it their duty to call in, and circling slowly round and round above my head, at a height of not more than 20 yards, solemnly protest, in voices tremulous with emotion, against my persistent violation of what they consider good manners. For there is nothing in regard to which a Crow feels and expresses himself so strongly as in the matter of what he holds to be that pernicious and low habit of carrying a gun.

I remember, when Brooks was rearing some young Eagles, he had at first occasion to shoot a good many Crows, eight or ten daily, to satisfy the cravings of his interesting nurselings. Within a week after he began this massacre of the innocents, let him but show his face outside his house, carrying a gun, and every Crow seemed to have left the country. He might peer and poke about, bustle up and hunt, but there was not a Crow to be seen. One might have fancied that he had killed off all the Crows of the neighbourhood. But let him issue, as on Sunday, without a gun, and *presto!* the whole place was alive with Crows, cursing and swearing at him in language which, had I understood it, would, I feel sure, have been too dreadful to record, and which was all the more shocking for having been indulged in on the Sabbath. It was no use his putting up a stick, and pretending that it was a gun; only the most infantile Crows were thus imposed upon; the great majority received the demonstration with derisive cheers, and renewed and intensified objurgations.

I never kill Crows myself—I have a strong liking for them; perhaps I have some faint remembrance of the time, in long past æons when I was a Crow, (or what *then* represented a Crow,) myself—I have five or six pairs about my grounds, some of whom are quite tame; one especially who, if he be drinking at a sunken water barrel, distinctly declines to move to allow of my filling a watering pot. But thereby hangs a tale, for one day hearing a great splashing and running up to the butt, I found this Crow, *in articulo mortis*, wet through and fast sinking. The water was low; he had fallen in, there was no foothold, and he was drowning. I caught hold of his bill, and lifting him gently out, laid him on a sunny plot of turf where he soon recovered. Let me do that Crow (and my fellowmen who are mostly equally intelligent) the justice to record, that, from that day forth, he has treated me with an uniformly pitying contempt.

But this is a digression. I often carefully watch my Crows up hill as they circle slowly round and round over head, tenderly admonishing me against the evil habit of carrying a gun, and I notice that when there is no wind, and it is quite calm,

they will sail round and round *very* slowly, six, eight, even ten times, in the course of five to ten minutes, without even once moving their wings, only slightly inclining the tail in varying directions so as to rise and fall a little, as they revolve, their rounds being not circles, but a series of ascending and descending spirals.

Now what keeps the Vultures up, and *à fortiori*, what keeps these Crows up? Stuff a Crow carefully, as I have done, with wings and tail extended; let your stuffed Crow, like mine, weigh $5\frac{1}{2}$ ozs. instead of 1lb. 8ozs. which the live Crow weighs; get a multiplying wheel with a thin silk twine, 30 yards long, weighing an ounce at most; attach it to the skin so that this will sail straight without twisting; place the skin on the top of a post 15 or 20 feet high so as to give it a good start; then whirr the wheel, and your dead Crow shall come through the air to you three times as fast as ever the live Crow succeeded in making his way, but.....the skin will have hit the ground before reaching you. Yet the live Crow, weighing more than four times what the skin does, circles round and round my head without one single action that could, with reference to resistance of the air, &c., account for its not falling, at certainly less than one-tenth of the velocity which I, by mechanism, impart to the skin.

I venture to hope that no one will fatuously revive that old exploded fallacy of air-cells filled with heated air. If all the cells were filled in the case of a Crow with air at a temperature of 160° F., the outside air being at 70° F., the raising power thus engendered would not suffice to sustain a single ounce weight, whereas my skin that *won't* keep up, weighs only $5\frac{1}{2}$ ozs. against 1lb. 8ozs. of the live bird.

But for all that the live birds *do* keep up, and there has never yet been, so far as I am aware, any explanation of their so doing, that can, when tested, be accepted.

The real explanation is simple enough, but I do not doubt that when I set it forth, especially when I explain, as I must, how I was led to suspect it, my statement will be received much as the Crows used to receive Brooks' walking-stick demonstrations.

The only difference will be, that, whereas the Crows, having only instinct to guide them, were *right* in the view *they* took of the case; the intellectual people, who will reject my explanation, will be *wrong*. Well, they will know better some day. Every great truth is a folly to the generation in which it first shows itself.

Now did any of my readers ever hear of *Æthrobacy*? Of course the majority reply: "Is it anything to drink? Is it good?" No, it is not a potable article; it is a fantastic name,

signifying walking in the air, applied to the manifestations of an occult power, occasionally acquired by human beings, of raising themselves for a short distance above the surface of the earth, without any physical support or mechanical aids.

A good many (ignorant) people will say at once flatly : "But this is all humbug ; no one *ever* did acquire any such power." This however is a mistake ; there are at least three Yogis at this present moment in India, who possess this power, and you have only to study the question to ascertain that there is no fact in the history of mankind better established, by a greater number of reliable witnesses, than the acquisition of this power by exceptional individuals. This has occurred, alike in ancient and modern times, in Asia and Europe, in the case of men and women, Buddhists, Hindoos, Mahomedans, and Christians.

An absolutely pure life and intense religious concentration seem necessary in most cases for the development in human beings of this power, which, in the case of man, is abnormal.

It is all very well for Protestants and modern materialists to discard unexamined all facts of this nature as manifestly falsehoods or frauds, fables or dreams ; but no candid person can examine the judicial records of the exhibition of this power in the case of some of the Roman Catholic Saints and Saintesses, without admitting that the thing is as well established as any single fact on record.

Of course, it had nothing to do with the profession of any particular creed. Mahomedans, Hindoos and Buddhists, living similar, self-denying, excessively abstemious, absolutely pure unworldly lives, and similarly concentrating their minds and souls on things spiritual, have equally acquired these powers ; and, as I said before, there are men at this time, in this country, endowed with them ; but I refer to Roman Catholic Saints, because the records of their doings are more readily available to Europeans, and carry more weight than those of the so-called miracles of Eastern Saints and Sages.

But when we begin to study the hidden science that lies at the base of all these abnormal phenomena, we discover that this faculty of *Æthrobacy* is susceptible of a simple scientific explanation ; it depends upon the power of so altering the magnetic polarity of the physical frame that in lieu of being attracted it is repelled by the earth.

Gravity is nothing but another name for the force, which, viewed from different aspects, we designate heat, light, electricity, magnetism ; or at any rate, all are outward and appreciable manifestations of analogous impulses propelled through one and the same all-pervading medium.

Now this power of modifying and reversing the polarity of the physical body, which is so rarely, and only under

very exceptional circumstances, acquired by human beings, is normal and inherent in the great majority of winged birds. But it varies very greatly in potency in different families and genera, and while in some it operates almost wholly to neutralize the attraction of gravity, in others it only slightly diminishes the tension of this.

This power is directly connected with what we may call, even in a bird, the mind principle, and is liable to be suspended by any sudden shock or fright, which for the moment checks the outgoing of will power in that direction.

This explanation of much that has long puzzled us in connection with the flight of birds, is not an hypothesis, but a fact; but as I am not in a position to give that demonstration of it, which I am well aware physical science must insist on before accepting anything as a fact, I only ask my readers to treat it as a hypothesis, and test how far it systematizes and explains the many hitherto inexplicable facts connected with the flight of birds.

A. O. H.

A Note on the Genera *Schœnicola* and *Catriscus*. By
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of Zoology, British Museum.

(Reprint from the *P. Z. S.*, November 1881.)

DURING the last two years a great deal of interest has been shown in India with respect to Jerdon's *Schœnicola platyura*, a little Reedbird, which was described by him as *Timalia platyura* (*Mad. Journ.*, xiii., p. 170), and was afterwards made the type of the genus *Schœnicola* by Blyth (*J. A. S.*, Beng., xxxiii., p. 374). The typical specimen was lost; and the bird remained unidentified for years, merely receiving a short notice, in 1863, from Jerdon in his "Birds of India" (ii., p. 73). In 1878, however, Mr. Frank Bourdillon met with the species in Southern Travancore, as recorded by Mr. Hume in the seventh volume of "Stray Feathers" (p. 37). Again, in Capt. Legge's "Birds of Ceylon," reference is made to a specimen which had been since 1854 lying undetermined in a box in the British Museum; but Capt. Legge (somewhat inconsistently in my opinion) only gave it a place in his work in a foot-note. There is not the slightest reason for believing that the specimen in question is not a genuine Ceylonese skin, as it was purchased by the Museum from Mr. Cuming, who received it doubtless from one of his correspondents, perhaps Mr. Thwaites or

Mr. Layard. Anyhow, I have no doubt that the bird occurs in Ceylon, and has escaped observation there just as it did for so long in India.

In the ninth volume of "Stray Feathers" several notices of this bird are published. At p. 209 Mr. W. Edwin Brooks, who has made the Warblers of India his especial study, gives a minute account of the generic features of *Schænicola*, based on the Travancore specimen procured by Mr. Bourdillon (*Mus. A. O. Hume*); and at p. 211, Mr. Hume gives an editorial note, with additional information from Mr. Bourdillon, recording the capture of three more specimens. Two of these have since passed into the collection of the British Museum, and are marked by the collector as "breeding"—a statement on which Capt. Butler afterwards comments. At p. 234, Mr. Hume records the capture of a specimen by Captain Butler at Belgaum, and suggests the possibility of *Schænicola* being identical with the African genus *Catriscus*. Lastly, at p. 260 of the same volume of "Stray Feathers," Mr. Hume gives an excellent *resume* of the history of *Schænicola platyura* as far as known, and Capt. Butler adds some most interesting notes on the nesting of the species at Belgaum. In the space of two years, therefore this interesting bird has been rescued from the oblivion into which it had fallen, and we now know a good deal about its habits and general economy.

It is with the object of answering Mr. Hume's question as to the possibility of the Indian bird being identical with the African *Catriscus apicalis*, that I write these few lines. A perception of affinities has been one of Mr. Hume's most noticeable qualities as an ornithologist; and his association of *Schænicola* with *Catriscus* turns out to be perfectly correct; but the Indian species is not exactly the same as the African one. The following I believe to be the literary history of the genus, with its two species:—

SCHÆNICOLA.

Type.

- Schænicola*, Blyth, J. A. S. Beng., xiii., p. 374,
(1844, nec Bp. 1850). *S. platyura*.
Catriscus, Cab. Mus. Hein. Th., i., p. 43 (1850). . . *S. apicalis*.

Clavis specierum.

- a. Saturate rufescenti-brunneus, regione parotica pileo concolori; hypochondriis saturate rufescenti-brunneis; subcaudalibus fulvescentibus vel rufescenti-brunneis *platyura*.
b. Pallide rufescenti-brunneis, regione parotica pallide brunnea; hypochondriis fulvescentibus; subcaudalibus nigricantibus pallide marginatis *apicalis*.

1. SCHÆNICOLA PLATYURA.

Timalia platyura, Jerdon, Madr. Journ., xiii., p. 170 (1844); Gray, Hand-1. B. i. p. 315, no. 4706.

Schœnicola platyura, Blyth, J. A. S. Beng., xiii., p. 374 (1844); Jerd. B. Ind., ii., p. 73 (1863); Hume, Str. F., 1878, vol. vii., p. 37; id. Str. F., 1879, p. 97; Brooks, Str. F., 1880, p. 209; Hume, t. cit., p. 211; Legge, B. Ceylon, p. 532, note (1880); Hume, Str. F., 1880, pp. 234, 260; Butler, Cat. B. of South Bombay Press, p. 43 (1880).

The Indian Broad-tailed Reed-bird inhabits Southern India, and has been procured by Capt. Butler at Belgaum in 16° N. lat.; also by Jerdon in the Goodalore Ghat, Wynaad, 11° 30' N. lat.; again, in Southern Travancore, in 8° 30' N. lat. (*Bourdillon*); and extends into Ceylon (*spec. in Mus. Brit.*), the exact locality being unknown, though Mr. Hume suggests about 7° N. lat.

2. SCHœNICOLA APICALIS.

Sylvia apicalis, Licht, MS. in Mus. Berol., unde.

Catruscus apicalis, Cab. Mus. Hein. th., i., p. 43 (note); Gurney, Ibis, 1863, p. 323, id. Ibis, 1866, p. 140; Heugl., Ibis, 1869, p. 81; id. Orn. N. O.-Afr., p. 273, tab. ix. (1869); Shelley, Ibis, 1875, p. 71; Sharpe, ed. Layard B. S. Afr., p. 283 (1876).

Bradypterus brevirostris, Sundev. K. Vet.-Akad. Förh. Stockh., 1850, p. 483.

Cettia apicalis, Licht. Nomencl. Av. Berol., p. 29.

Sphenæacus alexinæ, Heugl. J. f. O. 1863, p. 166.

Drynoica apicalis, Layard, B. S. Afr., p. 96, no. 173 (1867); Gray, Hand-l. B., i., p. 201, no. 2833 (1869).

Calamodyta brevirostris, Gray, Hand-l. B., i., p. 209, no. 2958 (1869).

In North-eastern Africa the African Broad-tailed Reed-bird was met with by Heuglin in the vast grass-lands on the affluents of the Gazelle river. In South Africa it appears to be found only in Natal.

The British Museum Catalogue of Birds, Vol. VI.

BY R. BOWDLER SHARPE.

THE new Volume of the Catalogue contains a portion of the Family of the TIMELIDÆ as defined by Mr. Sharpe, Vol. IV., p. 7.

This Volume is by Mr. Sharpe himself, and well maintains the high standard of this important work.

By some oversight at page 1, only the following sub-families are stated to be included in the TIMELIDÆ, *viz.*, the *Brachypodinae*, the *Troglodytinae*, and the *Timelinae* (proper);

but as a fact the following five sub-families are included in this volume, viz. :—

- | | | | |
|----------------------|-----|-----|-----------------------|
| (1) Brachypodinæ | ... | ... | or Bulbuls ; |
| (2) Troglodytinæ | ... | ... | or Wrens ; |
| (3) Miminæ | ... | ... | or Mocking Thrushes ; |
| (4) Myiadectinæ | ... | ... | or Solitaires, &c ; |
| (5) Ptilonorhynchinæ | ... | ... | or Bower Birds ; |

and there remain the *Timelinæ*, and possibly some other sub-families to be dealt with in an ensuing volume.

With the last three sub-families (two of which in my opinion are scarcely rightly here placed), we have no concern in India ; even amongst the *Troglodytinæ*, the great majority of the genera are American, and *Pnæpyga* and *Cinclus* are the principal genera with which we here have to do. Of the *Brachypodinæ* of course a very large proportion of the genera and species occur within our limits.

It is gratifying to learn that the second volume of this family is well advanced, and that there is now a prospect of a somewhat more rapid progress in this work than has hitherto been found possible. The present race of ornithologists will doubtless be gathered to their fathers before the catalogue is completed, but from what Dr. Günther intimates in a brief preface which he prefixes to the present volume, our sons may now possibly witness its termination. This is good news, and we will hope that it may prove true.

Of this present volume there is little to be said. It is characterized by the same completeness, and displays abundant evidence of the same industry and research that have been the leading features of every work of Mr. Sharpe's since, as scarcely more than a boy, he gave to the world his Monograph of the Kingfishers. Some of the illustrations are decidedly good, while others again strike me as rather harsh, but all are a decided improvement on some that appeared in one at least of the earlier volumes.

A. O. H.

Further Notes on the Birds of Gilgit.

BY MAJOR J. BIDDULPH.

Reprint from the "Ibis."

SINCE the publication of my former paper on the Birds of Gilgit I have been again resident, from May 1880 till March 1881, in that place, during which time I procured several species not previously obtained, either by Dr. Scully or myself. The summer of 1880 was marked by an unusual amount of bad weather—the monsoon, which, as a rule, is never felt so far

from the plains of India, having made its influence apparent. The end of July and the beginning of August, which, in ordinary years, is the hottest season in Gilgit, was marked by ten days' continuous rain and stormy weather. In consequence of this the autumn migration commenced a fortnight earlier than usual, and on the first two days in August a number of water-birds and waders, such as *Ibidorhynchus struthersi*, *Machetes pugnax*, *Tringa temmincki*, *Totanus glareola*, *Totanus calidris*, &c., appeared: amongst them a special prize, in *Tringa acuminata*, was secured. I also saw several Kites (*Milvus melanotis* or *M. govinda*.)

In July and August I sent native collectors to the Darel valley, to the Deosai plain, and to the Shandur plateau, which divides the Gilgit-Yassin valley from the Chitral valley. The jealousy of the Darelis caused them to regard my men as spies who had come to study the nakedness of their land, for which purpose ornithology was but a transparent veil; and my men were obliged to return after four days' stay in the valley. They brought back forty-six specimens, representing eighteen species. Of these, three do not appear in the Gilgit list, viz., *Garrulus lanceolatus*, *Otocorys longirostris*, and *Hydrobata leucogaster*, the last-named being hitherto unrecorded south of the Himalayas. *Oræetes cinclorhynchus*, which only appears as an occasional straggler in Gilgit, seems to be exceedingly common in Darel, together with *Garrulus lanceolatus*, which appears to be equally abundant. The vegetation of Darel, which valley has remained till now unvisited by any European, probably approaches in character more nearly to that of Cashmere than to that of the Gilgit and Astor valleys.

My collector who visited the bleak Deosai plain was also unfortunate in having encountered weather so bad as to make any prolonged stay impossible, even in July, at so great an elevation. He brought back fifty-seven specimens, representing twenty-four species, only one of which, *Otocorys longirostris*, does not appear in the Gilgit list.

The man who visited the Shandur plateau was more fortunate in being well received by the people of the country, and remained there for over a fortnight. During this he collected numerous specimens, which tend to show that the plateau is a favourite breeding-ground for many of our Gilgit birds that are forced to seek a considerable elevation for the purpose.

Further observation has tended to confirm my former conjecture, that the Indus valley forms the chief route by which migrants between Central Asia and Northern India pass and repass. This is also borne out by the appearance of several species of rare or previously unknown occurrence in India having been recorded at Attock in the pages of

STRAY FEATHERS during the last few years. Punjab ornithologists will probably find themselves well repaid by a careful collection of species during the months of October, November, December, and January at Derbund, where the Indus emerges from the Himalayas into the plains of the Punjab.

The Indian Government having decided against the further retention of a British officer at Gilgit for the present, it will probably be some time before any further continuous ornithological observations at that spot can be made, though many sportsmen will no doubt find their way up to so good a sporting locality. Up to the time of my departure I continued to add new species to the list, which now comprises 265 species. Of this number only one, the Owl named after me by Dr. Scully, is new to science. Five are of doubtful identification, no specimen having been secured, though in each instance there is no doubt that a species not otherwise recorded in the list was observed. These are *Vultur monachus*, *Neophron percnopterus*, *Corvus umbrinus*, *Branta rufina*, and *Mergus castor*. The absolute identification of *Gyps fulvescens* must also remain undecided, for reasons hereafter stated. My identifications of *Corvus culminatus* and *Columba livia* may also be accepted with hesitation, as also the specific distinction of *Corvus collaris*. Without taking these into account, twenty-one species, not previously recorded, or of doubtful occurrence, in India, according to Mr. Hume's list of 1st March 1879, must now be added to the number of our Indian species. They are *Cerchneis vespertina*, *Lanius homeyeri*, *Lanius phanicuroides*, *Turdus hyemalis?*, *Saxicola vittata*, *Saxicola ænanthe*, *Leptopæcile sophie*, *Accentor fulvescens*, *Sturnus purpurascens*, *Petronia stulta*, *Emberiza hortulana*, *Erythrospiza incarnata*, *Propasser blythi*, *Linaria cannabina*, *Fringilla montifringilla*, *Leucosticte brandti*, *Turtur aurita*, *Ægialitis hiaticula*, *Ægialitis jerdoni*, *Tringa acuminata*, and *Crex pratensis*. The occurrence of *Hydrobata leucogaster* within Indian limits, though not included in the Gilgit list, is also recorded for the first time.

1.—*Vultur monachus*, *Lin.* (1.)*

I may have been wrong in my identification of those birds; but they were certainly not the young of *Gyps himalayensis*. They were a pair of adult birds of a totally different species.

2.—*Gyps fulvescens*, *Hume.* (3 bis.)

I regret that I did not bring this specimen home for comparison. To the best of my recollection, however, it was an

* I have added our catalogue numbers as usual.—ED., S.F.

adult bird. Owing to the difficulty of transport, I left this and a fine specimen of *A. chrysaetos* behind me.

9 a.—*Cerchneis vespertina*, *Lin.* (19.)

A single specimen, a young male in immature plumage, was obtained in October. Length, 11·25 inches; wing, 8·8; tail, 5·1; tarsus, 1·12. Irides light brown; legs and cere orange; claws paler. I have compared this specimen with those of *C. amurensis* and *C. vespertina* in Mr. Seebohm's collection, and have no doubt of its identity with the latter species, though the immature specimens are difficult to discriminate.

12.—*Accipiter nisus*, *Lin.* (24.)

Out of twenty-one Sparrow Hawks from Gilgit Mr. Sharpe identifies only thirteen as true *A. nisus*, the rest apparently belonging to the larger race which I have called *A. melaschistus* of Hume.

18.—*Buteo plumipes*, *Hodgs.* (47.)

I obtained a male in the rufous stage of plumage from the Deosai plain.

29.—*Scops brucii*, *Hume.* (74 sept.)

A fine specimen was brought to me alive, but numbered with cold, after some bad weather in the beginning of July.

33.—*Chelidon cashmirensis*, *Gould.* (93.)

33 a.—*Chelidon urbica*, *Lin.* (92.)

During the time of our being in Gilgit together, Dr. Scully and myself failed to notice that we had more than one House-Martin, and while he only obtained *C. urbica*, I only obtained *C. cashmirensis*.

In the beginning of July 1880 the weather, after being intensely hot, suddenly changed, and for four days rain fell on the neighbouring hills, ending in heavy snow during the night of the fourth day, when the thermometer in Gilgit fell to 45° Fahr.

The following morning a number of Martins were picked up, either dead or so numbed with cold as to be unable to move; and I then observed that there were two kinds. Of a dozen brought to me five proved to be *C. urbica*, and the remaining seven *C. cashmirensis*, all adults.

A male of *C. urbica* measures: Length, 5·8 inches; wing, 4·6; tail, 2·75; tarsus, 0·4. A female measures: Length, 5·9; wing, 4·36; tail, 2·75; tarsus, 0·45.

A male of *C. cashmirensis* measures: Length, 5·36 inches; wing, 4·05; tail, 2·28; tarsus, 0·45. A female measures: Length, 5·5; wing, 4·03; tail, 2·4; tarsus, 0·5.

All the specimens of *C. cashmirensis* are dusky beneath, instead of pure-white as in *C. urbica*, and have dusky mesial centres to the feathers of abdomen, flanks, and rump. The under wing-coverts are brown, instead of dirty white, as in *C. urbica*. My specimens are identical with Gould's type in the British Museum.

35.—*Caprimulgus unwini*, Hume. (111 bis.)

My collector brought me a female from the Deosai plain, where it appeared to be common.

46.—*Certhia hodgsoni*, Brooks. (243 bis.)

This species appears to be commoner in the Astor valley, where it probably breeds. I procured two immature specimens there in July at an elevation of 10,000 feet.

47.—*Tichodroma muraria*, Lin. (247.)

I saw one of this species in September at an elevation of 15,000 feet; and I fancied that I identified one at an elevation of 13,000 feet in July; so it probably breeds in the district. I have procured it in Ladakh at 13,000 feet, in the middle of September.

52.—*Lanius phoenicuroides*, Severtz. (262 bis.)

The Shrike referred to (*Ibis*, 1881, p. 51) under the name of *L. cristatus*, proves to belong to this species. I obtained two immature specimens on 6th September and 16th October.

53.—*Pericrocotus brevirostris*, Vigors. (273.)

I procured a single specimen on the 9th August in Gilgit, and a number in September and October, all females, or males in female plumage. This Minivet never appeared in Gilgit during the first two winters I spent there. I certainly never procured it; and it is so conspicuous, even in the grey and yellow plumage, that I could not have helped remarking it had it been there. I procured it in Chitral, in November, at 6,000 feet elevation; and it is probably to be found in Darel, though I did not get it from there.

56.—*Hemichelidon sibirica*, Gmel. (296.)

None of the specimens I have from the North-west Himalayas appear of so dark a tone as a specimen sent me from Sikkim by the late Mr. Mandelli; this is specially notice-

able in the colour of the wings and tail. Most specimens show a faint white streak extending from the nostrils to the eye, and a faint circle of white round the eye. I procured this Flycatcher also from Darel.

58.—*Cyornis ruficauda*, Swainson. (307.)

This Flycatcher extends into the Darel valley, whence my collector brought me several specimens.

59.—*Troglodytes neglectus*, Brooks. (333 bis.)

Birds killed at the same time of year are scarcely distinguishable from *T. nipalensis*, Hodgs.; but *T. neglectus* is a little smaller and paler underneath. The freshly moulted autumn birds and those killed in summer are more distinct, and paler than *T. nipalensis* in every way; but in the winter they are hardly distinguishable.

62.—*Hydrobata cashmirensis*, Gould. (348.)

I procured an adult specimen of this Dipper from the Deosai plain, but did not meet with it in Gilgit. Dr. Scully's specimen was procured in a valley between Gilgit and Darel, where its occurrence is somewhat remarkable, as I received from Darel, which is still further to the south, an adult male of *H. leucogaster* (348 bis) in fine plumage—the first instance, I believe, of its occurrence on the Indian side of the Himalayas. Dr. Scully's specimen is undoubtedly *H. cashmirensis*.

64.—*Orœetes cinclorhynchus*, Vigors. (353.)

I shot a young male of the year, in Gilgit, in August 1880, and later observed two adult males. The species appears to be common in the Darel valley, whence my man brought me back several specimens. Young males of the year are easily distinguishable from the females by the white wing-bar, which appears to be assumed in the earliest stage of plumage and before any trace of blue is apparent.

66.—*Turdus hyemalis*, Dybowski. (? 364 bis.)

The specimen which, in my former paper, I classed as *T. ruficollis* (*Ibis*, 1881, p. 53), I have compared with a large number of specimens in the British Museum and other collections; and I find that it cannot stand under that name. It is a fully adult male, shot in January. The markings are essentially the same as those of *T. ruficollis* and *T. atrogularis*, with the exception of the colouring of the tail and breast. The tail is rufous, hardly so vivid as in typical specimens of *T. ruficollis*, but much more vivid than in any specimen of *T. atrogularis*. The breast is a fine deep vandyke-brown, much

darker than in any specimen of *T. ruficollis*, and easily distinguishable from that of *T. atrogularis*.

It is apparently Dybowski's *T. hyemalis*; but I leave it for Mr. Seebohm to pronounce on its merits as a hybrid or a good species. Mr. Seebohm's collection contains a similar specimen from Lake Baikal; and I have also one shot in Yarkand.

67.—*Turdus atrogularis*, Tem. (365.)

When I wrote concerning this species in a former paper (*Ibis*, 1881, p. 53), I did not observe that I had before me a specimen of an adult male in a melanistic form of plumage. The feathers of the head and hinder part of the neck are tinged with black; the tail is much darker than in other specimens; and the axillaries and under coverts are dull brown. All other specimens that I have seen have the axillaries and under wing-coverts dull rufous.

70.—*Trochalopteryx lineatum*, Vigors. (425.)

My Gilgit specimens of this Babbler are much paler than those I have from Cashmere, which, again, are paler than those sent me by Mandelli. The difference between Gilgit and Simla forms, however, is greater than between the Simla and Darjeeling forms. Specimens of *Sibia capistrata* from Murree and Sikkim show the same differences of colouration.

72.—*Pratincola indica*, Blyth.

Pratincola maura, Pall. (483.)

73.—*Pratincola robusta*, Tristram.

Dr. Scully has shown (*Ibis*, 1881, p. 441) that our large Gilgit Bush-Chat is not Canon Tristram's species; but I cannot allow that all the Chats of the *P. indica* (or *maura*) type are referable to a single species. My collection contains forty-eight adult specimens from different localities. These show two races, more or less well marked, and differing in size and colour, but connected by intermediate forms, which may be hybrids, as the two races apparently exist side by side in Gilgit and in some other localities. As in some specimens the measurements slightly overlap, I have not taken difference of size as a point of diagnosis, but simply colour. The males show a constant difference in the amount of white on the back part of the neck. The race which I will call Form A shows a white patch on the side of neck, but not extending round to the back of it. In no specimen is

there any white discernible on the nape of the neck. The other race, which I will call Form B, also has a white patch on each side of the neck, which extends round to the back, meeting the white from the other side, so as to form a complete demi-collar when viewed from above. This is most conspicuous in breeding-plumage; but specimens procured at all seasons show some trace of white on the nape. Separating the nineteen males in my collection with reference to this point alone, I find they measure as follows:—

Form A.

Wing-measurement.	Locality.			Season.
Inches.				
3.0	Kumaon	Terai...	...	March.
3.0	Gilgit	...	...	April.
2.99 ... ..	"	...	...	"
2.9 ... ..	"	...	...	September.
2.85 ... ..	"	...	...	April.
2.85 ... ..	"	...	...	"
2.75 ... ..	"	...	...	September.
2.7	Astor	...	...	"

Form B.

Wing-measurement.	Locality.			Season.
Inches.				
2.75	Gilgit	...	...	September.
2.72	Wakhan	...	...	April.
2.7	Yassin	...	...	August.
2.7 ... ..	"	...	...	"
2.7 ... ..	"	...	...	September.
2.65	Gilgit	...	...	March.
2.65	Astor	...	...	September.
2.6 ... ..	"	...	...	"
2.58	Gilgit	...	...	October.
2.55	Cashmere	...	...	May.
2.52	Simla	...	...	June.

N.B.—The last two specimens are in full breeding-plumage.

The females also show well-marked differences in colour. Those which in general appearance much resemble the males of Form A in non-breeding plumage, have broad rufescent margins to the feathers of the back, the wing-coverts, and white secondaries, while the tail-feathers are broadly tipped and margined with the same, and there are narrow rufescent edgings to the feathers of the head and neck. These I have referred to Form A. The others are altogether of a much darker tone, having the wing and tail-feathers nearly uniform dull brown, with very faint inconspicuous pale edgings, and the striations of the head and back very broad and dark, with narrow margins, and the whole tone of colouration less rufescent. These I refer to Form B. Separating twenty-four

females solely by differences of colour, I find they measure as follows:—

Form A.

Wing-measurement.		Locality.		Season.	
Inches.					
2.7	...	Sikkim	...	...	March.
2.65	...	"	...	...	November.
2.65	...	Astor	...	...	September.
2.6	...	Sikkim	...	...	November.
2.6	...	Gilgit	...	...	September.
2.6	...	Yassin	...	...	August.
2.6	...	Cashmere	...	...	May.
2.55	...	Murree	...	...	Undated.
2.55	...	Astor	...	...	September.

Form B.

Wing-measurement.		Locality.		Season.	
Inches.					
2.6	...	Astor	...	...	July.
2.6	...	Cashmere	...	...	"
2.6	...	Deosai	...	...	"
2.55	...	Chenab valley	...	...	May.
2.55	...	Gilgit	...	...	April.
2.5	...	Cashmere	...	...	July.
2.5	...	"	...	...	May.
2.5	...	Gilgit	...	...	"
2.5	...	"	...	...	June.
2.45	...	"	...	...	April.
2.4	...	"	...	...	July.
2.4	...	Cashmere	...	...	Undated.
2.4	...	Simla	...	...	July.
2.4	...	Cashmere	...	...	May.
2.35	...	"	...	...	Undated.

Five specimens, which I am unable to separate by differences of colour, measure as follows:—

Wing-measurement.		Locality.		Season.		Sex.	
Inches.							
2.7	...	Gilgit	...	April	...	Unsexed.	
2.6	...	Meerut	...	January	...	♀	
2.6	...	Wakhan	...	April	...	♀	
2.6	...	Meerut	...	January	...	Unsexed.	
2.6	...	Gilgit	...	April	...	♀	

Now it cannot be denied that these measurements overlap considerably, especially among the females; but the fact remains that, after separating forty-three specimens solely by colour and markings (omitting the last five undetermined), those of one form average considerably larger than those of the other, and that the greatest divergence in colour is shown between those which differ most in size. It may be that the specimens that overlap in measurement are to be accounted for by hybridism—an explanation that no ornithologist

can affect totally to ignore when treating of two very closely allied species found in the same locality; or it may be that some of those classed as females would have been found by more careful examination to be males that had not got rid of female plumage. Whatever may be the explanation of this, I believe that we have here two species.

The smaller species of Chat, which I have called Form B, is evidently the *P. indica* of Blyth; but it is more difficult to say which is the *P. maura* of Pallas.

74.—*Saxicola opistholeuca*, *Strickland*. (488.)

I find that I got four specimens of this Chat in Gilgit—three at the beginning of April, and one in December. The young bird previously referred to (*Ibis*, 1881, p. 55) turns out, on further comparison, to be a young specimen of *S. morio*. There is no reason to suppose that *S. opistholeuca* breeds in the district.

75.—*Saxicola picata*, *Blyth*. (489.)

Dr. Scully and myself have brought away from Gilgit 181 specimens of this Chat. Of these there are 102 adult males, 46 adult females, the rest being of both sexes in different stages of immaturity. I can add little to what has already been said about this bird. The specimens of the males before me show every gradation, from the creamy-white head to jet-black; but those with pure black heads are the most numerous; next in number come those in different phases, while those that have entirely white heads are the scarcest.

The adult females are all of the same type, with the exception of a single specimen, which differs in having the lower throat nearly black. Dr. Scully tells me that he has also a precisely similar female specimen. There is no doubt as to the determination of the sexes of these two specimens; but the wing-formula is the same as in all other specimens of *S. picata*. Among the immature specimens females are undistinguishable from males.

77.—*Saxicola morio*, *Hempr. & Ehr.* (490.)

Dr. Scully and I have brought away from Gilgit altogether 153 specimens of this Chat. Dr. Scully's assertion of the identity of this species with *S. hendersoni* must, I think, be accepted. The specimens of adult males show clearly the gradation of plumage from the black, with pure-white cap, of the breeding-stages, to the *S. hendersoni* type of autumn. Two specimens, of 27th April and 23rd May, show a few faint brown specks on the back and head. Four specimens, of 18th, 21st, and 25th July, have the freshly moulted second-

daries and wing-coverts broadly margined with pale rufescent, and the head much infuscated. August specimens have nearly reached the *hendersoni* stage, but still retain a certain amount of black on the back. No specimen was procured after July of the accepted *morio* black-and-white type.

The females vary considerably in the colour of the lower throat, which, however, does not appear to be connected with the season; it may possibly be a question of age, birds of the second year becoming very dark.

I took a nest of this Chat in Astor on the 26th June, at an elevation of 7,000 feet, containing five hard-set eggs. It was placed, about a foot deep, in a wall of loose stones supporting a built-up road on the mountain-side, over which was constant traffic. The eggs were very pale blue, with small dusky-red freckles thinly scattered over the surface, slightly tending towards a zone at the thicker end, and measured $\cdot 725$ inch in length by $\cdot 565$ in diameter.

78.—*Saxicola vittata*, *Hempr. & Ehr.* (491b.)

I procured one specimen, an adult male, in Gilgit, on the 4th June. Three others were seen at the same time.

82.—*Ruticilla rufiventris*, *Vieill.* (497.)

I procured a specimen as late as 27th November. It apparently breeds on the Shandur plateau, whence I received an immature specimen in August.

84.—*Ruticilla erythronota*, *Eversm.* (498 bis.)

A female of this bird was, by mistake, passed as *R. hodgsoni*, which it much resembles in my former paper (*Ibis*, 1881, p. 62). After noting the specimen I mislaid it, and was unable to put my hand on it again. It has since turned up, and proves to belong to this species. It is to be distinguished from *R. hodgsoni* by the double wing-bar and conspicuous pale edgings to the secondaries. *R. hodgsoni*, which is much whiter on the abdomen, must be expunged from the Gilgit list.

87 a.—*Ruticilla fuliginosa*, *Vigors.* (505.)

I procured a single specimen, a young bird of the year in immature plumage, on the 8th of July. There is nothing remarkable in the occurrence of this species in Gilgit; but it is somewhat curious that, with the exception of this specimen, neither Dr. Scully nor I have observed any of this species during a period extending altogether over four years, either in or near the Gilgit district.

The Plumbeous Water-Robin is a true flycatcher; and I have often watched a pair hawking at insects on the wing, and returning to their post on a stone or tree-stump at the water's edge.

90.—*Calliope pectoralis*, Gould. (513.)

I received specimens of this bird both from Darel and the Deosai plain. My largest specimen has a wing of exactly three inches. Through some mistake in my former paper it was stated to measure 3.25 inches.

92.—*Cyanecula leucocyanea*, Brehm. (514 bis.)

It may be useful here to mention that in 1874 I found this species very common on both sides of the Digar pass, between the Nobra and Indus valleys, during the last week of June. With the exception of the specimen secured by Dr. Scully, I never saw another of the species in Gilgit.

93.—*Acrocephalus dumetorum*, Blyth. (516.)

Out of twenty-four specimens brought away from Gilgit, I find that nineteen were procured in August (mostly in the latter half of the month), and the remaining five in the first half of September. In the summer of 1880 they first appeared in Gilgit on 22nd August.

93 a.—*Locustella straminea*, Severtz. (520.)

I shot an adult female of this species on 1st September, and saw another on the following day. Length, 5.75 inches; wing, 2.2; tail, 2.12; tarsus, 0.74. Irides dark brown; legs fleshy red.

97.—*Phylloscopus lugubris*, Blyth. (558.)

This species must be expunged from the Gilgit list.

99.—*Phylloscopus tytleri*, Brooks. (560 bis.)

I obtained altogether three specimens, in May, June, and August; so it no doubt breeds in the district. I also got it in Astor in May.

103 a.—*Reguloides proregulus*, Pallas. (566.)

I obtained three specimens, two females and one male, in Gilgit, in January.

105.—*Regulus cristatus*, Koch. (580.)

I procured three specimens in June at an elevation of 10,000 feet, in a valley leading towards Darel. I also procured specimens in the Astor valley, where it appears to be

common in July and October. A male measures:—Length, 3.75 inches; wing, 2.12; tail, 1.3; tarsus, 0.62. The female is slightly smaller.

105 a.—*Sylvia jerdoni*, Blyth. (581.)

I somehow overlooked this species in my former list of the Gilgit birds. I procured two specimens, a male, on 6th September, in immature plumage, and a female, on 11th June, in full plumage with black cap. The irides of both were pale yellow.

106.—*Sylvia affinis*, Blyth. (582.)

107.—*Sylvia althæa*, Hume. (582 *ter.*)

Out of thirty-two specimens six are of the *S. althæa* type, thirteen of the *S. affinis* type, and the rest are of intermediate forms. From Iskardo and Ladakh I have specimens of *S. althæa*, and from Darel of *S. affinis*.

109.—*Henicurus scouleri*, Vigors. (587.)

Two young males, shot on 12th September, at 11,000 feet elevation, have the throat and breast white, sullied with dusky markings, and the forehead black. A female, shot on the 23rd September, at 9,000 feet, has the throat black, with a few white feathers showing on the chin, and the forehead partly white. The change of colour on the breast appears to be due to a change in the colouring of the feathers, but on the forehead to a moult of feathers, as small white feathers can be discerned growing under the black feathers on the foreheads of the two younger specimens.

112.—*Motacilla alba*, Lin. (591 *ter.*)

I obtained two specimens in February, and two in December. Two young birds of the year, shot in September, show a considerable amount of yellow about the face and neck.

116.—*Budytes calcaratus*, Hodgs. (594.)

I procured specimens from Darel and Deosai in July, and from the Shandur plateau in August.

117.—*Budytes citreolus*, Pall. (594 *bis.*)

I got two specimens, in Gilgit, on the 3rd and 4th August. I also got specimens from Darel and Deosai in July.

It is somewhat strange that, out of over 200 specimens of Green Wagtails, neither Dr. Scully nor myself procured a single specimen of *B. flavus*, Lin., which species I obtained in Wakhau in April 1874.

120.—*Anthus rosaceus*, *Hodgs.* (605.)

I procured two adult specimens in July from Darel.

121.—*Anthus cervinus*, *Pallas.* (605 *bis.*)

In addition to the specimens previously recorded I procured two on 21st and 22nd October.

123.—*Cephalopyrus flammiceps*, *Burton.* (633.)

I obtained specimens in June and September. The general colouration is paler than in specimens sent me by Mandelli. Birds in full adult plumage appear to lose the yellowish-green margins of wing and tail-feathers.

124.—*Leptopceile sophiæ*, *Severtzoff.* (633 *bis.*)

I was mistaken in supposing this to be a winter visitor only. In June I procured a number of specimens of both sexes at an elevation of 10,000 feet in a secluded valley close to the Indus, where they were doubtless breeding. The males at this season have the whole abdomen vinous purple, without the buff space in the centre that all winter specimens show; the colouring of the head is also more vivid.

125.—*Ægithaliscus leucogenys*, *Moore.* (634 *bis.*)

I obtained several specimens from the Darel valley.

127.—*Lophophanes rufonuchalis*, *Blyth.* (640.)

The amount of rufous in the nuchal spot appears in some degree seasonal. Two winter-killed specimens show much more rufous than any procured in summer. I procured this Tit also from Darel.

129.—*Accentor nipalensis*, *Hodgson.* (652.)

Captain Wardlaw-Ramsay has shown me specimens of M. Severtzoff's *A. rufilatus*, which are identical with Gilgit specimens of *A. nipalensis*. It would appear as if *A. alpinus* and *A. nipalensis* were only the two extremes of one species, which are bridged over by intermediate forms, in the same way as the eastern and western forms of *Trochalopteryx lineatum*.

131.—*Accentor jerdoni*, *Brooks.* (654 *bis.*)

I procured this species both from the Deosai plain and the Shandur plateau.

A. rubeculoides does not appear to extend further westward than the Astor valley, where I have procured it.

139.—*Corvus frugilegus*, *Lin.* (664.)

Earliest autumn appearance in Gilgit on the 19th October.

147.—*Temenuchus pagodarum*, *Gmel.* (687.)

I got altogether five specimens during four summers I spent in Gilgit—three in May and two in June.

149.—*Passer indicus*, *Jard. & Selby.* (706.)

During the winter of 1880-81 which was not a severe one, I procured a few specimens, all males. They were, however, scarce.

152.—*Emberiza leucocephala*, *S. G. Gmel.* (712.)

The earliest specimens were observed on the 11th November, and the latest on the 3rd March, but it was only in December that any quantity was obtained.

154.—*Emberiza stewarti*, *Blyth.* (718.)

I procured a single specimen, a female, in December, in Gilgit. With this exception, no other specimen was observed later than 4th October.

155.—*Emberiza buchanani*, *Blyth.* (716.)

I received specimens of this Bunting from the upper part of the Yassin valley, near the foot of the Shandur plateau, in August. In the Gilgit district I never saw it except in September.

158.—*Euspiza luteola*, *Sparrm.* (722.)

I procured a male in adult plumage on the 19th May; no others were seen at the time. In August I procured a male and female, and in September two males, all four in immature plumage. I also procured a male and female, in August, from Yassin, at an elevation of over 10,000 feet.

I have examined the *Euspiza* mentioned by Dr. Scully (*Ibis*, 1881, pp. 575, 576), as appearing to belong to this species. Several of my immature specimens show the same difference in measurement between the longest secondaries and longest primaries, and three specimens also show slight spots on the breast, though in none are the spots so large and conspicuous as in Dr. Scully's specimen. The bird is, however, so like *E. luteola* in every other particular that I cannot believe it to belong to another species.

162.—*Erythrospiza mongolica*, *Swinh.* (732 *bis* A.)

I obtained a male in breeding plumage in June, at an elevation of 9,000 feet. The two wing-patches, which in other specimens are dusky-white, in this are pure white, while the tips of the larger coverts, which are of a faint rose-colour at

other times, are bright carmine. The underparts are washed with bright carmine instead of faint rosy, as at other seasons, and the rump and supercilium are bright rosy. Out of a large number of specimens obtained by Dr. Scully and myself, this is the only one in this stage of plumage, when it differs so greatly from those obtained at other times of the year, that it might almost pass muster as a different species. Mr. Seeböhm's collection contains several similar specimens from Central Asia. As my collection contains a number of specimens shot within a few days of this one, and which, though much brighter than ordinary winter specimens, do not show any thing like such bright markings as this one, I am inclined to think that this plumage is not assumed by adult males till after the second moult, that is in the third year of their existence. The males of the *Propasser* and *Carpodacus* group, as far as is known, all breed in female plumage the first year, and there is no reason why some such delay in assuming full breeding plumage should not similarly occur in the *Erythropiza* group. The colouring of *E. githaginea* appears to undergo a somewhat similar change.

Gould's plate in pt. xxix. of the "Birds of Asia" shows a male in the plumage I have described, and a female in winter plumage. The figure in David and Oustalet's "Oiseaux de la Chine" is of a specimen in winter plumage.

166.—*Propasser blythi*, *Sp. nov.* (744.)

I obtained altogether two males and five females of this species in a secluded valley close to the Indus. The males agree with Blyth's type of *Propasser frontalis* in the Calcutta Museum. Blyth first described this species in the "Journal of the Asiatic Society" for 1863; but in his Appendix to the "Birds of India," Jerdon writes that Blyth had ceased to regard it as specifically distinct from *P. thura*. It is, however, certainly distinct, and has a wing averaging from .10 to .25 inch longer, both in the male and female. The whole colouration is fainter and softer, and the general ground-colour of the upper parts is dull earthy brown, unminged with rosy, instead of dark rufous brown as in *P. thura*, or dark crimson-brown, as in *P. rhodopeplus*, while the bill is finer and less Pyrrhuline. The female has the underparts and rump tinged with pale yellowish chestnut, which in *P. thura* are deep reddish chestnut, and the upper parts and wings are free from any tinge of rufous.

Blyth's specific name has, unfortunately, been given to a Rose Finch in North America. The generic distinctness of the *Carpodacus* and *Propasser* groups does not appear well

marked in all species, and a different classification must some day be found necessary. Under the circumstances I would suggest the name of *Propasser blythi* for this species.

In the Rose Finch group there is extremely little variation between individuals of a species; but written descriptions of the three species, *P. thura*, *P. blythi*, and *P. rhodopeplus*, are necessarily so similar that, without comparison, a collector must find it difficult to discriminate any single one of the three. Some guidance appears to be furnished by the wing-measurements of the males, which are as follows:—*P. blythi*, 3.25 to 3.4 inches; *P. thura*, 3.15 to 3.3; *P. rhodopeplus*, 3 to 3.1. The feet and tarsi of *P. blythi* are also more slender than in the other two species. Still greater difficulty exists in discriminating the females; nor are their measurements so sure a guide as in the males, by reason of males of the first year being classed as females when not sexed by dissection.

169.—*Metoponia pusilla*, Pallas. (751.)

I procured a number of specimens from the Shandur plateau between Yassin and Chitral. Having now a large number of immature specimens, I see that my former assumption of the adoption of the red feathers in the fall during the first year was incorrect. The black breast and golden markings to the wing-coverts are assumed in the first year during the autumn; but the red head is not complete till after the first breeding season. I have a specimen shot on the 7th June which barely shows any trace of red on the head, though in other respects the adult plumage is complete.

170.—*Linaria brevirostris*, Gould. (751 bis.)

As before mentioned (*Ibis*, 1881, pp. 86, 578), I did not meet with this Linnet anywhere in the district during 1876, 1877, 1878, and the first eight months of 1879. It suddenly appeared in the autumn of the last-mentioned year, when Dr. Scully procured a large number of specimens. I subsequently procured adult examples in Gilgit in June and September, and my collector brought back twenty-two specimens from the Shandur plateau in August.

171.—*Linaria cannabina*, Lin. (751 ter.)

Both our Gilgit Linnets appear to be capricious and uncertain in their movements. During the four winters through which birds were collected by Dr. Scully and myself this species was only seen in the winters of 1877-78 and 1879-80, but was not seen during the winters of 1878-79 or 1880-81.

175.—*Calandrella brachydactyla*, Leisl. (761.)

I procured numerous specimens from the Deosai plain in July, and from the Shandur plateau in August. It appears to breed in both places. Five specimens, procured in Astor, and higher up the Indus, near Iskardo, appear paler than others.

176.—*Melanocorypha bimaculata*, Ménétr. (761 ter.)

During the last winter I was at Gilgit this species was common from the 10th November to 21st December.

179.—*Otocorys penicillata*, Gould. (763.)

I obtained three adult specimens and a number of young birds from the Shandur plateau in August, which is, no doubt, a breeding-ground of the species. The young are spotted, like the young of other species of *Otocorys*. They appeared in Gilgit for the first time on 14th October, and in considerable numbers. My specimens of *O. longirostris* completely bear out Dr. Scully's remarks (*Ibis*, 1881, p. 580). I first procured the species in the Pangong district in 1873, and later on the Burzil pass in 1876 and succeeding years. I have six males and two females from the latter place, three males and four females from the Deosai plain, and three males and three females from the high ground between Gilgit and Darel, but from the Darel side of the watershed, so it cannot be counted among the Gilgit species. None of these specimens could possibly be mistaken for *O. penicillata*. The Horned Larks are excellent eating.

189.—*Turtur ferrago*, Eversm. (792.)

I obtained young birds of this species, in Gilgit, as late as 19th October.

191.—*Turtur cambayensis*, Gmel. (794.)

I procured altogether four specimens of this Dove, two in January, one in March, and one in October. In all, the rump and upper tail-coverts are brown, like the back.

192.—*Turtur suratensis*, Gmel. (795.)

I procured specimens of this Dove from the 7th October to 18th April.

192 a.—*Turtur humilis*, Tem. (797 bis.)

A single specimen, a male, was brought to me on 23rd June by a native, who shot it in the middle of Gilgit, and said that he had seen a pair of them. The measurements were as

follows :—Length, 9·95 inches ; wing, 5·7 ; tail, 4·1 ; tarsus, 0·9. Legs blackish purple ; irides dark brown.

This bird is the true *T. humilis* of Temminck, as is shown by Lord Walden in his paper on the “Birds of the Philippine Islands” (Trans. Zool. Soc., IX., pp. 219, 220). It is darker and richer in colouring than the Indian Red Dove, which stands as *T. tranquebaricus*, Herm., and has the under wing-coverts dark ashy. The most distinctive point is in the size, *T. tranquebaricus* averaging 9·25 inches in length, with a wing 5·2 (STRAY FEATHERS, IV., p. 292).

I have examined the series in the British Museum, and the difference between the two species holds good throughout, a specimen from Amoy being undistinguishable from the Gilgit specimen. In the Museum series are several of this species obtained in Nepal by Mr. B. H. Hodgson. One of them is labelled “*Æ. murmensis*, Hodgs.,” printed by mistake *Æ. murvensis* in the “Zoological Miscellany,” p. 85, and corrected by Mr. Hodgson in his own handwriting in the British Museum copy. Giebel, in his “Thesaurus Ornithologiæ,” (sub voc. *Turtur humilis*), and Bonaparte, in “Comptes Rendus,” XLI., p. 659, misprint this specific term *muroensis*.

192 b.—*Pterocles arenarius*, Pallas. (799.)

I secured a single specimen, a female, in the Sai valley, on the 19th December. No others were seen.

198.—*Ægialitis cantiana*, Latham. (848.)

I procured a male in adult plumage on 13th August.

199.—*Ægialitis philippensis*, Scop. (849.)

Ægialitis curonica, Gmel.

I shot a number of specimens of this Plover in the first half of August.

200 a.—*Ægialitis jerdoni*, Legge. (850.)

I procured two specimens of this Plover, both females, one on the 11th May, and the other on the 27th September. It differs from *Æ. curonica* in the basal half of the lower mandible being yellow, in the absence of a black frontal band next to the bill, and in having a fleshy-yellow ring to the eyelids. It is also slightly smaller, and the female is smaller than the male ; whereas in *Æ. curonica* the female is the larger.

208 a.—*Ibidorhynchus struthersi*, Vigors. (879.)

On the 6th August I procured a young female in immature plumage in Gilgit.

209.—*Machetes pugnax*, *Lin.* (880).

I obtained four specimens in the beginning of August, and observed others. They all show dark markings on the breast and flanks.

209 *a.*—*Tringa acuminata*, *Horsf.* (883 *bis.*)

I shot a single specimen, a male, in adult plumage, in Gilgit on the 1st August. It was flying about with a number of *Machetes pugnax*. It measured:—Length, 8·75 inches; wing, 5·25; tail, 2·5; tarsi, 1·3; culmen, 1·05. This is, I believe, the first notice of the occurrence of this species so far to the westward, or within Indian limits. It was first described by Horsfield from Java, in 1821, in the following terms:—“*Supra fuscus, plumis dorsalibus ferrugineo tectricibus griseo marginatis; subtus albidus, pectore sublutescente, reetricibus acuminatis.*” It was afterwards figured by Gould in his “*Birds of Australia*” under the name of *Schoenichus australis*. Swinhoe met with it in North China, where it was very abundant in August (*Ibis*, 1863, p. 412). He states that at the end of August it goes southward along the coast and returns in May. The measurements he gives are smaller than those of my specimen, *viz.*:—Length, 8·4 inches; wing, 4·9; tail, 2·3; tarsi, 1·2; culmen, 1.

In breeding plumage this species is easily distinguishable from *T. alpina* by the abdomen being pure white, sparingly spotted with light brown, whereas *T. alpina* has the whole abdomen dull black. *T. acuminata* also has the ground-colour of the upper breast rufous, with large dark-brown spots, while *T. alpina* has a faint rufous tinge in some specimens only, with small streaks. The best point of distinction is in the tail-feathers, all of which are pointed in *T. acuminata* (whence the name), while in *T. alpina* only the central ones are pointed.

210.—*Tringa subarquata*, *Güld.* (882.)

I shot three adult specimens, all females, on the 2nd and 9th August. The entire underparts are rufous, with black markings in two out of the three specimens. One shot on the 4th September has completely assumed the winter plumage.

211.—*Tringa minuta*, *Leisl.* (884.)

I obtained two specimens in Gilgit in the middle of August.

212.—*Tringa temmincki*, *Leisl.* (885.)

I obtained one specimen in July, and a great number in August.

213.—Totanus glareola, Gmel. (884.)

This Sandpiper was extremely plentiful in Gilgit for ten days in the beginning of August, when I secured several specimens. With one exception, they are much spotted beneath.

315.—Tringoides hypoleucus, Lin. (893.)

I obtained an adult male from the Deosai plain in July, and two immature birds and one adult in Gilgit on 7th, 17th, and 25th August. The young birds are almost entirely white on the underparts of the neck and breast, and have the wing-coverts completely covered with fine banded markings of black and reddish brown.

216.—Totanus glottis, Lin. (891.)

I procured three specimens, in Gilgit, on the 10th, 14th, and 17th August.

218.—Totanus calidris, Lin. (897.)

I procured three specimens, all males, in summer plumage, in the beginning of August.

219.—Himantopus candidus, Bonn. (898.)

A specimen shot in Gilgit, 10th August.

229.—Ardeetta minuta, Lin. (935.)

During the summer of 1880 I procured two specimens in Gilgit—one, a male in full plumage, in July, the other, a female in immature plumage, on 29th August.

230 a.—Falcinellus igneus, S. G. Gmel. (943)

I procured a young male, in nearly full plumage, on the 16th September.

245.—Larus ichthyaetus, Pallas. (979.)

In my former paper on the birds of Gilgit (*Ibis*, 1881, p. 101), under the name of *L. affinis*, Reinh., I noticed a specimen obtained 26th August, 1876, which has since been pronounced to belong to *L. ichthyaetus* by Mr. Howard Saunders, who has favoured me with the following note:—

“This specimen is a bird of the first year, just going to moult; that is to say, it was hatched about June 1875; its plumage is, therefore, rather more than a year old, and is consequently considerably worn and abraded. All immature Gulls of the same size are somewhat alike at the first glance; but *L. ichthyaetus*, jr., may be distinguished by the following characteristics:—In *L. affinis*, *L. fuscus*, *L. argentatus*, &c.,

the tips of the secondaries are edged with white, forming a band, but in *L. ichthyaetus* not only the tips, but *both edges* of the secondaries are *distinctly margined with white for a long way up each feather*. Again in *L. ichthyaetus* the tail presents a *broad uniform dark band* (only the outer feathers being edged with white), whereas in *L. affinis*, &c., the tail is *mottled* with dark markings, and the *band* is completely *broken up*. Other points of difference exist, but to describe them would only be confusing, as the above are ample for recognition.

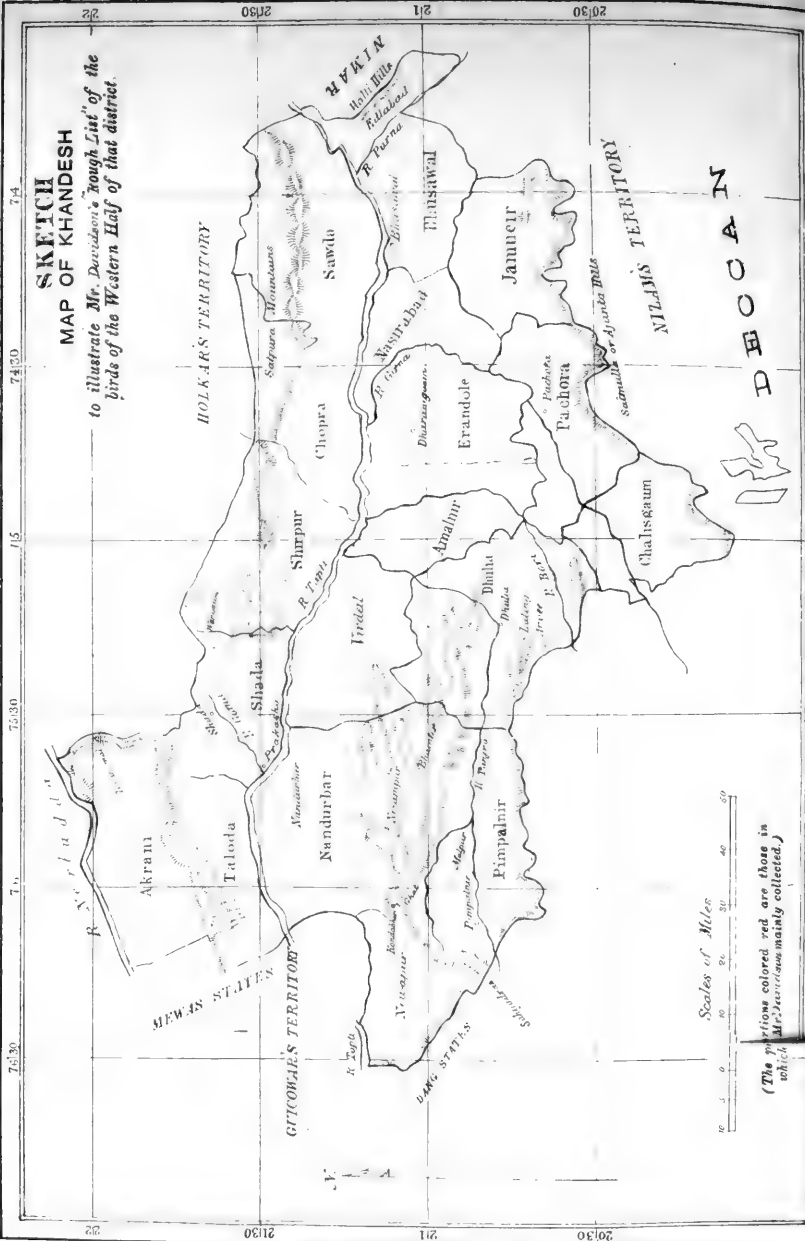
“I have not as yet been able to examine a young bird of the same year as that in which it was hatched, when the plumage is fresh. Another “link” which is missing is the stage between the following April, when the mantle is mainly grey, but the wings and tail are brown, and the *spring after* that, when the mantle is wholly grey, but there are still some brown mottlings on the carpals and primary coverts and a little dark on the tail; the black hood is then assumed for the first time.

L. ichthyaetus must, therefore, be substituted for *L. affinis* in the list of Gilgit birds.

246.—*Gelochelidon anglica*, *Mont.* (1983.)

I secured an adult male passing through on 1st August; the black of the head is changing to the winter stage of plumage. Two days later I secured a young bird of the year; the head is white, marked with brown streaks, and the whole back is smeared with brown.





**SKETCH
MAP OF KHANDESH**

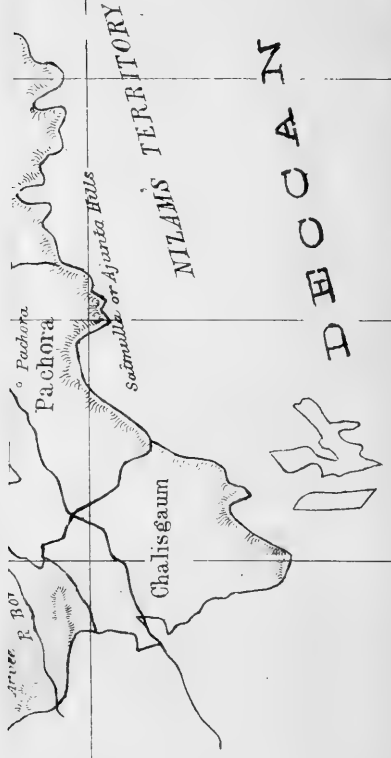
to illustrate Mr. Davidson's "rough List" of the birds of the Western Half of that district.

Scales of Miles
0 10 20 30 40 50

(The portions colored red are those in which Mr. Davidson mainly collected.)

20°30' 21° 21°30'

74°30' 75° 75°30'



Rough List of the Birds of Western Khandesh.

By J. DAVIDSON, Esq., B.C.S.

AFTER many applications it suited the convenience of a paternal Government, in October 1879, to transfer me to Khandesh, and from that time till May 1881 I was on duty there. Unfortunately my work was confined to the western part of the district, and I was unable even to visit the major portion of the eastern talukas. Still what I saw gave me a very fair idea of the ornithology of the western half, at any rate, of this great district, and I managed to pick up a considerable number of specimens both of birds and of eggs. The results of this year and a half's observations in Khandesh I now chronicle at the request of the Editor.* At the same time I must caution every one, indulgent enough to read through it, that the subjoined list does not pretend to be an exhaustive one, even of those parts of Khandesh which I have visited, much less of the ornithology of Khandesh as a whole, as, up to the very last day of my stay, I hardly passed a week without meeting with species new to me. It may, however, be of use to any one subsequently visiting the district, and is, so far as it goes, as accurate as I can possibly make it.

Khandesh, the largest of the Collectorates in the Bombay Presidency, was, when we obtained it in 1818, in great part almost uninhabited. Though once well cultivated, successive wars and raids by the Pindarees and the Holkars had prevented the villagers cultivating, and vast tracts having lapsed into jungle were then only inhabited by a few wandering Bheels and by wild animals, who proved most unpleasant neighbours to any adventurous settlers and their cattle. It was then a perfect paradise for sportsmen. Now, settled Government and increase of cultivation and population have, in sixty years, transformed these wild jungles into a huge black soil plain, crowded with villages, and covered, as far as the eye can reach, with wheat and cotton fields, and inhabited by a peasantry better off, less discontented, and in every way superior to that of any other part of India, I have ever served in.

The original kingdom of Khandesh was a huge slice of country comprising, outside the present limits of the district, the western portion of Nimar on the east, and the greater part of the Nasik Collectorate on the west.

The present district consists of a long strip of land following the river Tapti for over one hundred and sixty miles, and

* Up to date nothing has ever been put on record concerning the Ornithology of Khandesh.—ED., S. F.

varying in breadth from fifty to a hundred miles at various parts. There are, in addition, nine or ten Dang States in the extreme west of Pimpalnir, and also five or six Mewas States west of Taloda included under the Khandesh Political Agency. As I have never visited any of these States, they are not included in the annexed sketch map.

Khandesh naturally divides itself into three parallel belts extending from east to west. The northern consists of the Satpuras, the central of the plain valley of the Tapti, and the southern of the Satmullas or Ajunta hills, and the ranges extending from them, spreading out on the west to the tableland of Nizampur, and the many barren ranges of hills in the western half of the Dhulia taluka.

The Satpuras consist of a series of ranges of hills thirty or forty miles broad, and form the northern boundary of Khandesh.

In the eastern portion, *i.e.*, in Sawda, Chopra, and East Shirpur, only the outside ranges and the spurs from them are now in Khandesh, Lord Lytton's government having presented *nearly 200 square miles of country, and that containing the best forests in Khandesh*, to the Maharajah Holkar, presumably in return for his conspicuous loyalty in 1857. The Satpuras, as we proceed westwards, diminish in width while increasing in height, and only the spurs are in Khandesh along the borders of the Shada taluka. When they reach Taloda they break into two branches—one, the highest, stretching south-west through Taloda, while the other, a much lower range, skirts the Nerbudda, there the boundary of Khandesh; between these lies the tableland of the Akrani.

The rainfall is considerable all through the Satpuras, and the talukas north of the Tapti hardly ever suffer from want of rain. In the Akrani itself the rainfall is excessive.

The Satpuras, though of trap rock, are, as a rule, well wooded, large areas being under forest management as reserved forest. Nearly every tree found in Western India is found growing there, and though the commonest tree is the worthless "Salai" (*Boswellia thurifera*), the beautiful blue Anjan (*Hardwickia binata*) is found abundantly through Shirpur and Chopra, and again along the Nerbudda. Khair (*Accacia catechu*) is also abundant through the hills, and there is a great deal of good teak, particularly in the western forests. The best forests are those forming the Toran-mal reserve, consisting of over 160,000 acres, but owing to the difficulty of transport they are not much worked. Some of the trees in the valleys there are very fine. In the central part of the Akrani there is a great deal of cultivation, the people there being mainly Powra Rajputs. These are capital husbandmen and live in scattered

homesteads, and not as most cultivators do in villages. The Akrani is a high tableland, being from 1,600 to 2,500 feet above the sea, and gradually sloping down to the Nerbudda, there a very rapid stream rushing through a deep gorge in the hills. The highest point in the Akrani is Toran-mal hill, about 4,000 feet high, a charming place when you can manage to get at it, with a very old artificial lake over a mile in circumference. The heavy rainfall throughout the Satpuras causes the grass to grow excessively long, and it is almost impracticable to traverse them till February or March, when the grass gets burnt. By that time the Bheels, who find that the long grass interferes with their gathering honey, roots, &c., in spite of piles of legislation manufactured at Simla and Mahableshwar decreeing the most terrible penalties for lighting a fire within miles of a forest, manage to have every yard of grass burnt every year. The hills contain a number of Mhowa trees (*Bassia latifolia*), which in the season furnish the staple food of the Bheels as well as of many of the wild animals and birds.

The central belt of Khandesh consists, as a rule, of deep black soil, producing capital crops of wheat, cotton, gram, and the various millets, the latter being the staple food of the poorer classes everywhere. In all the central and eastern talukas the whole plain is practically under cultivation, but in the north of Shada and in West Nandurbar and Taloda, as well as in the black soil portion of Pimpalnir below the ghats (Nowapur), a great deal of land is still covered with jungle. In Shada this is very poor, and consists mainly of stumpy Khair trees. In Taloda and Nandurbar however the "Palas" or "Dhak" (*Butea frondosa*) is the principal tree, and the jungles there are lovely in the beginning of the hot weather, when the "Palas" is in flower. There is some very fine "Khair" mixed with the "Palas" in the Nowapur country below the ghats. Except along the Tapti river there are, as a rule, mango and tamarind groves round most of the villages, and in many places there are gardens, some of them extensive, affording cover for small birds. Most of the sides of the roads in Khandesh have been planted, and some of the avenues, though almost entirely composed of "Neem" trees (*Azadirachta indica*) are exceedingly fine, and give the country a very green, wooded look.

To the extreme east of the district, there are the Halti hills on the further side of the river Purna, adjoining extensive reserve forests in Nimar. These are mainly skirted by dense babool jungle, and the best shooting in the district is to be got there.

The southern belt of the country consists of the Satmulla or Ajunta hills, with numerous spurs stretching out from them.

They form the boundary between Khandesh and the high tableland of the Deccan. There are a few villages of the Chalisgaum taluka above the ghats on the Deccan plain, and entirely surrounded by the Nizam's territory; but, as a rule, Khandesh only reaches the edge of the hills. In the west of Pimpalnir the Sahyadra range reaches into Khandesh, separating Nowapur from the rest of Pimpalnir. Ranges of hills pass from them along the south of the Pimpalnir and Dhulia talukas, separating them from Nasik, and spreading out all over the Dhulia taluka. These are extensively clothed in places with "Anjan" trees, but they are not good, and have been much cut as food for cattle—a practice which, however, is now strictly prohibited. Other ranges from the ghats spread through Nizampur, separating Nandurbar from it, and passing through the north of the Dhulia taluka. Nizampur is consequently entirely enclosed among these ranges and forms a barren tableland. The soil throughout this part of the sub-division, except along the small rivers, is very poor, and will not bear a crop more than two years consecutively. There are large areas uncultivated; much of this is, nominally, Government forest, but the barren hills and stunted shrubs do not deserve the name. Along all the Pimpalnir and Dhulia rivers there are old "bandharas" opposite nearly every village, forming a small tank at which the village cattle drink, and irrigating some village lands below. These are kept up by Government, and dependent on the water are extensive gardens growing wheat, sugarcane, rice, and other crops, though the amount of rice is very small. There are also large mango groves around almost all the large villages along the Panjra, forming a grand breeding ground for *Syrnium ocellatum*, *Ketupa ceylonensis*, and *Ocyeros birostris*, all of which are common throughout this part of the district.

The rainfall is scanty in the central and southern parts of Khandesh, though none of the districts have ever suffered from want of rain so much as the neighbouring Deccan districts. The rainfall from 1861 to 1871 averaged from 20 to 30 inches, the heaviest rainfall being at Pachora, and the least at Virdeil. Khandesh is a very hot district, (not only in the black soil plains but throughout the Satpuras,) the thermometer in March, April and May frequently rising to from 105° to 111° in the shade; the nights, however, are generally fairly cool, except in the early part of the rains. In spite of all that is said to the contrary, except in the western parts of Pimpalnir and Nandurbar, the climate is fairly healthy, both to Europeans and Natives, if moderate care be taken; a visit, however, to West Nandurbar or Pimpalnir, except in the hot weather or early rains, is almost certain to be followed by bad malarious fever.

Khandesh was originally one of the best districts for big game shooting in the presidency, and very large bags were frequently made. The great increase of cultivation, and perpetual persecution, have however vastly diminished the amount of game; still from 1865 to 1879, inclusive, there were 193 tigers and 658 panthers killed in the district. At present tigers, once found all over the district, are very few and are restricted to the Satpuras and the babool jungles east of the Purna; single animals are, however, occasionally found in the west of Nandurbar, the Kondabhari Ghat of Pimpalnir, and sometimes even among the Ajunta hills. Panthers are, on the other hand, fairly common along all the rocky hills, except in the four central districts—Amalnir, Erandole, Nasirabad, and Virdeil. There are a few hunting leopards and lynxes in the Satpuras, but they are very scarce.

Bears, originally very common, have diminished much lately. They have been practically exterminated in Pimpalnir, where they formerly abounded, and have become scarce everywhere except in the Akrani.

Bison are found in considerable herds in the Akrani all the year through, and they visit the Khandesh Satpuras in the rains and cold weather, but, except in the Akrani, they are seldom found within Khandesh limits at other seasons.

Sambur, though in diminished numbers, are found throughout the Satpuras and Satmullas, and occasionally about the Kondabhari Ghat.

Cheetul (*Axis maculatus*) were formerly very common in the jungles east of the Purna river, but were so persecuted during the making of the Great Indian Peninsula Railway that they almost deserted the district. There are still a good many in the babool jungle in Edlbad, and a few small herds in Shada and Shirpur, and I believe one herd in the Ajunta hills. Barking Deer (*Cervulus aureus*) are not common, but I have seen them in various places in the Satpuras.

Chinkara (*Gazella bennetti*) are common through all the rocky hills; there are a few herds of Antelope (*A. bezoartica*) spread about the plain country, and a few, I believe, are occasionally met with in the Deccan villages beyond the ghats in Chalisgaum.

Nilghai (*Portax pictus*), formerly abundant everywhere, I am told, are now restricted to the edges of the hills. There are a few still in Nizampur, and a herd visit the Koorans near Dhulia every rains.

Pig are common in the hilly country, but the ground makes riding them almost hopeless. Jackals are decidedly scarce, but there are loads of foxes and hares, and the country is in many places very well-suited for coursing.

The small game shooting is not very good. Some years

there are a good many Quail, and I had very nice shooting at them one April in the Shada and Taloda talukas in the bazri stubbles. They are however local, but the shooting is very nice when they are numerous, varied as it is by Painted Partridges, a few of which generally find their way into the bag everywhere.

There are few marshy places and not many tanks in Khāndesh, and except the Mukhti and Pawla tanks none are large. With the exception, however, of the Mukhti tank, which is rocky and has no feeding, they are generally well stocked with Duck and Teal. In Nizampur, particularly, some of the small tanks are very good, and as the native community there, reverencing the order of some forgotten superintendent of police not to disturb the Duck, reserve the shooting for the sahibs, capital sport may occasionally be got. The tanks, however, are very small, and will not stand more than a couple of days shooting at a time, but the sport is good. One day I fired between 80 and 90 shots without moving, having waded out and got shelter behind a small bush.

The results were disappointing, as not having a dog, and no attempt being made to pick up the slain till I had exhausted all my cartridges, the wounded birds got lost in the reeds or swam out to the deep water, and we only picked up 33 or 34 Duck. There are few Snipe round the tanks, and few other places where they are found. I have never got more than ten brace in a day, and that only on one occasion.

There are a few places also on the Tapti where Duck may generally be found, and fair shooting can be got at them, particularly if you have a boat and let it drift down the middle of the stream, as the Duck and Teal keep passing within shot being unwilling to leave the river. Sandgrouse are fairly common through the plains, and there are Peafowl in all the jungles, and a few Jungle Fowl in the Satpuras, but these can hardly be said to afford much sport.

Now, however, to turn to my proper subject, the list of Khāndesh birds; I find I have entered in all 294 species.

Of these, however, Nos. 9, 40, 118, 194, 211, 285, 492, 544*bis*, 705, 722, 842, 865, 908, 911, 934, and 1004 are entered as doubtful, as I have procured no specimens, and it is just possible that some mistake may have been made.

Of the remaining species, all those marked with an asterisk, 210 in number, have been submitted to Mr. Hume for verification, and he has kindly verified, and in a good many cases corrected, my identifications; the rest are mostly large and common species, about which there can be no doubt, and which were not considered worth sending. An examination of the sketch which accompanies this, in which the portions of the district

visited by me are marked in red, will show that, although much of the district has not been visited, yet, except in the southern portion, there is no type of country in it of which I have not seen samples, so that the list should contain a fair proportion of the birds of the entire district. These are, as a rule, what might naturally be expected from the position and type of country of Khandesh, but a few rare birds, such as *Salpornis pilonotus* and *Heteroglaux blewitti*, seem to have their headquarters there. The most noticeable deficiency is that of Thrushes and Bulbuls. Of the former I have seen two specimens of *Pitta brachyura*, while *Cyanocinclus cyanus* is moderately common among the rocky hills. I have, however, never seen such common Deccan species as *Myiophonus horsfieldi*, *Merula nigropilex*, *Petrophila cinclorhyncha*, and at least one species of *Geocichla*. Some of these probably do occur in the cold weather, but they must be rare, or I should have come across some of them. The only Bulbul I have seen is *Molpastes hamorrhous*. *Otocompsa fuscicaudata* I fully expected to find, but I certainly never came across it either in the Sahyadra range in Pimpaluir or among the Satpuras.

List.

2.—*Otogyps calvus*, Scop. The Black Vulture.

Permanent resident. Generally distributed throughout the district, but by no means common anywhere. As a rule appears to resort to the Satpuras to breed, numerous nests being found by me in March there, and without exception on high trees in thick jungle. The only other nest I found was on a high tree among scrub jungle at the foot of the Bhameir fort in Nizampur. This was in the beginning of January and the bird had not laid.

3bis.—*Gyps fulvescens*, Hume. The Bay Vulture.

Decidedly rare, but noticed by me on two or three occasions in the cold weather in Dhulia and Nandurbar.

4bis.—*Gyps pallescens*, Hume. The Long-billed Pale-brown Vulture.

This was the common Vulture of Western Khandesh, and breeds abundantly along the cliffs in the south of Pimpaluir, at the Bhameir fort in Nizampur, and also along the cliffs in the Satpuras. Some nests taken by me in the last week of December at the Bhameir fort contained either hard-set eggs or small young.

5.—Pseudogyps bengalensis, Gmel. The Indian White-backed Vulture.

Very rare, and only noticed on one or two occasions in the cold weather. I do not think it breeds anywhere in Western Khandesh.

6.—Neophron ginginianus, Lath. The Indian Scavenger Vulture.

Permanent resident. Common throughout the district ; breeding here almost invariably on cliffs. I have taken eggs from the beginning of February till May.

? 9.—Falco peregrinator, Sund. The Shaheen Falcon.

In December 1880 I noticed a pair of Falcons flying round one of the cliffs below the Bhameir fort, and calling vigorously. They were very red underneath, and I am sure were not Laggar Falcons. Unluckily I had not a gun with me at the time, and when I returned next day they were gone. It was very unlucky, as they let me watch them within 50 or 60 yards with a good glass. I have also seen Falcons among the Satpuras which I believe belonged to this species.

11.—Falco jugger, J. E. Gr. The Laggar Falcon.

Permanent resident. Moderately common through the Dhulia, Virdeil and Pimpaluir talukas. It is however scarce along the Tapti. Several nests were taken by me with eggs and young in January and February.

16.—Falco chiquera,* Daud. The Red-headed Merlin.

Permanent resident. Fairly common, particularly along the Tapti valley among the groves round the villages ; not nearly so common however as in Sholapur and the Deccan generally. Nests with eggs were taken by me in February and March.

17.—Cerchneis tinnunculus, Lin. The Kestrel.

A winter visitant. Not by any means very common, and none remaining to breed about the Satpuras or Kondabhari ghât.

23.—Astur badius, Gm. The Shikra.

Very common everywhere during the cold weather ; only noticed by me in the plains on one or two occasions during the hot weather, though on one they had a nest. It seems to migrate to the Akraui and higher Satpuras as a rule to breed. In

April it was breeding everywhere in the Akrani and along the higher ranges of the Satpuras ; and as the trees were then almost leafless, four or five of its nests could easily be found in a morning's work along the hill valleys.

24.—Accipiter nisus, Lin. The Sparrow-hawk.

A rare winter visitant I think. Only one specimen was obtained by me in the Dhulia taluka, but doubtless had I been shooting small Hawks as a rule, others would have turned up.

27bis.—Aquila nipalensis,* Hodg. The Eastern Imperial Eagle.

This Eagle is very abundant from November to April all along the plain at the foot of the Satpuras, and is generally distributed through the rest of the district, as far as I know it, during the cold weather. I have never been near the Satpuras later than the end of April, so cannot tell if this Eagle entirely leaves them. In April, however, they certainly appeared much scarcer. I saw no signs of their breeding anywhere.

29.—Aquila vindhiana,* Frankl. The Indian Tawny Eagle.

Permanent resident. Very common everywhere both along the jungles at the foot of the Satpuras and through the black soil and scrub districts. It breeds abundantly in November and December, and many are the nests I have taken, and the disappointments they have occasioned, particularly along the foot of the Satpuras, where, tempted by hope of a good reward, some Bheel would declare he had found a nest of the "bura jat" only a koss off, but always in an unridable direction, and after a walk of miles through long grass and up and down abominably steep-banked nullahs a nest would be pointed out, but alas ! in every case an unlucky *vindhiana* paid the penalty of being mistaken for its larger sister. Two fresh eggs were brought to me in the end of April from a nest on the south bank of the Tapti. It was not very far from my camp, but I was too done to go myself, and the man sent either missed or could not get the bird. If they belonged to this species they must have been a very late nest, but they may have belonged to *A. clanga*—a bird I have never actually procured in the district.

31.—Hieratus pennatus, Gm. The Booted Eagle.

This Eagle is rare, but I have seen it at all seasons of the year, so I suppose it must be a permanent resident. As its eggs are scarce, I took no end of trouble to look for nests, but never

found the slightest sign of its breeding. I have seen pairs very noisy in the cold weather, and in March I found a family of four or five at Koperlee on the Tapti; the young were, however, quite strong on the wing, and they may have bred elsewhere.

33.—*Nisaetus fasciatus*, Vieill. Bonelli's Eagle.

Rare; only noticed on two or three occasions in Pimpalnr, Nizampur and Nandurbar.

35.—*Limnaetus cirrhatus*,* Gm. The Crested Hawk Eagle.

This Eagle is a permanent resident, and very common in the Akrani and Satpuras, and fairly so along the ghats near Kondabhari. I have also noticed it on several occasions along the spurs of hill in the Nandurbar taluka. I have never seen it in the plain country. I have found many of its nests in February, March and April. In Khandesh it seems almost invariably to fix on a high tree growing on the bank of one of the dried-up nullahs along the Satpuras. The only other nest I found was on a huge banyan or peepul close to a large village, but overlooking a dried-up tauk (there was, however, loads of jungle up to the very village walls). In no case have I found it building two years running in the same nest, and one generally finds two or three nests of this bird (one only occupied) within a couple of hundred yards. Mr. Vidal says that he found it shy in Rutnagherry, and that if its nest was visited it was sure to desert it. I certainly have not found this to be the case. The very first nest I found was in December, and though I had the tree climbed every three weeks till February, it did not desert. I took an egg from this nest early in March, and even then the birds hung about the nest and laid again on the 22nd April. This second egg was, however, a very small specimen. Next year this pair of birds bred about 300 yards off on the bank of a dried-up nullah.

38.—*Circaetus gallicus*,* Gm. The Common Serpent Eagle.

Uncommon, but generally distributed in the cold weather. I have seen no sign of its breeding anywhere.

39.—*Spilornis cheela*,* Lath. The Indian Harrier Eagle.

Uncommon; and only noticed by me along the Satpuras and in West Nandurbar. Is probably a permanent resident, as a very richly-colored Eagle's egg was brought to me in April taken from a nest along a running nullah in the heart

of the Satpuras. The men who brought it, however, only produced it as I was leaving, and the distance was too great to send any one on the chance of the bird being still about the nest. It, therefore, like many other good eggs, had to be thrown away. I think however it probably belonged to this species.

? 40.—*Pandion haliaetus*, *Lin.* The Osprey.

A large whitish Eagle was not uncommon along the Tapti hovering over the river, which I believe to have been an Osprey. I unfortunately have not got a specimen.

48.—*Butastur teesa*, *Frankl.* The White-Eyed Buzzard.

Permanent resident. It breeds all over the district, but is not as common in Khandesh as in the Deccan. Nests were taken in March and April in the plains, the Satpuras, and Akrani.

51.—*Circus macrurus*,* *S. G. Gm.* The Pale Harrier.

Winter visitant; is exceedingly common; the earliest specimen I remember seeing was on September 4th, and the latest on 8th April.

52.—*Circus cineraceus*,* *Mont.* Montague's Harrier.

Winter visitant; common; but not so common as *macrurus*.

53.—*Circus æruginosus*,* *Lin.* The Marsh Harrier.

Winter visitant; not uncommon but local, and generally confined to the river sides. Noticed as late as April 29th.

55.—*Haliastur indus*,* *Bodd.* The Brahminy Kite.

Permanent resident. Very local. Along the Panjra it is common, and breeds in February, there being a nest about every two miles along that river. Elsewhere, except along the Tapti, I have only noticed the bird about a dozen times.

56.—*Milvus govinda*,* *Sykes.* The Common Pariah Kite.

Permanent resident, very common, breeding from November to March and probably at other seasons.

57.—*Pernis ptilorhynchus*,* *Tem.* The Crested Honey Buzzard.

Probably a permanent resident; not common but certainly seen in all months, except March to June. No nests seen.

59.—*Elanus cæruleus*,* *Desf.* The Black-winged Kite.

This Kite, formerly rare in the Deccan, after the scarcity in 1876-77-78, became very abundant there, and when I was first sent to Khandesh in October 1879, I found it common all around Dhulia and through Virdeil, obtaining nests with small young and hard-set eggs in the middle of November. After that it seemed to disappear, and I don't think I saw half a dozen specimens during the last fifteen months I was in Khandesh. Now what became of all these birds? Did they go south and join the crowds of this species that had taken up their quarters in the Deccan; or were they like the Deccan birds merely new immigrants? And have these latter also again left? It would be most interesting to find out if the bird is still as common in the Poona and Sholapur districts now as it was in 1879.

60.—*Strix javanica*,* *Gm.* The Eastern Screech-Owl.

I have repeatedly come across single specimens of this Owl in the jungles, along the base of the Satpuras, and also in the Akrani in the hot weather. Elsewhere I think it is more or less migratory. In April 1880 I found between 30 or 40 in a small village grove in the Shada taluka, while there were certainly none there in December; and I have similarly come on little groups of say five or six on several occasions. Two eggs, said to belong to this Owl, were brought to me in the Akrani in April, and I saw an old well among some jungle where I was told they bred every year.

65.—*Syrnium ocellatum*,* *Less.* The Mottled Wood-Owl.

This Owl is a permanent resident, and very common in the mango groves everywhere. It breeds in December as a rule, but I obtained eggs at Bhadgaum as late as February.

68.—*Asio accipitrinus*,* *Pall.* The Short-eared Owl.

A winter visitant. Moderately common among the stubbles and grass fields.

69.—*Bubo bengalensis*,* *Frankl.* The Rock Horned-Owl.

This bird is common along the clay cliffs through the Satpuras, and also among the Pimpaluir hills, and along the

Tapti; elsewhere it is scarce. It is a permanent resident, and breeds early, eggs being taken by me in November, and young birds nearly able to fly early in December.

70.—*Bubo coromandus*,* Latham. The Dusky Horned-Owl.

Probably a permanent resident, but scarce. I only came across it twice, in both cases in December, breeding. The first nest I obtained contained a single egg nearly ready to hatch and a small young one, and was in the heart of the Satpuras. The second was in an old nest of *L. cirrhatus*. It had contained two fresh eggs, but I was only in time to find a large rock snake finishing the last mouthful of them.

72.—*Ketupa ceylonensis*,* Gm. The Brown Fish-Owl.

A permanent resident; found along all the streams in which the water runs till the end of March. It breeds in January, laying, as a rule, only one or two eggs. In one case, however, after waiting a week I shot a hen off a single egg. On skinning her I found a shelled egg ready to be laid, and a third full-sized egg which only wanted a shell, so that three eggs are occasionally laid. The Bheels have the greatest objection to this bird, and invariably try to kill it when they get a chance, and more than one pair, whose eggs I expected to obtain, I found had been killed or driven away by them.

74sept —*Scops brucii*,* Hume. Bruce's Scops Owl.

A Scops Owl is common in the Akrani and in the deep valleys running into the Satpuras. It is, however, a very silent shy bird, remaining all day in holes in trees, and very likely to be passed over. Several of its eggs were brought to me early in March, and loads of its young in April. The Bheels, however, could not or would not catch the old ones, and I never could get a chance of shooting one except when big game of sorts was supposed to be about, and I always put off shooting them with the usual result. A very young specimen, sent to Mr. Hume, probably belongs, he informs me, to this species.

76.—*Carine brama*, Tem.* The Spotted Owlet.

Permanent resident; common up to the edge of the jungles, but never seen by me in the Akrani or in the deep valleys of the Satpuras. Lays in March and April.

76bis.—Heteroglaux blewitti,* Hume. The Forest Owllet.

This bird was not discriminated by me, but three specimens were included among those of *brama* sent to Mr Hume. From the dates of the specimens I remember very distinctly about them. All were shot in the heavy jungle below the Satpuras, and all were shot late in the morning sitting alone on the tops of thin trees. This being such an extraordinary position for *brama* I shot the birds to make sure, but not having specimens of *brama* to compare them with, stupidly took for granted they were only *brama*. They are not uncommon in this dense jungle, and I have repeatedly seen others sitting on exposed trees. I do not think they are found in the Akrani or higher Satpuras, as I have never seen any Owl of the *brama* type there.†

77.—Glaucidium radiatum,* Tick. The Jungle Owllet.

I have once or twice noticed this bird during the cold weather in Nizampur and Nandurbar, but only as a casual visitant. It is a permanent resident in the ghâts in Pimpalnr, and is very abundant in the Satpuras and Akrani. It is a late breeder. In 1881 I took a great number of its nests in holes in moderate-sized trees from 15 to 25 feet from the ground.

82.—Hirundo rustica,* Lin. The Swallow.

A common cold weather visitant, but local.

83.—Hirundo flifera, Steph. The Wire-tailed Swallow.

Permanent resident. Common throughout the district. Breeds along all the rivers and nullahs over water from February to May.

85.—Hirundo erythropygia, Sykes. The Mosque Swallow.

Permanent resident. Common throughout the district. Breeds in the rains.

† The type of this hitherto very rare species was shot in December 1872 in the dense forests of the western portions of the Tributary Mehals (in N. E. Peninsular India) by my late lamented friend Mr. F. R. Blewitt. A second specimen was procured several years later by my friend Mr. Valentine Ball in Karial, still in N. E. Peninsular India, but about 150 miles south of where the type was procured. No more specimens had been obtained until my friend Mr. Davidson obtained the three referred to in the text in N. W. Peninsular India, 550 miles to the west of where the former specimens had been procured.—ED., S. F.

86.—*Hirundo fluvicola*,* *Jerd.* The Indian Cliff Swallow.

Resident from August to March, and probably all the year. It is very local, and I only found it in two or three places along the Panjra river. It bred in October, and again in January, in immense colonies.

89.—*Cotyle sinensis*, *J. E. Gr.* The Indian Sand-Martin.

Common in Taloda, Shada, and Nandurbar in the cold weather. I think it left the district in the hot weather, but find nothing about it in my notes and cannot remember. It bred abundantly along the Tapti in November and December.

90.—*Ptyonoprogne concolor*, *Sykes.* The Dusky Martin.

Permanent resident. Fairly common. Breeds in the rains.

91.—*Ptyonoprogne rupestris*,* *Scop.* The Mountain Martin.

Cold weather visitant; staying till late in the hot weather. Not very common, but noticed all through the Satpuras and at the Bhameir and Lalling forts.

92.—*Chelidon urbica*,* *Lin.* The House-Martin.

Noticed by me on only two occasions, in November 1880 and in April 1881, in both cases at the same village—Prakasha on the Tapti. On the first occasion there was a very large flock (over 100) flying high and seemingly all immature; on the second there were half a dozen or so in fine plumage, and I noticed them on several days.

98.—*Cypsellus melba*,* *Lin.* The Alpine Swift.

Permanent resident. Not common. At one time I thought they bred at the Lalling fort near Dhulia in the rains, and watched them carefully; but though three or four were seen every day there, and though *affinis* bred in hundreds, I am sure there were no nests, and the birds may have come immense distances. Unless they bred on the high cliffs in the adjoining Nasik district I do not know where they could have bred, but I have seen them certainly in every month of the year.

100.—*Cypsellus affinis*,* *J. E. Gr.* The Common Indian Swift.

Permanent resident. Common everywhere; apparently breeding at all seasons.

102.—*Cypsellus battasiensis*,* *J. E. Gr.* The Palm Swift.

Probably a permanent resident. Only noticed by me in the Shada and Taloda talukas, where there are a few palmyra palms round most of the villages on the fringe of the Satpuras. There were a pair or two breeding in the hot weather in almost every one of these.

104.—*Dendrochelidon coronata*,* *Tick.* The Indian Crested Swift.

Restricted to the lower ranges of the Satpuras, the plains jungle along their bases, the ghâts near Kondabhari, and a few of the spurs through Nandurbar. I have never noticed it in the Akrani or higher Satpuras. It breeds early in January and the beginning of February, nesting singly in the low plains jungle. At Wurgaum in Shada, during the last week of February, I found four nests on consecutive days at heights varying from eight to twenty-five feet from the ground; three of these however contained each a young bird, and the fourth contained a fresh egg of a pale stone colour. The nests are easily found, as the male keeps flying round and round the place in a circle of a hundred yards or so, and the hen answers him occasionally from the nest, so that finding it is only a matter of a little patience.

107.—*Caprimulgus indicus*,* *Lath.* The Jungle Nightjar.

Very common in the hot weather in the Satpuras. It is a very noisy bird, and its call cannot possibly be mistaken. I have repeatedly followed the cry and found the bird sitting on a tree—a fact I have not noticed in the case of other Nightjars.

112.—*Caprimulgus asiaticus*,* *Lath.* The Indian Nightjar.

Permanent resident. Very common all through the district wherever there are rocks and scrub jungle. It breeds abundantly all round Dhulia in July, August, and the beginning of September.

113.—*Caprimulgus mahrattensis*,* *Sykes*. Sykes' Nightjar.

Only obtained during the cold weather. Appears scarce.

114.—*Caprimulgus monticolus*,* *Frankl*. Franklin's Nightjar.

A permanent resident. Very common through the Satpuras in the cold weather, and again all round Dhulia in the rains. I shot a young one in August barely able to fly, and no doubt this species breeds at this season. At that time I offered a considerable reward to the herd boys for Nightjar's nests, and very many were shown to me. In every case when I went myself, and shot the bird, it turned out to be *asiaticus*. In two cases, however, when I sent a sepoy, a *monticolus* was brought back. In one of these cases the eggs are quite differently shaped and longer than any I have of *asiaticus*, but in the other I can discover no difference. On cross examination the sepoy acknowledged that he shot the bird on each occasion near the nest, sitting after it had flown once or twice; and it is possible that, as both species are common, he may have changed the bird he was following. However, there is no doubt that the bird breeds abundantly in the district.

117.—*Merops viridis*,* *Lin*. The Indian Bee-eater.

Permanent resident. Breeding abundantly in March along the Tapti.

? 118.—*Merops philippinus*, *Lin*. The Blue-tailed Bee-eater.

I saw a flock, apparently migrating, in Pimpalnir in May 1880, and a single specimen in Nizampur in the same month. The flock was flying south-west. As no specimen was secured I enter this as a doubtful species.

120.—*Merops persicus*,* *Pall*. The Egyptian Bee-eater.

A winter visitant. Large flocks appear in the beginning of October, and stay for a couple of months or so about the Mukhti and Goondoor tanks near Dhulia.

123.—*Coracias indica*,* *Lin*. The Indian Roller.

Permanent resident. Common all through the district in the cold weather. In the hot weather migrates to the Satpuras, Akrani, Pimpalnir and Nandurbar jungles, where it breeds in March and April.

124.—*Coracias garrula*,* *Lin.* The Roller.

A single specimen was obtained by me at Dhulia in September 1880.

127.—*Pelargopsis gural*,* *Pears.* The Brown-headed Kingfisher.

Rare. I have, however, seen specimens along most of the rivers running among the Satpura hills; also a single specimen on the Panjra at Pimpalnir.

129.—*Halcyon smyrnensis*,* *Lin.* The White-breasted Kingfisher.

Permanent resident; scarce. Breeds about Dhulia in July.

134.—*Alcedo bengalensis*,* *Gm.* The Indian Kingfisher.

Permanent resident. Moderately common along all the rivers.

136.—*Ceryle rudis*,* *Lin.* The Pied Kingfisher.

Permanent resident. Very common along all the rivers. It breeds in January and February.

144.—*Ocyeros birostris*,* *Scop.* The Grey Hornbill.

Permanent resident, scarce in the Satpuras, but very common in all the mango groves in Dhulia and Pimpalnir, and fairly common in Nandurbar. It breeds in April, and appears almost invariably to return to the same nest-hole. In 1881 I obtained eggs from every nest I had found in 1880, though, from the stupidity of some of the people who discovered them, the hens had been killed in 1880.

147.—*Palæornis eupatrius*,* *Lin. (var).*† The Western Rose-band Parroquet.

Permanent resident. Restricted to the Akrani, and the higher hills in the Satpuras, though occasionally straggling a few miles from their base. It breeds earlier than either of the other Parroquets, the young being able to fly frequently by Christmas time, though I found one nest containing small young ones as late as the middle of March. This Parroquet

† The name *eupatria* applies to the Cingalese form, the *Southern* Rose-band Parroquet. This western form differs—it differs even more markedly from the northern form *nipalensis* (Hodgson), the eastern form *indoburmanicus* (Hume), and the Andamanese form *maguirostris* (Ball). Whether all these five forms should be kept distinct, or “lumped,” will always remain a matter of opinion. If kept distinct the western form will require a name, but it is the least distinct of the five, and I do not, myself, propose to name it.—ED., S. F.

is a great favorite with natives, and the hill men bring down numbers for sale on bazar days.

148.—*Palæornis torquatus*,* *Bodd.* The Rose-ringed Parroquet.

Permanent resident. Found all over the district, though scarcer in the Satpuras than in the plains. It breeds in January and February.

149.—*Palæornis purpureus*,* *P. L. S. Mill.* The Western Rose-headed Parroquet.

Permanent resident. Common all over the plains (wherever there are mango groves) in the rains. In the cold weather found mainly in the villages near the foot of the Satpuras, and then in very large flocks. These it deserts about February, and while a few breed about the ghats in Pimpaluir, the rest seem all to betake themselves to the glens of the Satpuras, generally, not high up. It is in February the commonest bird in the low Satpuras, and I have found as many as a dozen nests in a day's walk through the hills.

160.—*Picus mahrattensis*,* *Lath.* The Yellow-fronted Woodpecker.

Permanent resident; very common. Breeds in February, principally in the low khair jungle along the base of the Satpuras. The nest-holes I generally found quite low down, frequently within two or three feet of the ground. It also breeds in the plains. I never noticed this Woodpecker in the Akrani, nor I think on any of the higher peaks of the Satpuras.

164.—*Yungipicus nanus*,* *Vig.* The Indian Pigmy Woodpecker.

This must be rare as I only got one specimen on a mango tree above my camp at Taloda in December 1879.

167.—*Chrysocolaptes festivus*,* *Bodd.* The Black-backed Woodpecker.

Permanent resident. Moderately common all through the Satpuras, Western Nandurbar, and the Pimpaluir Ghâts, but does not seem, like *aurantius*, to come down to the plains. It breeds very early in November, December, and January. The first pair I noticed were at Taloda in December 1879. I shot the male not noticing they had just finished excavating a hole. Next year I found a pair of birds still there. They had made at least five or six new nest-holes in rotten stumps but had not laid. I had all the

holes examined every Monday, but the birds deserted the spot. The only egg I obtained was sent to me early in January from a nest in the Satpuras in a hole in a tree in which the bird had bred the year before. Two nests, found near Shirpur at Christmas 1880, each contained one young one just able to fly. The young were very handsome, the crest being flame-colored. They seem to breed, as a rule, every year in the same immediate neighbourhood, but almost always I think in a new hole. They only lay one egg, I think, and certainly I have never seen the old ones accompanied by more than one young bird.

175.—*Chrysophlegma chlorigaster*,* *Jerd.* The Southern Yellow-naped Woodpecker.

Probably a permanent resident. Found throughout all the jungle districts. It is however scarce everywhere.

180.—*Brachypternus aurantius*,* *Lin.* The Golden-backed Woodpecker.

Permanent resident. Common in all the jungles, and found pretty well all over the district in the rains. It breeds in February, March and April, and probably sometimes earlier, laying one or two eggs (in one case only I found three). The form found in Khandesh is, Mr. Hume writes, "intermediate between *aurantius* and *puncticollis*, but nearer *aurantius*," and probably with larger series *dilutus*,† *puncticollis* and *aurantius* will all be merged in one.

188.—*Yunx torquilla*, *Lin. The Wryneck.**

Cold weather visitant. Common everywhere among the scrub jungle. This bird is very tame, and has allowed me to strike it down with a riding whip while riding.

193^{bis}.—*Megalaima inornata*,* *Wald.* The Western Green Barbet.

Permanent resident in the Akrani, Satpuras, the Kondabhari Ghât, and wherever there is tree jungle. It is fairly common, breeding in April and laying generally three eggs, though I have found only two eggs nearly fully incubated.

? 194.—*Megalaima viridis*, *Bodd.* The Small Green Barbet.

I think I have once or twice noticed this bird in the Satpuras, but unluckily have never got any specimens.

† As I pointed out nearly ten years ago, S. F., I., 171-3, *dilutus* is not only not a species, but is *barely*, if at all, distinguishable as a local race.—*Ep*, S. F.

197.—*Xantholæma hæmacephala*,* *P. L. S. Müll.*
The Crimson-breasted Barbet.

Not noticed by me in the Akrani or higher Satpuras, but a permanent resident, and common everywhere else. In breeds from February to April.

199.—*Cuculus canorus*, *Lin.* The Cuckoo.

Only noticed by me on two occasions. I have, however, been several times told by others that they had heard it, and that it is common in the Satpuras in the early part of the rains.

201.—*Cuculus poliocephalus*,* *Lath.* The Small Cuckoo.

Passed through Dhulia in large numbers from the middle of September to the middle of October. I did not notice it on its return migration.

205.—*Hierococcyx varius*,* *Vahl.* The Hawk Cuckoo.

Tolerably common about Dhulia in the rains from July to October. It must breed, but I found no eggs anywhere that I could believe to belong to this species.

? 211.—*Chrysococcyx hodgsoni*, *Moore.* The Emerald Cuckoo.

I believe I have noticed this bird in the Satpuras, but have never got any specimens.

212.—*Coccytes jacobinus*,* *Bodd.* The Pied Crested Cuckoo.

Arrives early in June. Is very common in all the scrub jungles round Dhulia, laying in the nests of *A. malcolmi* and *C. caudata*; from the eggs of the latter its eggs are easily distinguishable. It leaves about September, and is a noisy bird in the breeding season.

214.—*Eudynamis honorata*,* *Lin.* The Koel.

Permanent resident. Common throughout the district. Lays in June.

217.—*Centrococcyx rufipennis*, *Ill.* The Crow Pheasant.

Permanent resident. Common throughout the district; breeding in July and the beginning of August. I do not remember it in the Akrani or Satpuras.

220.—Taccocua sirkee,* Gray. The Bengal Sirkeer.

Permanent resident. Common throughout the Satpurus, and in Pimpaluir, and seen occasionally in all parts where there is any scrub jungle. I was not fortunate enough to find any nests.

232.—Cinnyris zeylonica,* Lin. The Amethyst-rumped Honeysucker.

A scarce straggler. One immature specimen obtained at Dhulia in May.

234.—Cinnyris asiatica,* Lath. The Purple Honeysucker.

Permanent resident. Common all over the district. Breeds in March, April and late in February.

238.—Dicæum erythrorhynchus,* Lath. Tickell's Flowerpecker.

Probably a permanent resident. Rare, and only observed by me in Nizampur and Pimpaluir, *i.e.*, the extreme south-west of the district. A nest just finished was found by me at Pimpaluir in the beginning of February.

246.—Salpornis spilonotus,* Frankl. The Spotted Gray Creeper.

A pair were obtained by me at Dhulia in October 1880. They were also noticed by me in January at the Kondabhari Ghât, and were not at all uncommon all along the lower and higher Satpurus and the plain jungle below them, so much so that I frequently saw three or four pairs in an ordinary morning's stroll through the jungle. I found no nests.

250.—Sitta castaneiventris,* Frankl. The Chestnut-bellied Nuthatch.

Probably a permanent resident. Fairly common in the Satpurus from November to May. It was abundant in the Akrani in April, and was no doubt breeding, as in that month I fired at a small bird on the top of a rotten tree, and on the report one of this species flew out of some hole pretty high up. The bird did not return, and the Bheels could not find the hole, so, as I could not climb the tree myself, I was forced to leave it.

254.—Upupa epops,* Lin. The Hoopoe.

Cold weather visitant. Common throughout the district.

255.—* *Upupa ceylonensis*, *Reich.* The Indian Hoopoe.

Rare, but noticed by me at all seasons, perhaps once or twice a month. The only specimen I sent to Mr. Hume he writes is an intermediate form, possessing the white penultimate crest-band of *epops*, but otherwise as in *ceylonensis*.

256.—*Lanius lahtora*,* *Sykes.* The Indian Grey Shrike.

Permanent resident. Common all through the district. I have taken nests in every month from January to July.

257.—*Lanius erythronotus*,* *Vig.* The Indian Rufous-backed Shrike.

Permanent resident. Not uncommon in the cold weather, but rare in the rains. A few pairs breed about Dhulia in June and July.

260.—*Lanius vittatus*,* *Valenc.* The Bay-backed Shrike.

Permanent resident. This is much the commonest Shrike of the district, being found everywhere. It breeds in the plains in June and July, and in the Satpuras in March.

265.—*Tephrodornis pondicerianus*,* *Gm.* The Wood Skrike.

Permanent resident. Very common through the Akrani, Satpuras, and all along the "Palas" jungle in Taloda, Nandurbar, and Pimpalnir. It breeds in February, March and April. The nests are almost invariably in a fork of a "Palas" tree 10 or 12 feet from the ground, but are very difficult to discover unless the bird is watched, as they exactly approximate in colour to the tree in which they are made.

267.—*Hemipus picatus*,* *Sykes.* The Little Pied Shrike.

Probably a permanent resident. Noticed in small flocks in the Akrani and Satpuras in April.

268.—*Volvocivora sykesi*,* *Strickl.* The Black-headed or Sykes' Cuckoo Shrike.

This species passed through Dhulia during June, and again appeared in the end of September and October. It probably bred on the Satpuras.

270.—*Graucalus macii*,* Lesson. The Large Cuckoo Shrike.

This species was common all through the district from November to May. During June it was very common in Dhulia, being then, as it was at the other times, in families. It disappeared from the beginning of July till October, and I suppose bred in the Satpuras.

276.—*Pericrocotus peregrinus*,* Lin. The Small Minivet.

Permanent resident. Common everywhere, breeding in July and August round Dhulia.

277.—*Pericrocotus erythropygus*,* Jerd. The White-bellied Minivet.

Permanent resident. This is the Common Minivet of the district, and I noticed it all through the Satpuras, in Nandurbar, Nizampur, &c., during the hot and cold weather. During the rains I noticed it once or twice about Dhulia, but though there are many thousand acres of scrub around War and Gundoor, which I searched thoroughly for Nightjars, I found none of these birds breeding. I however happened to be staying a few days at Arvee in the extreme south of Dhulia, and found this bird breeding there in considerable numbers. This was in the end of August (26th to 31st), and I was rather late, most of the nests containing young, and in some cases the young were able to fly. I however found eight nests with eggs, (most of them very hard set). All the nests which are small and less ornamented than those of *peregrinus* were placed from three to four feet from the ground in a small common thorny scrub. They were all placed in low thin jungle, and never where the jungle was thick and difficult to walk through. A great deal of the jungle round Arvee is full of Anjan trees, but none of the birds seem to breed in these.

278.—*Buchanga atra*,* Herm. The King Crow.

Permanent resident. Common all through the plains, breeding abundantly in June.

280.—*Buchanga longicaudata*,* Hay. The Long-tailed King Crow.

Probably a permanent resident. Obtained in the Satpuras and in Pimpalnir.

281.—*Buchanga cærulescens*,* *Lin.* The White-bellied King Crow.

Permanent resident. In the cold weather generally distributed. In the hot weather fairly common through the Satpuras and along the Pimpaluir Ghâts. Two nests only were seen by me. They were on adjoining trees in the Akrani. They were largish nests, not like those of *atra*, but more resembling those described in "Nests and Eggs" of *longicaudata*. One nest contained three young ones, the other was only building, and nothing could have been more plucky than the way the old ones defended their nest.

? 285.—*Dissemurus paradisi*,* *Lin.* The Lesser Racket-tailed Drongo.

I have never seen this bird myself, but I have been told by officers that they have seen this bird in the Western Dang.

288.—*Muscipeta paradisi*,* *Lin.* The Paradise Flycatcher.

Common about Dhulia in the early part of the rains, becoming scarcer later. A few however in immature plumage were seen all through the rains. In the cold and hot weather a few pairs and single specimens were noticed in both white and chestnut plumage, but I saw no signs of their breeding.

290.—*Hypothymis azurea*,* *Bodd.* The Black-naped Blue Flycatcher.

Common about Dhulia during the rains in immature plumage. Noticed in full plumage occasionally in the cold and hot weather, but scarce.

292.—*Leucocerca aureola*,* *Vieill.* The White-browed Fantail.

Permanent resident. Common; breeding in May and June. It is commoner than the next species everywhere north of Dhulia.

293.—*Leucocerca leucogaster*,* *Cuv.* The White-spotted Fantail.

Permanent resident. Common, except along the Satpuras; breeds abundantly in May and June.

295.—*Culicicapa ceylonensis*,* *Swains.* The Grey-headed Flycatcher.

A winter visitant. Common through the district.

297.—*Alseonax latirostris*,* *Raffl.* The Southern Brown Flycatcher.

Appears at the end of the rains, and is then not uncommon. Seemingly stays only a few weeks and passes on.

301.—*Stoporala melanops*,* *Fig.* The Verditer Flycatcher.

A straggler; rare. Specimens obtained in March at Shada.

306.—*Cyornis tickelli*,* *Blyth.* Tickell's Blue Red-breast.

Permanent resident. Fairly common wherever there is jungle or groves. Noticed in all parts of the district at all seasons.

310.—*Muscicapula superciliaris*,* *Jerd.* The White-browed Blue Flycatcher.

A single specimen was obtained by me in the Akrani in March 1881.

323 *bis.*—*Erythrostera parva*,* *Bechst.* The White-tailed Robin Flycatcher.

Winter visitant. Common from October to March; the males assuming the red breast before leaving.

345.—*Pitta brachyura*,* *Lin.* The Indian Ground-Thrush.

Rare. I have only twice obtained specimens, one in Dhulia in the beginning of July, and another in the scrub jungle somewhere near this station, in August. The last was brought by some Bheel herd-boys who said they had caught it on its nest. They produced a nest which might have belonged to the bird, but the eggs therein were those of *A. malcolmi*, though the nest did not belong to this species. The specimen of *brachyura* was alive, but had lost its tail, and the boys had pulled out its wing feathers to prevent it flying. It had clearly been sitting on eggs, and I have no doubt that they had caught it on its nest, but having broken the eggs, they substituted the first eggs they came across afterwards.

351.—*Cyanocinclus cyanus*,* *Lin.* The Blue Rock-Thrush.

Cold weather visitant. Not common, but found in all the rocky hills.

385.—Pyctoris sinensis,* Gm. The Yellow-eyed Babbler.

Permanent resident. Common everywhere. Its nests were abundant in July, August and September; except *Franklinia buchanani*, it was the commonest breeding bird about Dhulia in the rains.

398.—Dumetia albogularis,* Blyth. The White-throated Wren Babbler.

Permanent resident. Not uncommon about Dhulia and Nandurbar, and noticed elsewhere, but very local. It bred in the end of the hot weather and beginning of the rains.

399.—Pellorneum ruficeps,* Swains. Swainson's Wren Babbler.

I obtained a single specimen of this bird at Nandurbar in the hot weather.

404^{ter}.—Pomatorhinus obscurus,* Hume. Hume's Scimitar Babbler.

Probably a permanent resident; rare. Only noticed among the hills in the Pimpalnir taluka in the south-west part of the district.

434.—Malacocercus malabaricus,* Jerd. The Jungle Babbler.

Permanent resident. Common in the Satpuras, and in the jungles along the ghats in Pimpalnir. It is exclusively confined to the jungles and perhaps a few bushy nullahs a mile or two from them. It breeds in the hot weather, and I have no doubt also in the rains. As soon as cultivation begins this bird is replaced by the next species.

436.—Argya malcolmi,* Sykes. The Large Grey Babbler.

Permanent resident. Very common all over the district except in the thick jungles; breeding from May to December.

438.—Chatarrhæa caudata,* Dum. The Striated Bush Babbler.

Permanent resident. Very common everywhere except in the thick jungles; breeding at all seasons.

462.—*Molpastes hæmorrhous*,* *Gm.* The Madras Bulbul.

Permanent resident. Common everywhere, breeding in August, September and October.

463.—*Phyllornis jerdoni*,* *Blyth.* The Green Bulbul.

Probably a permanent resident; rare. Noticed along the glens below the Kondabhari Ghat in May and June, and a single pair at Taloda in December 1880.

468.—*Iora typhia*,* *Lin.* The Black-headed Green Bulbul.

Permanent resident. Common all through the district. Breeds in July and August.

468bis.—*Iora nigrolutea*,* *Marsh.* Marshall's Green Bulbul.

Permanent resident. Noticed by me in the Dhulia and Nizampur talukas only, and there apparently pretty much restricted to the dry scrub jungles. It breeds in June and July.

470.—*Oriolus kundoo*,* *Sykes.* The Indian Oriole.

Probably a permanent resident. In the end of the rains, cold and hot weathers, found through the plains, hills, and jungles. Most leave Dhulia in June, but a few stay and probably breed.

472.—*Oriolus melanocephalus*,* *Lin.* The Black-headed Oriole.

Permanent resident in the Satpuras and among the Pimpalnir Ghats, spreading in the cold weather through the district.

475.—*Copsychus saularis*,* *Lin.* The Magpie Robin.

Permanent resident. Fairly common all through the district. I however found no nests.

479.—*Thamnobia fulicata*,* *Lin.* The Indian Black Robin.

Permanent resident. Very common everywhere, except in the Akrani and higher Satpuras (where I saw none). It breeds from March to August. Some of the specimens from the north of the Tapti show a tendency towards *cambayensis*,

and none of the Khandesh specimens seem quite as dark as those from further south.

481.—*Pratincola caprata*,* *Lin.* The White-winged Bush Chat.

Common in the rains and cold weather, apparently leaving in the hot weather. I saw no signs of breeding.

483.—*Pratincola maura*,* *Pall.* The Indian Bush Chat

Cold weather visitant. Common as a rule everywhere except in the jungles.

488.—*Saxicola opistholeucus*,* *Strickl.* Strickland's White-tailed Wheatear.

Cold weather visitant. Rare and only noticed singly on perhaps a dozen occasions among scrub jungle on the banks of the Tapti and in Nizampur and Virdeil.

491.—*Saxicola isabellinus*,* *Rüpp.* Menetries' Wheatear.

Cold weather visitant ; rare ; noticed however on several occasions.

? 492.—*Saxicola deserti*, *Rüpp.* The Black-throated Wheatear.

I am sure I have seen this species in the cold weather on one or two occasions, but, as I have never shot any specimens, I enter it as doubtful.

497.—*Ruticilla rufiventris*,* *Vieill.* The Indian Redstart.

Cold weather visitant. Generally distributed. Common from the middle of September to the beginning of the hot weather.

514.—*Cyanecula suecica*,* *Lin.* The Red-spot Blue-throat.

Cold weather visitant. Common everywhere where there is any swamp, and also along the sides of bushy nullahs.

515.—*Acrocephalus stentorius*,* *Hemp. and Ehr.* The Large Reed Warbler.

Noticed by me in the reedy nullah below the Mukhti tank near Dhulia, in September and October ; also in May there. Noticed in December and April as very abundant on the bushy islands

in the Tapti below Prakasha. From the way the birds were singing both on the wing and on the bushes I cannot help thinking they were going to breed.

516.—*Acrocephalus dumetorum*,* *Blyth*. The Lesser Reed Warbler.

Cold weather visitant. Tolerably common throughout the district in suitable places.

530.—*Orthotomus sutorius*,* *Forst*. The Indian Tailor Bird.

Permanent resident. Common throughout the district; breeding in June and July.

535.—*Prinia stewarti*,* *Bly*. The Lesser Ashy Wren Babbler.

Permanent resident. Common all through the plains. Breeds abundantly in July and August round Dhulia.

536.—*Prinia gracilis*,* *Frankl*. *Prinia hodgsoni*, *Blyth*. Franklin's Wren Warbler.

Permanent resident. Common all over the district. It breeds in the rains, but its nests are difficult to find. All the eggs found were an unspotted blue.

539.—*Cisticola cursitans*,* *Frankl*. The Fantail Warbler.

Probably a permanent resident. Only however noticed by me during the cold weather, and only in the west of Dhulia and in Pimpalnir. It was common there in marshy spots along the Panjra.

543.—*Drymœca inornata*,* *Sykes*. The Earth-brown Wren Warbler.

Permanent resident. Not common but found through the plain districts. Breeds in September and October round Dhulia.

? **544bis.—*Drymœca rufescens*, *Hume*.** The Great Rufous Wren Warbler.

A large Wren Warbler was noticed by me at Laling in September, and its nest with three eggs found there. One of these I sent to Mr. Hume, who replied that he thought it to be the egg of this bird. I was not able to get a specimen.

551.—*Franklinia buchanani*,* *Blyth*. The Rufous-fronted Wren Warbler.

Permanent resident. Much the commonest bird breeding about Dhulia in July, August and September.

553.—*Hypolais rama*,* *Sykes*. Sykes' Warbler.

Cold weather visitant. Common all through the district.

553bis.—*Hypolais caligata*,* *Licht*. The Booted Warbler.

Cold weather visitant. I did not discriminate this from the last, but it is probably equally common, as out of five specimens sent to Mr. Hume as *rama*, two turned out to belong to this species.

554.—*Phylloscopus tristis*,* *Blyth*. The Brown Tree Warbler.

Cold weather visitant. Fairly common everywhere in the district.

559.—*Phylloscopus nitidus*,* *Blyth*. The Bright Green Tree Warbler.

Cold weather visitant. Not common. Only one specimen, obtained at Dhulia in October.

563.—*Reguloides occipitalis*,* *Jerd*. The Large Crowned Tree Warbler.

Cold weather visitant. One specimen obtained at Dhulia in the beginning of November.

565bis.—*Reguloides humii*,* *Brooks*. Hume's Crowned Tree Warbler.

Cold weather visitant. Common all through the district.

581.—*Sylvia jerdoni*,* *Blyth*. The Eastern Black-capped Warbler.

Cold weather visitant. Generally distributed through all the scrub jungle and lines of babool trees, but not common anywhere.

582.—*Sylvia affinis*,* *Blyth*, The Allied White-throat.

Cold weather visitant. Common among hedges and scrub jungles all through the district.

582^{ter.}—*Sylvia althæa*,* *Hume*. Hume's Allied White-throat.

Cold weather visitant. Not as common as the last species.

589.—*Motacilla maderaspatensis*,* *Gm.* The Large Pied Wagtail.

Permanent resident. Moderately common along all the rivers. Breeding in January and February.

591^{bis.}—*Motacilla dukhunensis*,* *Sykes*. The Indian White-faced Wagtail.

Cold weather visitant. Common throughout the district.

592.—*Calobates melanope*,* *Pall.* The Grey and Yellow Wagtail.

Cold weather visitant. Common through the Satpuras, in Pimpalnir, and wherever there is running water.

593.—*Budytes cinereocapillus*,* *Savi.* The Slaty-headed Field Wagtail.

Cold weather visitant. Common all along the nullahs and rivers, and in every muddy place near a village.

593^{bis.}—*Budytes melanocephalus*,* *Licht.* The Black-cap Field Wagtail.

Cold weather visitant. Equally common with the last.

594^{bis.}—*Budytes citreolus*,* *Pall.* The Grey-backed Yellow Wagtail.

Cold weather visitant. Very common in all suitable localities.

597.—*Anthus trivialis*, *Lin.*,* The Tree Pipit.

Cold weather visitant. Very common all through the district.

600.—*Corydalla rufula*,* *Vieill.* The Indian Tit Lark.

Permanent resident. Moderately common through the district. I think however it is scarcer in the rains than in the other seasons.

602.—*Agrodoma campestris*,* *Lin.* The Stone Pipit.

A few specimens obtained at Dhulia in October.

604.—*Agrodoma sordida*,* *Rüpp.* The Brown Rock Pipit.

Winter visitant. Scarce, but generally distributed through the stubble fields.

631.—*Zosterops palpebrosa*,* *Tem.* The White-eyed Tit.

This bird, which I found common all over the district wherever there are groves or jungle during the cold and hot weather, leaves Dhulia in the rains. It no doubt breeds in the Satpuras and other jungles at that season.

645.—*Parus nipalensis*,* *Hodgs.* The Indian Grey Tit.

Probably a permanent resident. Common in the Satpuras, and generally through the district; not noticed about Dhulia in the rains, at which season no doubt it breeds.

648.—*Machlolophus aplonotus*,* *Blyth.* The Southern Yellow Tit.

Permanent resident. Common throughout the district. I saw a pair building in the hole of a large mango tree at Malpur in Pimpalnir in the end of May.

660.—*Corvus macrorhynchus*, *Wagl.* The Indian Carrion Crow.

Permanent resident. Common throughout the district, breeding in March, April and May.

663.—*Corvus splendens*,* *Vieill.* The Indian Grey-necked Crow.

Permanent resident. Common; breeding in May and June.

674.—*Dendrocitta rufa*,* *Scop.* The Indian Magpie.

Permanent resident. Common all over the wooded part of the district. Not common about Dhulia. It breeds abundantly in April in the Akrani, but I do not think it breeds in the plains.

684.—*Acridotheres tristis*,* *Lin.* The Myna.

Permanent resident. Common all through the district both in the plains and Satpuras. It breeds in June and July.

685.—*Acridotheres ginginianus*,* *Lath.* The Bank Myna.

A winter visitant. Coming in October and leaving early. It is not common.

687.—*Sturnia pagodarum*,* *Gm.* The Black-headed Myna.

Permanent resident. Very common through the Satpuras; moderately common elsewhere. Breeds sparingly about Dhulia in the beginning of July.

688.—*Sturnia malabarica*,* *Gm.* The Grey-headed Myna.

Noticed in small flocks feeding on the flowers of the silk cotton tree in the Satpuras in April.

690.—*Pastor roseus*.* The Rosy Pastor.

Cold weather visitant. Arrives early and stays till April. Very common everywhere in the plains.

694.—*Ploceus philippinus*,* *Lin.* The Weaver-bird.

Permanent resident. Very common. Breeds abundantly round Dhulia in August and September.

699.—*Amadina punctulata*,* *Lin.* The Spotted Munia.

Permanent resident; local. A few seen in the Shada taluka below the Satpuras, in April. In June there were considerable flocks in Dhulia. These stayed till August when they scattered through the scrub jungle. They bred there, and I got a nest at Arvee in the south of Dhulia in September.

703.—*Amadina malabarica*,* *Lin.* The Plain Brown Munia.

Permanent resident. Common everywhere in the plains and scrub jungles. Breeds at all seasons.

704.—*Estrela amandava*,* *Lin.* The Red Wax-bill.

Permanent resident; rather local. A large flock kept about the scrub jungle near Dhulia from May to September when they paired and bred all along the nullahs below the tanks at Mukhti and Gundoor. I also found it breeding abundantly along the Panjra in Pimpalnir and between that and Dhulia

in January. The nests are very well concealed, but the habit of the cock, of continually carrying straws to the nest while the hen is sitting, makes it easy to find the nests.

? 705.—*Estrela formosa*, *Lath.* The Green Wax-bill.

I found considerable flocks of what I have no doubt was this bird, in the end of April, in the jungle along the Tapti in the extreme west of Taloda, and another small flock in May west of Nandurbar. On the first occasion I was following a wounded black buck and had only a rifle with me; and on the second I was riding with no one with me. As I have never actually shot the bird in Khandesh I enter it as doubtful.

706.—*Passer domesticus*,* *Lin.* The Sparrow.

Permanent resident; common everywhere.

711.—*Gymnoris flavicollis*,* *Frankl.* The Yellow-throated Sparrow.

Permanent resident. It is the commonest bird in the Satpuras, breeding in the hot weather. Out of at least a dozen nests of which I have notes, in only one case was there more than two eggs. It is found also through all the jungle districts.

716.—*Emberiza buchanani*,* *Blyth.* The Grey-necked Bunting.

Cold weather visitant. Very common everywhere except in the thick jungles.

721.—*Euspiza melanocephala*,* *Scop.* The Black-headed Corn Bunting.

Cold weather visitant. Very common in the fields all through the district.

? 722.—*Euspiza luteola*, *Spurrrm.* The Red-headed Corn Bunting.

I believe I have seen this species in the cold weather, but I have never got any specimens.

724.—*Melophus melanicterus*,* *Gm.* The Crested Black Bunting.

Permanent resident. In the cold weather common all along the small rivers, and in the hot weather through the Satpuras and other jungles. Breeds in the rains, several pairs breeding at Laling seven miles from Dhulia.

738.—*Carpodacus erythrinus*,* *Pall.* The Common Rose Finch.

Cold weather visitant. Common in the fields through Shada, Taloda and Nandurbar; and noticed also in the other talukas.

756.—*Mirafra erythroptera*,* *Jerd.* The Red-winged Bush Lark.

Permanent resident. Very common in Dhulia, Pimpalnir, and Virdeil. Breeds from June to November; all the many nests found by me were covered over with the entrance at the side.

758.—*Ammomanes phœnicura*,* *Frankl.* The Rufous-tailed Finch Lark.

Permanent resident. Common all along the black soil districts, even in single fields among the Satpuras. Numerous nests were found by me from the beginning of March to the end of April.

760.—*Pyrrhulauda grisea*,* *Scop.* The Black-bellied Finch Lark.

Permanent resident. Breeds from June to December. Very common in all the plains.

761.—*Calandrella brachydactyla*,* *Leisl.* The Short-toed Lark.

A very rufous form of this bird was common in the cold weather through the plains. I have seen flocks consisting of thousands.

765.—*Spizalauda deva*,* *Sykes.* The Small Crown Crest Lark.

Permanent resident. Moderately common in Virdeil, Dhulia and Pimpalnir; breeding from July to October.

773.—*Crocopus chlorigaster*, *Blyth.* The Southern Green Pigeon.

Permanent resident. Found sparingly through the rains all over the district wherever there are groves. In the hot weather it leaves the plains for the Akrani, Satpuras, and the other forest tracts. It is common there, and breeds from February to May.

788.—*Columba intermedia*, Strickl. The Indian Blue Rock Pigeon.

Permanent resident. Common all over the plains though not in the large numbers I have seen in parts of the Deccan; found also on the rocky cliffs in the Satpuras.

792.—*Turtur pulchratus*,* Hodgs. The Indian Turtle Dove.

Found by me during the cold and hot weather in moderate numbers, through the Akrani and Satpuras. I am inclined to think that this bird is a permanent resident. It certainly is found from December to the end of April, during which months only I have been in the Satpuras. I found one nest which I believe belonged to this species in the Satpuras in March. The nest was a mere platform of sticks, some 30 feet up a tree, and contained two fresh eggs. Unluckily I missed the bird as it flew off, and the light was so bad I could not absolutely be certain what bird it was.

794.—*Turtur senegalensis*,* Lin. The Little Brown Dove.

Permanent resident. Common all over the plains, but hardly entering the Satpuras. It breeds at all seasons. I have found three eggs in the nest of this bird.

795.—*Turtur suratensis*,* Gm. The Spotted Dove.

Permanent resident. This is the Common Dove of the Satpuras, breeding abundantly in the hot weather there. I have noticed it all over the northern part of the district, and of course in Pimpalnir in the cold weather; and it visits Dhulia in the rains.

796.—*Turtur risorius*, Lin. The Common Ring Dove.

Permanent resident. Common all over the district. It breeds commonly at all seasons everywhere I have been both in the plains and in the Satpuras.

797.—*Turtur tranquebaricus*,* Herm. The Ruddy Ring Dove.

Permanent resident; very local. Breeds in the rains on babool trees adjoining tanks.

800.—*Pterocles fasciatus*,* *Scop.* The Painted Sandgrouse.

Permanent resident. Moderately common along the base of the Satpuras, and through all the scrub jungle in the Nandurbar, Pimpalnir, Jamner and Dhulia talukas. It probably breeds at all seasons, as I have taken eggs in November, January, March, and May, in all cases fresh.

802.—*Pterocles exustus*,* *Tem.* The Sandgrouse.

Permanent resident. Common all through Khandesh except north of the Tapti. I have taken eggs at Nandurbar in February.

803.—*Pavo cristatus*, *Lin.* The Pea Fowl.

Permanent resident. Fairly common through the Akrani and Satpuras, and in Pimpalnir and Nizampur. Scarce amongst the Dhulia hills. It is quite a forest bird here, and the natives do not venerate it at all. It lays in September and October.

813.—*Gallus sonnerati*, *Tem.* The Grey Jungle Fowl.

Permanent resident; rare; and only found in the Akrani and along the valleys among the higher spurs of the Satpuras. I obtained eggs in the end of April. The Bheels catch both this bird and Pea Fowl, by simply running them down. This I have seen them do. They hear one call and scatter all over the adjoining forest for some hundred yards all round. One man then chases the bird, which flies two or three hundred yards, and then settles. As there are a lot of men about, some one immediately starts it again, and on its settling a second or third time, it almost invariably runs to the nearest thicket, generally "bom" reeds, where it allows itself to be caught.

814.—*Galloperdix spadiceus*, *Gm.* The Red Spur-fowl.

Permanent resident. Moderately common in the Satpuras, and in the Pimpalnir hills.

819.—*Francolinus pictus*,* *Jard. and Selb.* The Painted Partridge.

Permanent resident. Very common all through the Satpuras, and moderately common wherever there is any forest or garden land. It breeds in September.

822.—Ortygornis pondicerianus, Gm. The Grey Partridge.

Permanent resident. Common all over the district except in the Akrani and Satpuras, where I don't remember to have seen it. I have taken its eggs in, I think, every month except June and July.

826.—Perdicula asiatica,* Lath. The Jungle Bush Quail.

Permanent resident. Common in the Akrani, Satpuras, below the Pimpalnir Ghât and in West Nandurbar, and in short wherever there is heavy jungle. It was never observed to spread through the cultivation. I obtained eggs in October from the jungles north of Taloda.

827.—Perdicula argoonda,* Sykes. The Rock Bush Quail.

Permanent resident. Abundant over all those parts of the district where *asiatica* is not found, and seeming to follow cultivation everywhere. It is the only Bush Quail of Dhulia, Verdeil, Nizampur, and the plains. I have taken its eggs in all months but May, June, July and August.

829.—Coturnix communis, Bonn. The Grey Quail.

Cold weather visitant. Fairly numerous, and generally distributed.

830.—Coturnix coromandelica,* Gm. The Rain Quail.

Permanent resident. Oddly enough I have neither taken a nest, had the eggs brought to me, or seen young unable to fly. There were however a good many pairs along the nullahs near Dhulia in the rains, and I have seen and shot them all through the cold and hot weather. They were in great numbers in the stubbles in Shada and Taloda in April 1880, and then afforded capital sport.

832.—Turnix taigoor, Sykes. The Black Breasted Bustard Quail.

Probably a permanent resident. It is however decidedly scarce. A few pairs bred round Dhulia in the rains, and I obtained a few eggs. I also saw it in Shirpur in the cold weather.

834.—*Turnix joudera*, Hodgs. The Large Button Quail.

Rare. The only specimen I saw I caught among some grass among the Satpuras. This was in March.

835.—*Turnix dussumieri*, Tem. The Small Button Quail.

Rare. A few specimens seen in the cold weather in Nizampur, and in the rains in Dhulia. I obtained one nest in September. Probably they are commoner than I suppose as I beat few places for Quail.

836.—*Eupodotis edwardsi*, J. E. Gr. The Indian Bustard.

Moderately common in the hot and cold weathers in the plain along the Tapti, and in Pimpalnir and Nizampur. I have seen flocks of at least twenty birds in the Nandurbar taluka.

839.—*Sypheotides aurita*, Lath. The Lesser Florican.

Breeds in moderate numbers in a few places in the district, round Dharamgaum in Erandole, near Kapurna in the north-west of Dhulia, and in a few other places. I have seen it occasionally in the cold weather in Nandurbar, but I think almost all the birds leave the district at the end of the rains.

? 842.—*Glareola orientalis*, Leach. The Eastern Pratincole.

Rare. In November 1879 there were a considerable flock of Pratincoles at Prakasha on the Tapti. They used to fly backwards and forwards along the Goma on the bank of which I was encamped in the evening. I stupidly neglected to procure any specimens, so enter it as doubtful as it is just possible that the birds may have been *G. pratincola*.

845.—*Charadrius fulvus*, Gm. The Eastern Golden Plover.

Cold weather visitant; rare. Only noticed by me on one or two occasions, and never in large flocks.

850.—*Ægialitis jerdoni*,* Legge. The Lesser Ring Plover.

Permanent resident. Common along all the rivers, and along the sides of the Mukhti tank. I took eggs on the Tapti in

March and April, and saw young newly hatched near Dhulia in May. The birds however breed much earlier, as I have seen them making nests in December and January. This is the only Ringed Plover I found in Khandesh.

852.—*Chettusia gregaria*,* *Pall.* The Black-sided Lapwing.

Cold weather visitant ; rare and local. Considerable flocks were scattered all through the stubbles around Shada in February 1881, and I have noticed it in Nandurbar.

853.—*Chettusia villotæi*.* The White-tailed Lapwing.

Cold weather visitant ; rare. Only noticed by me once in December 1880, at Nandurbar. There were four birds in all, very tame, and I shot three of them.

855.—*Lobivanellus indicus*, *Bodd.* The Red-wattled Lapwing.

Permanent resident. Very common all through the district. Breeds abundantly in the hot weather and rains.

856.—*Lobipluvia malabarica*,* *Bodd.* The Yellow-wattled Lapwing.

Permanent resident. Not common, but found sparingly in all talukas. Eggs were obtained by me both in the rains and cold weather.

858.—*Æsacus recurvirostris*,* *Cuv.* The Large Stone Plover.

Permanent resident. Only noticed by me on the Tapti. It is abundant on the rocky islands below Prakasha, and four or five miles below Kukurmoonda. I obtained several eggs at the latter place in March 1881.

859.—*Ædicnemus scolopax*,* *S. G. Gm.* The Stone Plover.

Permanent resident. Not common, but generally distributed through the scrub jungle.

863.—*Grus antigone*, *Lin.* The Sarus.

A straggler. A single specimen was noticed by me on April 21st, 1881, on the south bank of the Tapti. I have been told that a pair used to breed at a small tank among the hills in Nizampur, but in January 1881, when I visited it, there were none to be seen ; the tank however was one exceptionally suited

for this bird, and I should not be surprised if they really bred there in the rains.

?865.—*Grus communis*, *Bechst.* The Crane.

I have been repeatedly told by officers that this Crane is common in the cold weather, and that they have often shot it. I do not remember ever seeing one myself, so enter the species as doubtful.

866.—*Anthropoides virgo*, *Lin.* The Demoiselle Crane.

Cold weather visitant. Abundant along the Tapti valley, and near Dhulia. In the middle of March 1880 large flocks passed north-east over the Satpurus.

870.—*Gallinago sthenura*,* *Kuhl.* The Pintail Snipe.

Winter visitant. Not as common as the next species, perhaps one *sthenura* being shot to every four *cœlestis*.

871.—*Gallinago cœlestis*,* *Frenzl.* The Common or Fantail Snipe.

Winter visitant. Not common in Khandesh, but distributed through the rice fields and wherever marshy places exist. I saw a snipe, but I do not know of which species, as early as 14th September 1880.

872.—*Gallinago gallinula*,* *Lin.* The Jack Snipe.

Cold weather visitant. Not as common as either of the other species.

873.—*Rhynchæa capensis*, *Lin.* The Painted Snipe.

Permanent resident. Not very common. Breeds in April.

875.—*Limosa ægocephala*,* *Lin.* The Black-tailed Godwit.

Cold weather visitant. Found along the Tapti and generally through the district, though it is by no means common. By the end of April, when it leaves, some of the birds are in full summer plumage.

877.—*Numenius lineatus*, *Cuv.* The Curlew.

Cold weather visitant; rare. Only observed by me at the Mukhti tank in October.

880.—Machetes pugnax, Lin. The Ruff.

Cold weather visitant; rare, and only noticed once or twice along the Tapti.

884.—Tringa minuta,* Leisl. The Little Stint.

Cold weather visitant. Is common along all the rivers.

885.—Tringa temmincki,* Leisl. The White-tailed Stint.

Cold weather visitant. Is probably fairly common. I did not discriminate this from the last, but there were two specimens of this (shot on the same day) among nine sent to Mr. Hume as *minuta*.

891.—Rhyacophila glareola,* Lin. The Spotted Sandpiper.

Cold weather visitant. Fairly common along all the rivers.

892.—Totanus ochropus,* Lin. The Green Sandpiper.

Winter visitant. Common than the last throughout the district.

893.—Tringoides hypoleucus,* Lin. The Sandpiper.

Winter visitant. Common throughout the district.

894.—Totanus glottis,* Lin. The Greenshank.

Cold weather visitant. Very common everywhere.

895.—Totanus stagnatilis,* Bechst. The Lesser Greenshank.

Cold weather visitant. Scarce.

897.—Totanus calidris, Lin. The Redshank.

Cold weather visitant; rare. A single specimen seen by me at a small tank near Bhameir in January 1881.

898.—Himantopus candidus,* Bonn. The Stilt.

Cold weather visitant. Fairly common throughout the district.

901.—Hydrophasianus chirurgus, Scop. The Pheasant-tailed Jacana.

Probably a permanent resident. Not uncommon. I have

noticed it on the tanks at Nizampur, at Gundoor near Dhulia, both in the cold weather and well on in the hot weather. There was very little rain about Dhulia in June, July, and August 1880, and the tanks at Bhokar and Gundoor were dry, so there was no chance of birds breeding there that year.

902.—*Porphyrio poliocephalus*,* *Lath.* The Indian Purple Coot.

Possibly a permanent resident; rare. Not noticed by me till July 1880, when I found three or four pairs among the reeds in the nullah between the Mukhti tank and the Panjra; also a few along the Panjra. They were evidently breeding, but I found no nests. I noticed a pair in the Mukhti nullah in May 1881.

903.—*Fulica atra*,* *Lin.* The Bald Coot.

Cold weather visitant. Common on all the Khandesh tanks.

905.—*Gallinula chloropus*, *Lin.* The Water-hen.

Cold weather visitant. Not common.

907.—*Erythra phoenicura*,* *Penn.* The White-breasted Water-hen.

Permanent resident I think, but am not sure. Common enough about Dhulia in the rains.

? 908.—*Porzana akool*, *Sykes.* The Brown and Ashy Crake.

I saw three or four Rails I believe of this kind, in a reedy place close to the village of Gundoor. This was in October 1879. I did not unfortunately shoot a specimen, and never saw one since, the year 1880 being such a dry season.

909.—*Porzana maruetta*, *Leach.* The Spotted Crake.

Cold weather visitant; rare. A single specimen shot at Gundoor in October 1879, while Snipe shooting.

? 911.—*Porzana fusca*, *Lin.* The Ruddy Crake.

A single specimen of what I believe to have been this bird got up at my feet while walking along the Mukhti nullah in September 1880. I however had no gun with me at the time, and never saw it again.

915.—*Leptoptilus argalus*, Lath. The Adjutant.

Winter visitant; rare. I have only once come across it. This was in January 1881, in the north-west of Dhulia taluka, and it was fighting with a lot of Vultures over the carcass of a sheep.

918.—*Ciconia nigra*, Lin. The Black Stork.

Cold weather visitant. Not common, but noticed along the Goma in Shada, and along the Panjra. It is very shy and difficult to shoot.

919.—*Ciconia alba*, Bechst. The White Stork.

Cold weather visitant; rare. I have only seen it twice, once in Nandurbar near the Tapti in April, and once at Gundoor in October.

920.—*Dissura episcopa*, Bodd. The White-necked Stork.

Probably a permanent resident. Not common, but generally distributed in the cold and hot weather.

923.—*Ardea cinerea*, Lin. The Heron.

Not uncommon. There are generally a few about at all seasons, but I do not believe they breed in the district.

924.—*Ardea purpurea*, Lin. The Purple Heron.

Not as common as *cinerea*, but still I have seen odd birds at all seasons.

925.—*Herodias torra*, B. Hamilton. The Large Egret.

Cold weather visitant. Not common I think.

926.—*Herodias intermedia*, Hass. The Little White Heron.

Cold weather visitant. Common throughout the district. It may breed, but I have found no nests.

927.—*Herodias garzetta*,* Lin. The Little Egret.

Permanent resident. Very common. Breeds along the Panjra in April.

929.—*Bubulcus coromandus*, Bodd. The Cattle Egret.

Probably a permanent resident; breeding in the rains in Pimpaluir, where I found large flocks in May in breeding plumage.

930.—*Ardeola grayi*, *Sykes*. The Indian Pond Heron.

Permanent resident. Common throughout the district. It breeds from May to July along the Panjra, and probably elsewhere.

931.—*Butorides javanica*,* *Horsf*. The Little Green Bittern.

Permanent resident. Not very common.

? 933.—*Ardetta cinnamomea*, *Gm*. The Chestnut Bittern.

I noticed a pair of what I believe were this species among some thick reeds along the Mukhti nullah in August 1880. I did not shoot them as I expected they would breed. They however disappeared.

937.—*Nycticorax griseus*, *Lin*. The Night Heron.

Probably a permanent resident. Common in Dhulia in the rains, and noticed in different parts of the district at all seasons.

938.—*Tantalus leucocephalus*, *Forst*. The Pelican Ibis.

A winter visitant. Not uncommon along the two larger rivers.

939.—*Platalea leucorodia*, *Lin*. The Spoonbill.

A winter visitant. Not common anywhere; indeed I have only seen two or three pairs in the eighteen months I have been in Khandesh.

940.—*Anastomus oscitans*,* *Bodd*. The Shell Ibis.

Cold weather visitant. Fairly common along the Tapti and in the northern part of the district.

941.—*Ibis melanocephala*, *Lath*. The White Ibis.

Cold weather visitant. Fairly common throughout the district, particularly in the upper parts of the Panjra in Pimpalnir.

942.—*Inocotis papillosus*, *Tem*. The Black Ibis.

Possibly a permanent resident; very local, and sparingly scattered through the district.

943.—*Falcinellus igneus*,* *S. G. Gm.* The Glossy Ibis.

Cold weather visitant. Common throughout the district.

944.—*Phoenicopterus roseus*, *Pall.* The Flamingo.

Cold weather visitant; scarce. I have only twice come across the bird, both times at Prakasha on the Tapti. In the first instance there were four or five immature birds feeding at the mouth of the Goma. This was in December 1880, and in the second there was a flock of over 200. This was in April 1880, and the birds were flying due west down the Tapti.

950.—*Sarcidiornis melanonotus*,* *Penn.* The Comb Duck.

A mere straggler. A single specimen was seen and obtained by me at Tiltana in Nizampur in February 1880.

951.—*Nettapus coromandelianus*, *Gm.* The Cotton Teal.

Also a straggler. A small flock were seen by me at Tiltana on the same occasion as I procured the Nukhta.

954.—*Casarca rutila*, *Pall.* The Ruddy Sheldrake.

Cold weather visitant. Common on all the rivers. I have noticed them on the Tapti as late as April 20th and as early as October.

957.—*Spatula clypeata*,* *Lin.* The Shoveller.

Cold weather visitant. Common along all the rivers and in all the tanks. There were considerable flocks about Dhulia as late as 7th May 1881.

959.—*Anas pœcilorhyncha*, *Forst.* The Spot-bill or Grey Duck.

A straggler; only noticed once on the Tapti in April. There were three birds, but I failed to secure one.

961.—*Chaulelasmus streperus*,* *Lin.* The Gad-wall.

Cold weather visitant. This is much the commonest Duck in Khandesh, and arrives early. I saw a pair on the Tiltana tank in Nizampur as late as 25th April, but one was evidently a cripple.

962.—*Dafila acuta*,* *Lin.* The Pintail.

Cold weather visitant; common. I saw the latest, a single bird, on 9th April 1881, on the Tapti.

963.—*Mareca penelope*, *Lin.* The Wigeon.

Cold weather visitant. Fairly common throughout the district.

964.—*Querquedula crecca*, *Lin.* The Common Teal.

Winter visitant. Very common wherever there is any water. I saw a considerable flock on 19th September 1880.

965.—*Quequedula circa*,* *Lin.* The Garganey.

Winter visitant; also very common. There were large flocks at Dhulia in the beginning of May 1881, and I saw a single bird there as late as May 10th.

968.—*Fuligula ferina*, *Lin.* The Pochard.

Winter visitant; rare. Only noticed by me at Tiltana.

969.—*Fuligula nyroca*,* *Güld.* The White-eyed Pochard.

Winter visitant; common on all the tanks.

971.—*Fuligula cristata*,* *Lin.* The Tufted Pochard.

Winter visitant. Fairly common and generally distributed.

975.—*Podiceps minor*, *Gm.* The Little Grebe.

Permanent resident; common. I found a number of nests with fresh eggs in a small tank in the Virdeil taluka in November 1880, but that year there had been very little rain in the early part of the monsoon, and the tanks had never filled.

982.—*Sterna caspia*,* *Pall.* The Caspian Tern.

A straggler. I shot one in May on the Mukhti tank, and have seen them at other seasons.

985.—*Sterna seena*,* *Sykes.* The Large River Tern.

A straggler. Occasionally seen in the cold and hot weather along the Tapti and Panjra.

987.—*Sterna melanogastra*, *Tem.* The Black-bellied Tern.

I have seen a few occasionally along the rivers, but it is not common.

? 1004.—*Pelicanus philippensis*, *Gm.* The Grey Pelican.

I found eight Pelicans, I believe, of this species, at the Mukhti tank in the beginning of May 1881. I could not get near enough to procure a specimen.

1006.—*Phalacrocorax fuscicollis*,* *Steph.* The Lesser Cormorant.

Both this and the next species are very common along the Panjra, and also fairly common along both the Goma and Tapti. I think I have seen them in large flocks at all seasons, but I have never seen any signs of their breeding.

1007.—*Phalacrocorax pygmæus*,* *Pall.* The Little Cormorant.

Equally common with the larger species.

1008.—*Plotus melanogaster*, *Penn.* The Indian Snake Bird.

Probably a permanent resident. Moderately common on all pieces of water.

Letters to the Editor.

SIR,

I REQUEST permission to correct an inadvertent error in my letter, printed in STRAY FEATHERS, Vol. X., p. 159.

I there said that all the 23 specimens of *Buteo desertorum* preserved in the Norwich Museum have the wing measurement over 14 inches, but I ought to have limited this statement to 20 out of the 23, as three of the smaller specimens mentioned in the succeeding paragraph also form part of the series in the Museum at Norwich.

I am, yours, &c.,

J. H. GURNEY.

SIR,

BY to-day's post I have sent you the skin of a female *Circus melanoleucus*. No mistake about the sex. It was flying past the bungalow with some bird in its claws, and it was more to find out what it had caught that I shot it. Taking

it to be a male I got the boy to rip open its stomach, when, to my astonishment, I found it was a female. I had it skinned just to let you see that the sex does, at times, assume the male plumage. It was very thin, but did not appear to be sickly. It had robbed the nest of *Sturnopastor contra* of a young one.

J. R. CRIPPS.

BORBAM, ASSAM.

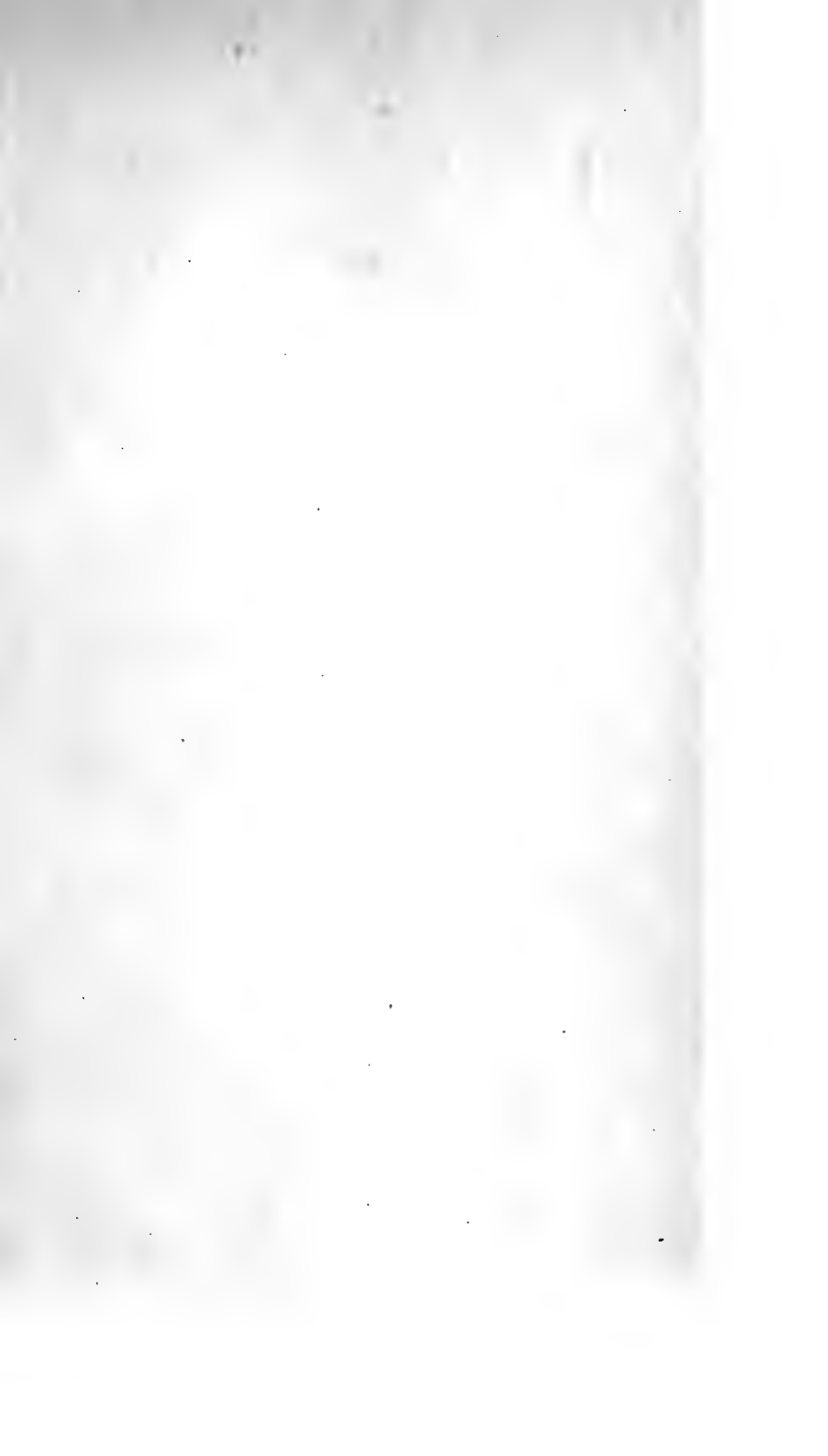
[I am puzzled with this skin. It seems to me too small for a female—wing barely 14 inches; tarsus, 3.17 at the outside. Most of our ascertained young females are larger, and this must be a very old bird. The plumage only differs from that of the normal adult male in having the winglet, primary greater coverts, and secondaries a dark iron grey instead of a more or less silvery grey, but I have seen males showing this same variation.—ED., S. F.]

SIR,

ANOTHER bird to record from Sind, viz., 631.—*Zosterops palpebrosus*.^{*} Mr. J. Cumming shot it in the Lyaree Gardens, and sent it to me to-day. It is a young bird, and I have no doubt, after seeing the eggs collected by Mr. Cumming last year at about the same time, that the species breeds in Sind. The eggs shown to me as having been taken last year are a very pale blue. The specimen answers Jerdon's description very well, except that it is about one-eighth smaller in size. The wings too are smaller, the under wing-coverts and abdomen bare.

J. MURRAY,
Curator, Frere Museum,
Karachi.

^{*} See for distribution in Western India, III., p. 491.—ED. S. F.



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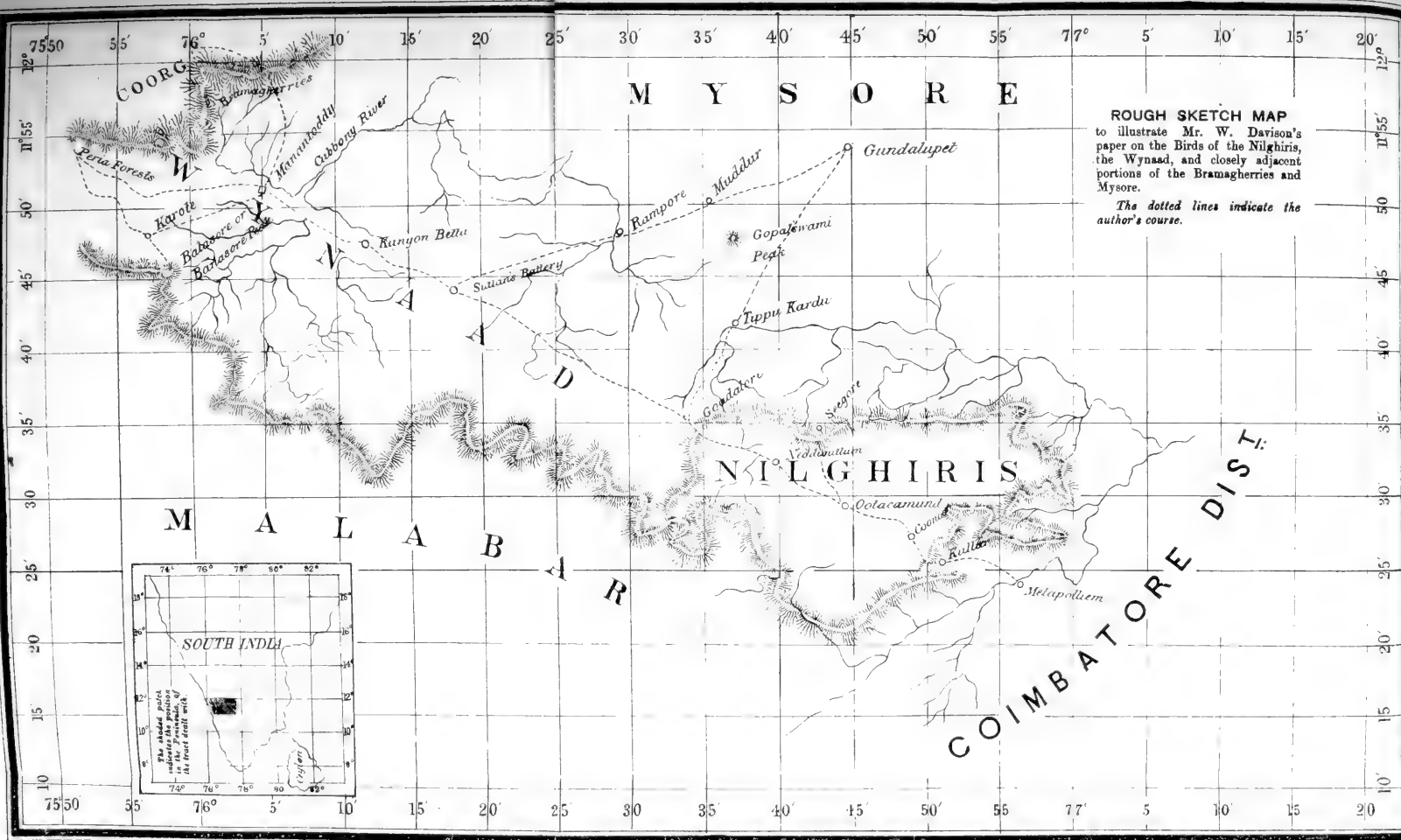
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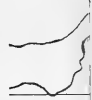
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ROUGH SKETCH MAP
 to illustrate Mr. W. Davison's
 paper on the Birds of the Nilghiris,
 the Wynad, and closely adjacent
 portions of the Bramagheries and
 Mysore.
 The dotted lines indicate the
 author's course.



STRAY FEATHERS.

Vol. X.]

MARCH 1883.

[No. 5.

Notes on some Birds collected on the Nilghiris and in parts of Wynnaad and Southern Mysore.

BY WILLIAM DAVISON.

THE following notes on a collection of birds from part of Southern India ought to have appeared long ere this, but a serious illness prevented my writing it before, and even now that it is done, I feel that it is far from satisfactory.

Finding myself on the Nilghiris in March 1881, and having some time to spare, it struck me that it would be a good thing to try and procure specimens of *Trochalopteryx jerdoni*, and clear up the question whether it really was distinct from *T. fairbanki*, or not.

I left Ootacamund for the Wynnaad on the 23rd of March, and returned to Ootacamund on the last day of May, so that my trip occupied two months and a few days.

I marched very slowly, and collected all the birds of interest I came across. I also kept a careful daily journal, in which I entered everything of interest, and, as far as I could, carefully noted the occurrence of birds of which I did not actually procure specimens.

I have endeavoured in the paper to make the list of birds as complete as possible, but it is notwithstanding I know sadly incomplete, and this is due to several reasons. It is impossible, in the short space of two months, to get anything like a complete knowledge of the avifauna of as large a tract as that embraced in this paper. The time of year was bad. When I started the country was all dried up, and by the time I returned the rains had rendered travelling anything but easy or pleasant, added to which it was the most sickly time of the year as I found to my cost.

However, I succeeded in the chief object of my journey, which was to procure *Trochalopteryx jerdoni*. I got twelve fine specimens, and though I did not procure them actually in the same locality as Dr. Jerdon did, I got them on the Brama-

gherries, a range of hills separating Coorg from the Wynaad, and only about 20 miles in a direct line from Banasore (or more correctly perhaps Balasore), the peak where Jerdon procured his type.

It will be found in the paper that I have omitted birds which must occur. For instance, I have not entered any of the white Egrets. These I have omitted, because I was unable to identify the species with certainty. I did not during this trip procure any specimens, but I saw white Egrets on several occasions; the same with *Dendrocygna*. A *Dendrocygna* occurs on the Gundalupet lake, but not having procured specimens lately, I could not venture now, at this distance of time, (it is about 12 years since I was last duck-shooting there) to state whether it was *D. major* or *D. javanica*, though from what I can remember I think it was the former; possibly both species occur.

I had intended to have given a description of the country passed through, but this is, I think, hardly necessary, and will only tend to make the paper unnecessarily long. There will be hardly any of my readers who do not know what the Nilghiris are like, undulating grassy hills, with the ravines between the hills filled with strips of evergreen forest, mostly small, called *sholas*. Sometimes, however, the forest does not confine itself to the ravine, but spreads over the hills on either side more or less, sometimes covering several hills, and thus forming an extensive forest. Most of the sholas have a stream running through them, and nearly all tail off in a marsh. Most of the forests are evergreen, the undergrowth consisting chiefly of *Strobilanthes*, and easy enough to get about in, but often the undergrowth consists of a thin bamboo, about the thickness of one's finger.

As one gets down the slopes, the evergreen forests give way to a great extent to deciduous trees and large bamboos, especially one very thorny kind, and the jungle becomes thin. This is chiefly on the Seegore and Coonoor side of the hills. But on the Nedddivuttum side, the ghât leading into the Wynaad, the evergreen forests continue much lower, being somewhat broken about Goodalore, but soon recommencing.

The Wynaad of course is now, to a very great extent, denuded of its forests, plantations of coffee and chinchona having taken their place, but large extents of forests are still existent, chiefly on the ghâts overlooking the low country towards Calicut.

A bird's-eye view of Wynaad would show it as a country of innumerable little hills, with marshy ground between the hills, the hills mostly cultivated with coffee, &c., many still covered with forest, and the marshy ground between mostly under rice cultivation.

Passing from the Wynaad to the Mysore country, the character of the vegetation continues much the same up to Rampore, on the line of division between Mysore and the Wynaad. From here the country begins again gradually to change, the soil becoming sandy, and the trees stunted, especially teak and blackwood when they occur; still further on it changes still more, all forest disappearing, and thorny scrub taking its place; the soil gets more sterile and rocky, till near Gundalupet it becomes very rocky indeed. The country about Bandipur though is different, consisting of open jungle with fine grassy glades, and only here and there in the ravines dense scrub and bamboo, and so it continues for most of the way till Goodalore is again reached.

To Mr. Rhodes Morgan I am greatly indebted, and it is mainly owing to his assistance that I was enabled to procure specimens of *T. jerdoni*, and I have to thank Mr. Hume for his kindness in verifying in many cases my identifications. All the birds collected during the trip are now in Mr. Hume's Museum.

[Mr. Davison enumerates 281 species. Of these, 4.—*Gyps indicus*, and, 986.—*Sterna fluviatilis*, probably should stand as, 4 *bis*.—*G. pallescens*, and 987 *bis*.—*Sterna albigena*. 135 *quat*.—*Alcedo beavani*, is doubtful, and probably, if identical with the Travancore bird, should bear a distinct name. As for 105.—*Batrachostomus moniliger*, there is really no good reason for believing that it occurs on the Nilghiris. I have added in brackets 50 species* that I *know* to have occurred within the limits to which Davison's list refers; and there are fully an equal number of species which I am quite sure must occur there, but in regard to which I have no certain record, at least on which I can at the moment lay my hands. One point has to be remembered: Davison's trip in the low country was very hurried, and was made during April and May after all the migratory ducks, &c., had left, so that, despite his long and accurate knowledge of the Upper Nilghiri birds, it is not surprising that his list (written away from the museum, and when he was ill) should contain only, say, 280, out of a probable total (in round numbers) of 400 species.—ED., S. F.]

2.—*Otogyps calvus*, Scop. The Black Vulture.

As Vultures count this species is not abundant on the Nilghiris, for, when perhaps as many as forty or fifty other

* Since this has been in type, Mr. Davison himself, in correcting the proofs, has confirmed from his own experience the occurrence of 8 or 10 of these 50 species.—ED.

Vultures may be congregated near a body, only two or three, seldom indeed as many as half a dozen, of this species, will be found with the mob. At other times they are met with singly or in pairs.

On two occasions I have come across this Vulture feeding on carrion hid away in the depth of heavy forest. Once was in Burmah, when in company with Mr. A. L. Hough, ascending the Pakehan, we came across one tearing at the body of a freshly killed muggur. In this case the body lay on a tiny sandbank abutting on the bank of the stream; and, although visible from the canoes, was so overshadowed by the dense vegetation growing on the bank as to be, I should think, quite invisible from a height of even five or six feet. The other occasion was on the Nilghiris; walking up the bed of a stream in a thick shola, I flushed one off the putrid remains of what appeared to be the body of a dog or jackal; but as the body was partially submerged, and the smell intolerable, I did not stop to make sure. The repast to that Vulture was no doubt extremely nice to judge from the reluctance with which it quitted it. It was facing me, and must have seen me when I was 30 yards away; yet I approached within ten yards and then stood, but it took no apparent notice of me. But on one of my dogs putting in an appearance, it (the Vulture and not the dog) took a couple of ungainly hops towards me. Rising with a lumbering flight it passed over my head at a height of about six feet, into the open, through a break in the trees.

In my trip through the Wynaad and part of Mysore I saw it but twice to identify it with certainty—once at Goodalore and once at Sultan's Battery.

I too have noticed what Jerdon says about the fear shown by *Gyps bengalensis* and *G. indicus* of this species.

4.—*Gyps indicus*, Scop. The Long-billed Brown Vulture.

5.—*Pseudogyps bengalensis*, Gm. The White-backed Vulture.

Both these species* occur on the Nilghiris and its slopes, and through the Wynaad. The former is, comparatively, not very common, especially on the Nilghiris, where I have only noticed it occasionally. The latter is abundant everywhere.

* I think it very doubtful whether the Nilghiri bird is *indicus*; it is more probably *pallascens*.—ED., S. F.

6.—*Neophron ginginianus*, *Lath.* The Indian Scavenger Vulture.

This species is very abundant on the Nilghiris, but especially so within the station of Ootacamund and about the Badaga villages in its vicinity. I found it also common on the slopes, and over those portions of the Wynaad that I traversed. It is a fearless bird, and allows of a very near approach, especially when feeding. They breed about the numerous cliffs on the Nilghiris and their slopes. A pair bred for many years on the cliffs just above the last toll-bar into Ooty on the Coonoor road, but they have deserted the spot for many years now. They always used the same nest, merely adding to it year by year, till at last it became so high that I, who yearly ascended to take the eggs, could barely look into it when standing on the ledge, so thinking the best thing to do was to remove the entire structure, I did so, hoping they would commence afresh, but they never returned to the spot afterwards.

[8.—*Falco peregrinus*, *Tunst.* The Peregrine.

Has been killed in the Wynaad, near Sultan's Battery.—A. O. H.] On the 24th of January last I saw a pair of Peregrines close to Ootacamund; they passed close enough for me to identify them with certainty.—W. D.

9.—*Falco peregrinator*, *Sund.* The Shaheen.

This Falcon is rare on the Nilghiris and its slopes; in former years I have noticed it occasionally. On the 26th of March last, half way between Neddivuttum and Goodalore, one passed me with great velocity, and made a stoop at a number of *Acridotheres mahrattensis* perched on a small dead tree, but, as far as I could see, without success. It did not return but kept on its course towards a cliff about half a mile distant, among the crags of which I saw it finally disappear.

[11.—*Falco jugger*, *J. E. Gray.* The Laggar.

Has occurred in S. W. Mysore, close to Gudalupet.—A. O. H.]

? 14.—*Falco severus*, *Horsf.* The Indian Hobby.

I enter this species as an inhabitant of the Nilghiris with doubt. I have never shot it, nor have I lately seen it, but about ten years ago, when I was living at Neddivuttum, I, on several occasions, noticed a pair of small blackish Falcons with dark ruddy underparts frequenting the ibex rocks near Pykarra. They were too small for *Falco perigrinator*, and I cannot think what else they could have been if not *F. severus*.*

* Which occurs in the Travancere hills, *vide* "S. F.," IV, 354.—ED., S. F.

[16.—*Falco chiquera*, Doud. The Turum-tee.

Has occurred at the base of the Nilghiris on the Bangalore road, and doubtless throughout the low country.—A. O. H.]

17.—*Cerchneis tinnunculus*, Lin. The Kestrel.

I obtained specimens of both races of the Kestrel on the Nilghiris—the pale migratory race and the dark rufous resident race. The dark resident race is not confined to the Nilghiris, but spreads through the Wynaad. I shot one near Karote at the foot of the Banasore Peak, and saw a couple of others on the Bramagherries.

I think it not improbable that Dr. Jerdon was in error in stating that he found the Lesser Kestrel breeding on cliffs on the Nilghiris; he probably mistook it for the resident race of the common Kestrel, which does breed on cliffs, &c. A pair have, for many years, as long as I can remember, frequented and yearly bred on the cliffs at the entrance to Ootacamund from Coonoor. This year (January 1883) they are still there.

The resident race is common on the Nilghiris and their slopes, frequenting the more open and cultivated tracts. They feed chiefly on reptiles, but occasionally at any rate on birds. I have seen one pounce down, seize and carry off a Quail (*Microperdia erythrorhynchus*).

22.—*Astur trivirgatus*, Tem. The Southern-crested Goshawk.

This species is not common on the Nilghiris and its slopes, but occurs somewhat more numerous in parts of the Wynaad. As a rule it keeps to the forest or its outskirts, but I have, on several occasions, seen it frequenting isolated trees on grassy land. It preys largely on small birds, but also seizes lizards and locusts. It is very quick and sure in its movements. On two occasions I have seen *Hypsipetes ganeesa* seized by it in thick jungle. It is not a shy bird, and when it has seized any prey it allows of a very near approach. Jerdon says that "it is not very rare in the Nilghiris, and occasionally commits depredations on pigeons, chickens, &c." It may not have been rare on the Nilghiris when he wrote, but my own experience is that in three or four months hard collecting on the Nilghiris one may secure two or three specimens during that time, whereas in the Wynaad, between Nellacotta and Devala, I have seen as many as five in one morning. As to its depredations among pigeons and chickens, I have never seen it come about houses. The bird that does commit sad havoc in poultry yards and dovecots is Bonelli's Eagle (*Nisaetus fasciatus*).

The following are the dimensions and colours of soft parts of a fine male shot in the cardamum forests, Peria, Wynaad, on the 2nd of May 1881 :—

Male.—Length, 15·0 ; expanse, 27·3 ; tail, 6·8 ; wing, 8·2 ; tarsus, 2·2 ; bill from gape, 1·1 ; weight, 8 ozs. Irides orange ; legs and feet chrome yellow ; claws, upper mandible, edges and tip of lower mandible black ; rest of lower mandible plumbeous blue ; gape, cere, edges of eyelids and facial skin greenish yellow.

23.—*Astur badius*, *Gm.* The Shikra.

This species is not uncommon on the plateau of the Nilghiris, but occurs more commonly on the slopes of the hills and in the Wynaad.

24.—*Accipiter nisus*, *Lin.* The Sparrow Hawk.

A winter visitant, and occurring sparingly on the hills. A female shot at Ootacamund on the 7th of February 1881 is undistinguishable from many European specimens, showing no approach to *melaschistus*.

25.—*Accipiter virgatus*, *Reinw.* The Besra.

This species is rare on the Nilghiris. I obtained a couple on the Coonoor Ghat, and have seen it several times in the same locality. I did not meet with it in the Wynaad or the Mysore country. It is a forest-loving bird, keeping to the forest or its outskirts, and never, that I am aware, coming any distance into the open. I have occasionally seen it taking short circling flights above the tree tops, but usually it keeps low down, on the lower branches of the larger trees, or in the undergrowth, taking short rapid flights from tree to tree, generally giving itself a shake on alighting. It is very watchful and difficult to approach once it suspects danger. One specimen I shot, a male, had seized a *Carpodacus erythrinus*, and in its stomach I found the remains of a green tree-lizard and a black wood-beetle. It is, I think, a very silent bird, and only once have I heard its note—a rather prolonged soft double whistle, rather an odd note for a Hawk. It is I think a permanent resident, but I have never found its nest.

[31.—*Hieraëtus pennatus*, *Gm.* The Booted Eagle.

Not uncommon in the Wynaad, from which I received a pair many years ago.—A. O. H.]

32.—*Neopus malayensis*, *Reinw.* The Black Eagle.

This fine Eagle is not uncommon on the Nilghiris and its slopes. Jerdon has so well and fully described its habits that I

have nothing to add, except that I can, with certainty, speak of its, occasionally at any rate, feeding on reptiles, as I have found the remains of a small snake in one.

33.—*Nisaëtus fasciatus*, Vieill. Bonelli's Eagle.

This Eagle is not very rare on the Nilghiris and its slopes, and I have also seen it in the plains country at the foot of the hills. It is very bold, and commits great havoc among domestic pigeons. I have seen one pounce down and carry off a large-sized English hen that certainly must have weighed as heavy as it did itself; and on another occasion I saw one make two unsuccessful stoops at a hare, striking it, however, the third time. Usually it is seen in pairs, and I have not unfrequently seen a pair circling at a considerable height over the station of Ootacamund.

[35.—*Limnaëtus cirrhatus*, Gm. The Crested Hawk Eagle.

Certainly occurs not only on the Nilghiris themselves, whence I have had specimens, but also in the Wynaad and S. W. Mysore.—A. O. H.]

36.—*Limnaëtus nipalensis*, Hodgs. Hodgson's Hawk-Eagle.

I know of but one specimen of this species obtained on the Nilghiris, and that was given to me in June 1872 for Mr. Hume by Mr. F. L. Chapman of Ootacamund.* This species is always, as pointed out by Mr. Hume (*vide* S. F., I., 319), distinguished at once from the other Indian Hawk-Eagles by the feathering of the tarsi running down beyond the first joint of the mid toe.

I once at Neddivuttum saw a large crested Hawk-Eagle perched on a tree by the roadside, which was probably also of this species.

39.—*Spilornis cheela*, Lath. The Indian Harrier-Eagle.

I obtained one specimen of this species, a female, at Kullar, at the foot of the Coonoor Ghat on the 1st of February 1881. The wing measured 18·5 inches. This species I should say is very rare in Southern India.

* I cannot now find this skin, and I cannot, therefore, be sure that this specimen did not belong to the southern form called *S. kelaarti* by Major Legge.—Ed., S. F.

39bis.—*Spilornis melanotis*, Jerd. The Southern Indian Harrier-Eagle.

Neither this nor the former species occurs on the higher portions of the Nilghiris; but I have on two occasions seen a Harrier-Eagle at Coonoor, but too far off to identify the species; they were probably of the present, and not the preceding species. The present species I have seen but seldom on the lower portion of the slopes, but it is not uncommon at the foot of the hills and through the Wynaad. Its habits and note are the same as those of the other species of the genus, perching, by preference, on some huge dead tree from whence it can see over the surrounding country for a long distance. It preys on lizards, snakes, and, as I found, on small land tortoises as well. When seated, it is as a rule silent; occasionally as it takes flight it utters its wild plaintive note, but it is when circling far overhead that its cry is most frequently heard. I have usually found them singly, occasionally in pairs, and once I saw four together circling high in the air. It sometimes eats its prey on the ground where it has seized it instead of carrying it away to some neighbouring tree.

The following are the dimensions, &c., of two fine adult females shot in the Wynaad:—

No. 1, *female* ad: Nellacotta, 30th of March 1881.—Length, 24·2; expanse, 48·5; tail, 11·0; wing, 15·6; tarsus, 3·6; bill from gape, 1·75; weight, 2·25 lbs.

No. 2, *female* ad: Nellacotta, 28th March 1881.—Length, 24·5; expanse, 54; tail, 11·0; wing, 15·4; tarsus, 3·45; bill from gape, 1·8; weight, 2·12 lbs. Facial skin, legs, and feet chrome yellow; irides bright yellow; bill plumbeous; tip of lower mandible, and apical half of upper mandible, dull black.

No. 1 has the ear-coverts and sides of face behind the eye and the throat almost black. The upper breast is a very dark brown, gradually paling towards the abdomen. The feathers of the upper and lower breast are fringed paler owing to the abrasion of the ends of the feathers. There is absolutely no trace of barring anywhere on the lower surface.

No. 2 has the sides of the face and ear-coverts blackish brown, but the throat is unicolorous with the breast, which is somewhat of a lighter shade than in No. 1. On the abdomen there are a very few indistinct traces of cross barring on the feathers, but otherwise the lower surface is unbarred. Both these specimens were sexed by myself, and I am perfectly sure that both were females. In No. 2 the ovaries were well developed, the largest egg being nearly the size of a walnut.

I may mention that I observed that this species in the Wynaad appeared to frequent by preference those tracts of country covered with bamboo, and interspersed with grassy glades, with here and there isolated trees or small clumps of these. When I observed it near any extensive forest it was on the outskirts.

? 47.—*Buteo plumipes*, *Hodgs.* The Harrier Buzzard.

I saw a specimen, a Buzzard, in the dark fuliginous plumage of *plumipes* in a swamp within the station of Ootacamund, but having no gun with me at the time I failed to secure it. In former years, when resident on the Nilghiris, I have seen Buzzards on several occasions, but the genus is rare on the Nilghiris.

? 47 bis.—*Buteo desertorum*. The African Buzzard.

Male.—Bramagherries, 16th April 1882. Length, 19·0; expanse, 44·0; tail, 7·4; wing, 13·4; tarsus, 2·6; bill from gape, 1·5; weight, 1·25 lbs. Legs, feet, cere, gape yellow; claws and bill black; lower mandible plumbeous at base; irides whitey brown.

This, the only specimen of a Buzzard that I obtained, has been referred to *desertorum* by Mr. Hume, in whose view Mr. Gurney concurs.* The type of colouration more nearly approaches that of *plumipes* than of *desertorum*. I have, however, I should note, never seen a specimen of *desertorum*, and judge entirely by the figures in Le Vaillant, Bree and Dresser. Among our large series of *plumipes* there are several which very closely approach my specimen in colouration. But what has led to our assigning the bird to *desertorum* rather than to *plumipes* is its size, the wing measuring only 13·4.

In 34 specimens of *plumipes*, the measurements of which are recorded by Mr. Hume (S. F., IV., 361, and V., 348), the wing varies from 14·3 in the smallest male to 15·9 in the largest female. In our museum is quite a young bird from Cashmere with the nestling down still adhering to the feathers, and in this the wing is 14·2, although its bill, tarsi and feet are smaller than in my specimen.

51.—*Circus macrurus*, *S. G. Gm.* The Pale Harrier.

This Harrier is a cold weather visitant, only, to the Nilghiris, coming in about the end of October, and I have seen it as late as the last week in April.

It is very abundant, frequenting, by preference, the cultivated land about the Badaga villages, but also found commonly about

* *Vide ante*, p. 159.

the bare grassy hills and swamps. It avoids thickly-wooded ground. It feeds chiefly on reptiles and field mice, but also on birds. I saw one carry off a Myna (*Acridotheres mahrattensis*) from out of a flock of about thirty that were feeding on the ground. I followed the Harrier up and shot it; the Myna was quite dead, but in excellent condition, but it was blind of one eye. I have also found the remains of young Quail (*M. erythrorhynchus*) in the stomach of one shot near Coonoor.

The following are the dimensions, &c., of three nearly adult females:—Length, 20·0 to 20·5; expanse, 44·0 to 46·5; tail, 9·3 to 10·6; wing, 14·0 to 14·7; tarsus, 2·8 to 3·0; bill from gape, 1·3 to 1·35; weight, 15 to 16 ozs.

Irides bright yellow; legs and feet chrome yellow; cere greenish; claws black; bill plumbeous, shading to black at tip.

Jerdon, in his description of the female of this species, says: “Beneath dark ochraceous, with brown streaks continued on the lower tail-coverts, &c.” Now the lower surface is not always dark ochraceous; in two out of my three females, which are all very nearly adult, the lower surface is white, broadly streaked with brown in one, narrowly in the other. In the third specimen the lower surface is a pale ochraceous buff similarly streaked.

In the young male, which is not described by Jerdon, the lower surface is what I should call a warm ochraceous buff, this colour extending in a narrow somewhat interrupted band completely round the neck; a supercilium, a streak below the eye, and a fringing to all the wing-coverts, and some of the tertiaries, are of this same colour; the outermost three tail feathers on each side on their upper surfaces are ochraceous, broadly transversely banded with dull black; the other tail feathers are hair brown, with a silvery grey shade towards their bases, indistinctly transversely banded with black, and with a broad subterminal black band which is very narrowly fringed with ochraceous. The rest of the upper surface is a warm hair brown, darkest on the head.

53.—*Circus melanoleucus*, Penn. The Pied Harrier.

The Pied Harrier occurs but sparingly on the Nilghiris, their slopes, and in the Wynaad. The young are I think more often seen than adults. In habits and food this species does not differ from the preceding, and like it, it is of course only a cold weather visitant. A young male, shot near Manantoddy, in the Wynaad, was in the transition stage to the adult plumage, showing a mottling of black feathers on the head, neck, mantle, sides of face, and throat.

54.—Circus æruginosus, Lin. The Marsh Harrier.

This Harrier is not uncommon on the Nilghiris and their slopes. Usually it keeps about marshy ground, but not unfrequently it may be seen hunting over the grassy side of a hill, or dry cultivated ground. It is a bold fearless bird, and I have on more than one occasion seen one strike at wounded Snipe and Quail. Young birds are much more commonly met with than adults.

55.—Haliastur indus, Bodd. The Brahminy Kite.

This species is not very numerous on the Nilghiris. It is much more common in the Wynaad, and one or more may be found in almost every paddy-field. Jerdon has given such an excellent description of the habits, &c., of this bird, that I can add nothing. A few pairs may always be found about the swampy shores of the lake at Ootacamund. If the nest or eggs of this species are touched, often, if the nest is merely looked into, the birds will, as a rule, forsake the nest, breaking any eggs that there are in it.

56.—Milvus govinda, Sykes. The Pariah Kite.

From December till the commencement of the rains in June this species is common about Ootacamund, but very few are to be seen during the S. W. Monsoon. I have noticed the Kites about here very closely, but I haven't seen either the large *melanotis*, Tem. and Schl. or the small *affinis*, Gould. Very few indeed breed on the Nilghiris.

57.—Pernis ptilorhynchus, Tem. The Crested Honey Buzzard.

I have never noticed this species on the plateau of the Nilghiris, or on the more elevated portion of the slopes, but it occurs on the lower portion of the slopes and through the Wynaad. I procured two females, one at Manantoddy and the other at Bandipur in Mysore, in both of which the crest was much more developed than in the mass of birds from Upper India.

Both specimens had been feeding on honey and young bees; and in one was the half-digested remains of a young snake.

59.—Elanus cæruleus, Desf. The Black Winged Kite.

This species is rare on the hills. Some years ago I shot one at Neddivuttum, and my shikaree got another below

Kotagherry, and I have seen it on perhaps half a dozen occasions. I am unable to say whether it is a permanent resident or not.

60.—*Strix javanica*, Gm. The Eastern Screech-Owl.

Rare on the Nilghiris, lives in holes of rocks. I believe it to be a permanent resident.

61.—*Strix candida*, Tick. The Grass-Owl.

This species too is rare on the Nilghiris, but not so rare perhaps as the last. I have myself shot it on several occasions, and have handled two or three others. It does not always live in long grass, as I have, on two occasions, flushed it from grass scarcely a foot high.

A fine adult male, shot on the Bramagherries on the 19th of April (a range of hills dividing Coorg and the Wynaad), measured in the flesh:—Length, 14·8; expanse, 45·5; tail, 5·3; wing, 13·2; tarsus, 3·3; tibia, 4·0; bill from gape, 1·9; weight, 14 oz. Bill and cere pinky white; legs and feet bluish brown; irides deep brown; claws horny, tinged bluish.

Jerdon's description (*Birds of India*, Vol. I., p. 118) is probably that of an immature bird, and as the bird is rare I append a description of my specimen, a fine adult male.

The whole of the upper surface, including forehead and crown of head, is a rich dark-brown, each feather of the back, scapulars, upper tail-coverts, and tertiary coverts with a minute triangular white speck at the tip; the feathers of the occiput, mantle, scapulars, secondary, and tertiary coverts, more or less broadly edged on the sides with buff. Primaries buff on their outer webs, on their inner webs white, tinged along the shaft with buff, and with one or more bars or splashes of dark brown, freckled along their outer webs with dark brown, which becomes more and more dense towards the tip of the feathers, the terminal inch or more of which are brown; secondaries similar to the primaries, but wanting the buffy shade on their inner webs, and with the mottling, and bare ring, and terminal inch or so of a much paler brown. In the tertiaries the buffy tinge is altogether lost, except at the extreme edge of the outer webs; the two uppermost tertiaries are brown, whitish towards their bases, which colour, however, is hid by the overlapping coverts. The ground colour of the tail is pure white; the central pair of feathers are barred across both webs with two bars of rich dark brown, and exhibit a shaft spot of the same colour, three-fourths of an inch from the end of the upper tail-coverts; the outer feathers are

banded only on their outer webs with brown, which becomes paler and less developed on each succeeding feather, the two outermost feathers on each side being pure unsullied white; the disc, ruff, and entire lower parts, including wing-lining, axillaries, tibial, and tarsal plumes, pure white, with the following exceptions: there is a deep brown spot at the inner angle of the eye; the ruff, which is otherwise of a pure satiny white, is slightly tinged with buff; there is a tinge of the same colour on the upper breast, and each feather of the breast and abdomen has a small brown triangular spot; the sides of the shoulder and wing, along carpal joint, buff; the feathers of each side of the neck with a small triangular spot at the tip.

63.—*Syrnium indranees*, Sykes. The Brown Wood-Owl.

This Owl is not uncommon on the Nilghiris and their slopes, but is less common in the Wynaad. Sometimes it is found in pairs, sometimes singly. It generally keeps to the sholas during the day, coming out by dusk; but I have flushed it from among rocks. It is very fond of perching on the roof of a house at night and hooting, remaining often for an hour or more, hence it is that it is so dreaded by the natives, who believe that such visits are bad omens, portending the death of one of the inmates of the house. There is nothing very dreadful in the sound of its hoot, which is not unlike that of *Syrnium nivicolium*, only consisting of four hoots instead of only a double hoot. I have heard the hoot many hundreds of times, but I have never heard it utter the doleful cries attributed to it by Captain Legge and others. It seems to see well during the day, and once disturbed is by no means easy of approach. It is not unfrequently flushed when beating the sholas for game.

The following are the dimensions recorded in the flesh of two fine females:—Length, 18·5, 19·0; expanse, 42, 45; tail, 8·0, 8·3; wing, 13·5, 13·6; tarsus, 2·1, 2·3; bill from gape, 1·6; weight, 22 and 26 ozs. Irides dark brown; bill bluish horny; exposed portion of feet bluish fleshy; claws pale brownish horny. In this species the colour of the disc appears to vary considerably. In a specimen in our museum from Ceylon, the outer margin is a dark ochraceous. In one of my specimens the ochraceous of the disc is very much paler than in the Ceylon specimen, while in my other specimen the ochraceous is still paler, and is closely transversely banded with black. This barring of the disc is probably a sign of nonage, as the specimen that has it is apparently not quite adult.

[65.—*Syrnium ocellatum*, *Less.* The Mottled Wood-Owl.

Southern base of the Nilghiris, north of the Collegal taluk. South-west Mysore.—A. O. H.]

[68.—*Asio accipitrinus*, *Pall.* The Short-eared Owl.

Certainly occurs on the lower slopes of the Nilghiris, as it does also by the way on the Pulneys.—A. O. H.]

69.—*Bubo bengalensis*, *Frankl.* The Rock Horned-Owl.

Very rare on the Nilghiris. On two occasions I have flushed it from under a bush growing on the bank of a dry ravine, and on several occasions I have flushed a large owl from among rocks which I at the time identified as *S. indranees*, but which probably really belonged to this species.

71.—*Bubo nipalensis*, *Hodgs.* The Forest Eagle-Owl.

This grand Owl occurs sparingly on the Nilghiris, confining itself to the larger sholas, so that the only time it is seen is when beating for big game, for even after dusk it seldom leaves the shelter of the jungles. Usually I have found it singly, occasionally in pairs. It is a permanent resident on the Nilghiris. The native shikarees say that it continually kills hares, young jackal and young muntjac.

72.—*Ketupa ceylonensis*, *Gm.* The Brown Fish-Owl.

This Fish Owl used to be not uncommon in the sholas of the Nilghiris, but of late years it seems almost to have disappeared. It extends also through the Wynaad, for I flushed one on the banks of the river near Manantoddy. As stated by Jerdon, its food consists largely of crabs, which abound in all the swamps and marshes on the Nilghiris. It is usually found in pairs.

[74.—*Scops pennatus*, *Hodgs.* The Indian Scops Owl.

I believe I have seen this from Nilghiris; and a pair were certainly sent us from the Wynaad.—A. O. H.] I have since obtained a beautiful specimen of this species from Seegore.—W. D.

75 *quat.*—*Scops malabaricus*, *Jerd.* The Malabar Scops Owl.

The Malabar Scops Owl does not ascend the hills to any height. I have never seen it above 4,000 feet, but when it does occur, it is apparently not very rare, for every night its rather melan-

choly double metallic hoot is sure to be heard, but it is a difficult bird to obtain specimens of, as it apparently never comes forth till night has well set in. It feeds like all the other Owlets on insects chiefly, but also captures field mice.

76.—*Carine brama*, *Tem.* The Spotted Owlet.

I have never met with the Spotted Owlet on the Nilghiris or its slopes; it is apparently confined to the plains country, and there it is common enough. It is the earliest of all the owls to appear, and the last to disappear.* I have seen it almost immediately after sunset, and in the morning as late as 8 o'clock. It is such a noisy little bird that it always attracts attention; and its habits must be so well known to everyone who has ever been in the plains that it is not worth my while saying anything further about it here. I may, however, remark that the species seems to vary considerably in depth of colour, birds from Southern India being usually much darker, with the markings on the head smaller (approaching in this respect *pulchra*) than those from Upper India, Sindh, &c., but this is not an invariable rule. One of the palest birds in the museum is from Madras, and a specimen from Sindh, on the other hand, is undistinguishable from the darkest Southern Indian bird; nor does the character of the markings hold good. My specimens are all very dark coloured, quite as dark as *pulchra*, but the white markings, especially those of the head, are not so small, and the band on the throat conspicuously lighter than in that latter species.

77.—*Glaucidium radiatum*, *Tick.* The Jungle Owlet.

I have carefully compared a fine adult male shot at Seegore (at the foot of the Ghât leading into Mysore) with others from Anjango, Allahabad, &c. It is greyer even than birds from Allahabad, with the white barrings broader and more conspicuous. And another specimen from Coonoor is very similar to the Seegore bird, though not quite so grey perhaps, though still showing no approach to the form separated as *malabaricum*.

Since the above was written I have obtained another typical specimen of *radiatum*, quite as grey as the other.

Though no doubt typical forms of *malabaricum* and *radiatum* are very distinct, yet in a large series even from the same district the two forms will be found to glide into each other, forming a perfect unbroken series between the two varieties.

This Owlet ascends the hills up as high as Coonoor, where I have shot it. It seems to see well in the day. It is more

* Except *G. cuculoides*, which one often sees in the Eastern Hills out in the open at midday.—ED., S. F.

common on the lower slopes, and at the foot of the hills. Jerdon's name of Jungle Owlet is not a particularly happy one, for it is not more of a Jungle Owlet* than *Carine brama*, inhabiting similar situations. I have seen as many as four or five perched on the telegraph wire opposite the bungalow at Seegore.

It makes its appearance in the evening, a little later than *brama*, and retires, as a rule, earlier, though in a very shady grove of trees or bamboos. I have seen it on the move till quite late. It feeds on locusts, lizards, &c.

78.—*Glaucidium malabaricum*, Bly. The Malabar Owlet.

I enter this species in my list, as I have a bird which, though not attaining the depth of rufous tint that the Travancore birds as a rule do, yet approaches more closely to that form than to *radiatum*. This specimen was also shot at Seegore.

81bis.—*Ninox scutulata*. Raff. The Southern Hawk Owl.

Nearly every night, while in the Wynaad, and also on the Bramagherries, I heard a *Ninox*, but unfortunately was unable to procure a specimen. I have no doubt, however, that it was this small dark race.

[**82.—*Hirundo rustica*, Lin.** The Swallow.

Occurs throughout the region, though perhaps not ascending the hills to any great elevation. I saw several at the foot of the Coonoor Ghât.—A. O. H.]

83.—*Hirundo javanica*, Sparrm. The Brown-bellied Swallow.

A resident species, and very common on the Nilghiris and its slopes. They commence to breed about the last week in February, building an open cup-shaped nest of mud, thickly lined with feathers, and placed against the roof of some deserted building or under some shelving rock. The following are the dimensions of a male taken in the flesh:—Length, 5·2; expanse, 11·1, tail, 2·05; wing, 4·3; tarsus, 0·36; bill from gape, 0·5.

85.—*Hirundo erythropygia*, Sykes. The Mosque Swallow.

This species is also abundant on the Nilghiris, and is a resident species breeding in the same situations as the last, but

* But you never get it in any tract of country devoid of jungle, whereas you get *brama* almost in the desert. Vide S. F., I., 164.—ED., S. F.

building a retort-shaped nest. They generally, though not always, breed several together, and sometimes three or four nests are joined together. The male often continues to lengthen the entrance after the female is sitting. I once found a nest of this species with the entrance walled up with pellets of clay, and on opening the nest I found a swallow dead and quite dried up in the tubular neck of the nest. Jerdon says: "The eggs are white, faintly marked with rusty coloured spots." This is the exception, not the rule. As a rule, the eggs are pure, spotless white. The species is common, not only on the Nilghiris and its slopes, but occurs commonly through the Wynaad and the Mysore country abutting on the Nilghiris. The following are the dimensions taken in the flesh of a male:—Length, 6·5; expanse, 12·25; tail, 3·05; wing, 4·45; tarsus, 0·55; bill from gape, 0·5.

90.—*Ptyonoprogne concolor*, Sykes. The Dusky Martin.

Not uncommon during the cold weather on the Nilghiris and slopes, but very few apparently remain to breed. It is only found about rocky places, or in their immediate vicinity. It occurs from the level of the plains to as high up as Ootacamund. The following are the dimensions of a male taken in the flesh:—Length, 5·0; expanse, 11·4; tail, 2·0; wing, 4·3; tarsus, 0·35; bill from gape, 0·5. Bill and claws black; legs and feet pale fleshy brown.

91.—*Ptyonoprogne rupestris*, Scop. The Mountain Martin.

A cold-weather visitant only, and never very numerous. I have observed it only in the immediate vicinity of Ootacamund, and always about rocky cliffs. By the end of March all have apparently departed. The following are the dimensions of a male taken in the flesh:—Length, 5·9; expanse, 13·5; tail, 2·3; wing, 4·9; tarsus, 0·45; bill from gape, 0·55; weight, 0·62 oz.

92.—*Chelidon urbica*, Lin. The House Martin.

Only once have I met with this species, and that was some years ago I came across a small party flying about near a steep cutting on the old road between Ootacamund and Coonoor.

95.—*Chætura sylvatica*, Tick. The Forest Spine-tail.

I came across a party of these Swifts hawking over a stream of water in the Peria Forests of Wynaad. I obtained one

specimen, a male (shot 1st May,) and the following are its dimensions, &c., taken in the flesh:—Length, 4·4; expanse, 10·4; tail, 1·65; wing, 4·2; tarsus, 0·4; bill from gape, 0·5; weight, 0·45 oz. Bill and claws black; legs and feet purplish; irides deep brown.

The trivial name given to this species by Dr. Jerdon, “the White-rumped Spinetail,” is not a happy one. The name applies much better to *C. leucopygialis*, Blyth, from Tenasserim and the Malayan Peninsula, which has a pure white rump, whereas in the present species the rump is not white but pale ashy.

96.—*Chætura indica*, Hume. The Large Spine-tail.

The large Spinetail occurs only at odd intervals on the Nilghiris and their slopes, appearing in parties of from about a dozen to fifty or more, but they seldom remain in sight more than a few minutes, disappearing, not to be seen again, perhaps for months. They generally put in an appearance from the east, and disappear in a westerly direction.

Though I have often seen this species about Coonoor and Ootacamund, I have never shot a specimen, so it is just possible that I may be wrong in my identification, and that it is *96bis*.—*Chætura gigantea*, Hass., that really occurs, or both species may occur.*

98.—*Cypsellus melba*, Lin. The Alpine Swift.

The Alpine Swift is not very common on the Nilghiris, but there seems to be a permanent colony located at St. Catherine's Falls at Kotagherry, and a few are generally to be seen at the falls at Kartary and Pykarra. I did not notice either this species or the large Spinetail in the Wynaad or Mysore.

100.—*Cypsellus affinis*, J. E. Gr. The Eastern Swift.

The only place I met with this Swift was at the dâk bungalow at Bandipur, in Mysore, and there the verandah was tenanted by many hundreds. I did not notice it elsewhere during my trip either in the Wynaad or Mysore, and I have never seen it anywhere on the Nilghiris. At Bandipur they had only just commenced to build their nests. This was on the 24th of May.

This month, January 1883, I have seen this Swift on several occasions in the immediate vicinity of Ootacamund.

* All our numerous specimens from the Nilghiris, Wynaad, Coimbatore, and Bangalore are *indica*.—ED., S. F.

[102.—*Cypsellus batassiensis*, *J. E. Gr.* The Palm Swift.

Occurs in the Wynaad at any rate, as a specimen was sent us by mistake from Sultan's Battery with several *C. unicolor*.—A. O. H.]

103.—*Collocalia unicolor*, *Jerd.* The Indian Edible Nest Swiftlet.

Very abundant on the Nilghiris and Bramagherries, where they breed in caves, but never make a pure nest, the nest always being composed of moss and lichen, merely agglutinated together with saliva.

104.—*Dendrochelidon coronata*, *Tick.* The Indian-Crested Swift.

I have never met with this species on the Nilghiris commonly as Dr. Jerdon seems to have done (*vide* B. I., Vol. I., p. 186). I have met with it occasionally in the Wynaad, and on the Ghâts.

105.—*Batrachostomus moniliger*, *Lay.* The Singalese Frogmouth.

I have never myself met with this species either in the Wynaad or the Ghâts of the Nilghiris, nor have I met with any one who has obtained a specimen in these localities. It must, I think, be extremely rare, if indeed it occurs at all.*

108.—*Caprimulgus kelaarti*, *Bly.* The Nilghiri Nightjar.

This species is common on the Nilghiris, and it also occurs, though somewhat more sparingly, through the Wynaad. During the day it retires into some shady place, settling on the ground, or perching on a thick bough. It makes its appearance in the open soon after sunset.

During the pairing and breeding season the males are very noisy. The following are the dimensions taken in the flesh of a male and female:—

Male.—Length, 11·4; expanse, 24·5; tail, 5·9; wing, 7·9; tarsus, 0·7; bill from gape, 1·4; weight, 3 ozs.

Female.—Length, 10·6; expanse, 22·0; tail, 4·9; wing, 7·45; tarsus, 0·6; bill from gape, 1·4.

* We have it from the Travancore hills, but from nowhere as yet further north.—ED., S. F.

111.—*Caprimulgus atripennis*, *Jerd.* The Ghat Nightjar.

I only met with this Nightjar at Manantoddy in the Wynaad, and in that immediate vicinity. It does not seem to occur on the Coonoor, Neddivuttum, or Seegore side of the Nilghiri Ghats, but it occurs below Kotagherry, for Mr. Hume has both skins and eggs from that locality in his museum. The note of this species is quite distinct from that of any of the other *Caprimulgi*, and the first time I heard it I took it for the hoot of an owl.

I noticed that this species was much later in putting in an appearance of an evening than the other Nightjars. I obtained one specimen only, a female, in fine plumage, shot at Manantoddy on the 22nd of April. The following are the dimensions, &c., taken in the flesh :—

Female.—Length, 10·8 ; expanse, 21·8 ; tail, 5·1 ; wing, 7·5 ; tarsus, 0·7 ; bill from gape, 1·45 ; weight, 2·25 ozs. Irides very dark brown, appearing almost black ; bill blackish ; legs, feet, and claws reddish horny brown.

112.—*Caprimulgus asiaticus*, *Lath.* The Asian Nightjar.

Confined to the foot of the Ghâts, and not common even where it does occur. I obtained specimens at Muddur, in the Mysore country.

[114.—*Caprimulgus monticolus*, *Frankl.* Franklin's Nightjar.

I have seen this from South Mysore, close to the bases of the Nilghiris.—A. O. H.]

115.—*Harpactes fasciatus*, *Penn.* The Malabar Trogon.

Though nowhere abundant, this species occurs all through the Wynaad, and up the slopes of the Nilghiris to at least 6,500 feet elevation. I have seen it in the forests of the Droog, at Coonoor, at Pykarra, and Neddivuttum.

It seems to prefer dense shady forests, but I have also seen and shot it in comparatively open places.

It is, as remarked by Jerdon, a somewhat silent bird, and, besides the cat-like mewling note, it has another and perhaps more common note, a sort of kur-r-r-r with all the r's rolled together. This is the note it always utters when alarmed, or when it takes flight. I have seen them descend to the ground to pick up food, but usually, I think, it is taken on the wing. I

have never found anything but insects in the stomach, and these swallowed whole, and but slightly crushed. Beetles seem to constitute their chief food.

The sexes do not seem to differ perceptibly in size. Jerdon is not quite accurate in his description of the colors of the soft parts. The following are the dimensions and colors of the soft parts of a female taken in the flesh :—

Female.—Length, 12·0; expanse, 15·8; tail, 6·5; wing, 5·1; tarsus, 0·6; bill from gape, 1·0; weight., 2·25 ozs. Upper mandible to nostril, ridge of culmen, and extreme tip of lower mandible blackish; rest of bill, gape, and orbital skin cobalt blue; legs and feet pale purplish smalt blue; claws paler; irides deep brown.

117.—*Merops viridis*, *Lin.* The Indian Bee-eater.

Common on the slopes of the Nilghiris, at the foot of the hills and in the Wynaad and Mysore country; on the slopes of Nilghiris between Kulhatty and Seegore it is especially common, breeding in large numbers in company with *Merops swinhoii* (119) in the banks of the road. It does not ascend quite to the plateau of the Nilghiris, stopping at about 6,000 feet elevation.

118.—*Merops philippinus*, *Lin.* The Blue-tailed Bee-eater.

In the tract of country to which the present paper refers, I have found this species very locally distributed, and not numerous, always in small flocks, and never staying beyond a few days in any one locality. I have noticed them on the Coonoor Ghât, on the skirts of the Government cinchona plantations at Neddivuttum, and in the Wynaad at the foot of the Bramagherries.

119.—*Merops swinhoii*, *Hume.* The Indian Chesnut-headed Bee-eater.

This handsome species is quite a common bird on the well-wooded slopes of the Nilghiris; and it also occurs, though less numerous, in the Wynaad, and parts of Mysore. It does not ascend to the plateau of the Nilghiris. A favourite perch for this and *M. viridis* is the telegraph wire. This species breeds numerously in company with *M. viridis* on the Seegore Ghât, and I have also found the nests (as stated by Jerdon) in the banks of the road on the Coonoor Ghât.

122.—*Nyctiornis athertoni*, Jard. and Selb. The Bearded Bee-eater.

I have obtained this bird at several places on the slopes of the Nilghiris up to about 5,000 feet elevation, and I have also seen it in the Wynaad. It restricts itself to well-wooded localities, and is nowhere very numerous, occurring, so far as I have observed, either singly or in pairs. Its note is quite similar to that of *N. amictus*.

123.—*Coracias indica*, Lin. The Indian Roller.

This species does not ascend the hills, and even at the base of the hills, and in the Wynaad it is not common, that is compared to what it is in the plains of India.

I shot a specimen, a female, at Rampore on the borders of Mysore and the Wynaad. This specimen has a broad white nuchal collar,* as in *C. nuchalis* of Africa.

126.—*Eurystomus orientalis*, Lin. The Broad-billed Roller.

Not common, but I have sometimes seen it on the Coonoor Ghât, and once in the Wynaad.

127.—*Pelargopsis gural*, Pears. The Brown-headed (Stork-billed) Kingfisher.

I have seen this species on some of the larger streams in the Wynaad, but only occasionally. It is not a common bird even where it does occur.

129.—*Halcyon smyrnensis*, Lin. The White-breasted Kingfisher.

This bird is a straggler to the table land of the Nilghiris. I have on two or three occasions shot it at Ootacamund; at the base of the hills, especially in the better wooded portions of the country, it is not an uncommon bird.

134.—*Alcedo bengalensis*, Gm. The Indian Kingfisher.

Common everywhere.

? **135^{quat}.—*Alcedo beavani*, Wald.** Beavan's Kingfisher.

On the banks of a small stream, between Goodalore and Nellacotta, in the Wynaad, I saw a small brilliantly blue King-

* May not *Chrysococcyx limborgi*, Wald, be a similar *lusus naturæ*?—ED., S. F.

fisher which I have doubtfully referred to this species. It was probably the same form as that obtained by Mr. Bourdillon in South Travancore.*

[136.—*Ceryle rudis*, Lin. The Pied Kingfisher.

Occurs in South-West Mysore certainly, and I believe in the Wynaad also.—A. O. H.]

140.—*Dichoceros cavatus*, Shaw. The Great Hornbill.

This species occurs sparingly in the forests of the slopes of the Nilghiris, but is more common in the forests of the Wynaad. In the cardamum forests of the Peria Ghât I once saw some 50 of these birds all congregated together. Neither this species nor the two following ones ascend to the tableland of the Nilghiris. I have never seen the present species above Burliar, about half-way between Coonoor and the foot of the Ghâts.

141.—*Hydrocissa coronata*, Bodd. The Malabar Pied Hornbill.

Occurs in the evergreen forests of the Wynaad, and the slopes of the Nilghiris, usually in small parties, but not unfrequently in pairs. It does not ascend the slopes of the hills as high even as *D. cavatus* does.

145.—*Tockus griseus*, Lath. The Jungle Grey Hornbill.

This species occurs through the Wynaad, and all about the base of the hills, but does not ascend their slopes that I am aware of. I have sometimes found it in pairs, and once came across a single one, but this is very rare, as it is almost always in small flocks, varying from half a dozen to twenty or more individuals. It is an extremely noisy bird, the whole flock keeping up an almost incessant screaming as they move about feeding, one bird commencing, and the others taking up the call in rapid succession. But though their presence is easily detected by their call (which might be syllablized *Kyah, Kyah, Kyah* ad lib.); they are so exceedingly shy that it is no easy matter to secure a specimen. I have more than once followed a flock about a forest here, there, everywhere, for four or five hours at a stretch without obtaining a shot. Unlike the other two species of Hornbill,

* *Vide* S. F., IV., 383. I believe this ought to be separated as a distinct species. ED., S. F.

they do not confine themselves to the larger and denser forests, but frequent thin tree and bamboo jungle. The following are the dimensions recorded in the flesh of three males:—

Length, 23·5 to 24·3; expanse, 27·0 to 29·0; tail, 9·6 to 10·0; wing, 8·4 to 8·6; tarsus, 1·7 to 1·9; bill from gape, 4·1 to 4·35; weight, 10 to 12 ozs. Irides orange yellow.

148.—*Palæornis torquatus*, Bodd. The Rose-ringed Parroquet.

I have only occasionally come across this species, and that was in the Mysore country near Muddur. It does not ascend the slopes of the hills.

149.—*Palæornis purpureus*, P. L. S. Müll. The Western Rose-headed Parroquet.

Not uncommon in the Wynaad, and at the base of the hills It ascends the slopes of the Nilghiris to about 3,500 feet.

151.—*Palæornis columboides*, Vig. The Blue-winged Parroquet.

This handsome species occurs throughout the Wynaad, Mysore and Nilghiris. It is perhaps most numerous on the slopes of the Nilghiris up to about 5,000 feet; but it occasionally ascends quite to the plateau. I have shot it on more than one occasion quite close to the town of Ootacamund. I can endorse all Jerdon says of it, but must add that it does very frequently occur at a higher elevation than he states.

The following are dimensions and colours of soft parts of three males and a female recorded in the flesh:—

Males.—Length, 13·9 to 15·2; expanse, 17·8 to 18·4; tail, 7·5 to 8·7; wing, 5·8 to 6·25; tarsus, 5·3 to 6·0; bill from gape, 0·8 to 0·85; weight, 3 to 4 ozs.

Female.—Length, 13·6; expanse, 16·6; tail, 7·8; wing, 5·5; tarsus, 0·6; bill from gape, 0·71; weight, 3·5 ozs.

In the male the upper mandible, except the extreme tip, which with the lower mandible is dull black, is vermilion red. In both sexes the irides in the adults are creamy yellow, and the legs and feet glaucous green.

153.—*Loriculus vernalis*, Sparrm. The Indian Lorikeet.

Generally spread through the Wynaad, and slopes of the Nilghiris, which it ascends to nearly 6,000 feet. In some parts of the Wynaad, especially along the old avenues of jack trees, about Manantoddy, I found it quite common.

160.—*Picus mahrattensis*, Lath. The Yellow-fronted Woodpecker.

Occurs sparingly throughout the Wynaad, and in the Mysore country. It does not, that I am aware of, ascend the hills. It is not a forest Woodpecker, being usually found in open ground interspersed with bamboo.

164bis.—*Yungipicus gymnophthalmus*, Bly. The Southern Pigmy Woodpecker.

Occurs on the slopes of the Nilghiris to about 3,000 feet elevation, and in the Wynaad and Mysore country. It avoids heavy forest, frequenting scrubby and bamboo jungle, and open grassy glades interspersed with trees. I have always found it in pairs or in small families of four or six. It does not, I think, differ in habits from other members of the genus. Unfortunately I find I have only recorded the measurements and colours of soft parts of two females:—

Length, 4·9 to 5·1; expanse, 10·0 to 10·1; tail, 1·5 to 1·6; wing, 3·0 to 3·01; tarsus, 0·5 to 0·55; bill from gape, 0·65 to 0·7; weight, 0·6 oz. Irides pearly white; orbital skin pink; upper mandible, legs, and feet dark plumbeous; lower mandible pale plumbeous; claws blackish.

165.—*Hemicercus cordatus*, Jerd. The Heart-spotted Woodpecker.

Not a common bird, found in pairs or parties sparingly distributed through the Wynaad and Mysore country. It ascends the slopes of the hills to about 3,000 feet. The bird described by Jerdon as the male of this species is certainly, as Mr. Hume long ago suggested, the female, and *vice versa*. There is no doubt about this, as I have carefully dissected several of both sexes to decide this point.

The following are the dimensions and colours of soft parts recorded in the flesh of a female:—

Length, 5·7; expanse, 11·8; tail, 1·5; wing, 3·6; tarsus, 0·65; bill from gape, 0·8; weight, 1·2 oz. Bill black; legs and feet blackish, tinged plumbeous; irides deep brown.

166.—*Chrysocolaptes strictus*, Horsf. The Southern Large Golden-backed Woodpecker.

This species is not uncommon in the Wynaad, Mysore, and slopes of the Nilghiris. It ascends quite to the summit of the

Nilghiris, but is not common there. It is almost always found in pairs, and prefers the evergreen forest. A female measured:—

Length, 11·8; expanse, 19·75; tail, 4·2; wing, 6·25; tarsus, 1·05; bill from gape, 0·85. Irides pearly white.

169.—Thriponax hodgsoni, Jerd. The Indian Black Woodpecker.

This fine species is not uncommon in the Wynaad, when the country is well wooded, but it is so shy that it is difficult to procure specimens. It is usually found in pairs. I have occasionally seen several together, once as many as six. These most probably were a family consisting of the two adult birds and their brood. As a rule, the bird keeps to the evergreen forests. Once I shot a specimen in some bamboo jungle at Goodalore. It does not ascend the slopes of the hills to any height.

[167.—Chrysocolaptes festivus, Bodd. The Black-backed Woodpecker.

We have received this from the northern bases of the Nilghiris.—A. O. H.]

171.—Gecinus striolatus, Bly. The Small Green Woodpecker.

Sparingly spread through the Wynaad, Mysore, and the Nilghiris; a few pairs are always to be found in the forests about Ootacamund, but it is rarer at that elevation than lower down. It perhaps more often than the other species* of *Gecini* descends to the ground. I have often found it hunting for insects in the droppings of cattle.

175.—Chrysophlegma chlorigaster, Jerd. The Southern Yellow-naped Woodpecker.

This species does not ascend to the plateau of the Nilghiris, but occurs on the slopes as far up as 5,000 feet. It is also spread through the Wynaad and Mysore, but is nowhere very common. It occasionally, like the *Gecini*, descends to the ground. I have always found it singly or in pairs. A young male measured in the flesh:—

Length, 9·5; expanse, 15·5; tail, 3·4; wing, 4·8; tarsus, 0·82; bill from gape, 1·1; weight, 2·25 ozs. Irides wood brown; lower mandible from base to angle of gonys and gape dull yellow; rest of bill dull black; legs and feet dirty dull green; claws plumbeous green.

* *G. squamatus* is more often seen feeding on the ground than on trees.—
ED., S.F.

179.—*Micropternus gularis*, *Jerd.* The Madras
Rufous Woodpecker.

I have a record of having obtained one specimen of this species a few miles from Ootacamund, but its occurrence at this elevation is quite exceptional. It occurs, but nowhere numerously, on the slopes of the Nilghiris, in the Wynaad and Mysore country. It avoids the heavy forest frequenting thin tree and bamboo jungle. Like the other species of the genus, the feathers, especially about the head and breast, are often covered with a viscid resinous substance.* A female shot near Manantoddy measured in the flesh:—Length, 10·0; expanse, 17·0; tail, 3·2; wing, 4·9; tarsus, 0·9; bill from gape, 1·2; weight, 4 ozs. Bill dull black; legs, feet, and claws the same, but tinged with plumbeous; irides deep brown.

180.—*Brachypternus aurantius*, *Lin.* The Golden-
backed Woodpecker.

I obtained one specimen, a female, shot three miles from Seegore on the Mysore road, which is intermediate between the typical forms of *aurantius* and *puncticollis*. The white spotting on the throat is not nearly so well developed as in *aurantius*, and the black of the ear-coverts and markings behind these is much more developed than is usual in *aurantius*, but not quite so much so as in *puncticollis*.

The bird is exactly intermediate between the two forms, and might be classed as a somewhat aberrant form of either.

181.—*Brachypternus puncticollis*, *Malh.* The
Southern Golden-backed Woodpecker.

I have never obtained this species either on the tableland or higher portion of the slopes of the Nilghiris, but it is not uncommon in the better wooded portions of the Wynaad, the Mysore country, and about the base of the Nilghiris.

The present species is barely entitled to the rank of a species; it should rather be classed as a race.

B. dilutus, Blyth (now not usually admitted as a species), is the palest form, and is from the western portion of India. Then the intermediate form is *B. aurantius*, and then comes the darkest of the three, *B. puncticollis*, from the south. An exactly analogous case is that of *Pericrocotus peregrinus*, which in Sindh is a pale washed-out bird with hardly any depth of colouring, the colour gradually deepening as the species ranges

* The *Micropterni* are *par excellence* ant-eaters. The viscid substance so constantly found adhering to their plumage is not resinous, but is derived from the ants' nests.—ED., S. F.

south, till in Southern India the birds are as dark as are those from the Andamans and Burmah.

I have one lovely specimen of *puncticollis*, in newly moulted plumage; in this the spots on the throat are small, but exceedingly dense, giving the throat a very white appearance; the black of the ear-coverts and sides of the neck is well-developed, each feather of the ear-coverts having a triangular buffy-white spot at the tip, the feathers immediately in front of and above the eye are also buffy white, spotted.

The following are the dimensions, &c., taken in the flesh of a fine pair:—

Male.—Length, 12·1; expanse, 18·9; tail, 3·7; wing, 5·75; tarsus, 1·0; bill from gape, 1·6; weight, 4·25 ozs.

Female.—Length, 11·7; expanse, 18·0; tail, 3·5; wing, 5·5; tarsus, 0·9; bill from gape, 1·5; weight, 4·0 ozs.

The colours of the soft parts do not appreciably differ in the sexes; the legs and feet are a glaucous or bluish green; the claws plumbeous horny; the bill dull black; and the irides deep brown.

183.—*Tiga shorii*, *Vig.* The Large Three-toed Woodpecker.

I obtained a pair in some forest below the Government Cinchona Plantations at Nedddivuttum; these are the only specimens * I have met with in Southern India.

184.—*Tiga javanensis*, *Ljung.* The Common Three-toed Woodpecker.

I have only obtained this species in the Wynaad, and there it is not a common bird, frequenting thin tree jungle, or the outskirts of the larger forests.

My specimens do not apparently differ from others of the same species collected in Tenasserim and the Malayan Peninsula.

186.—*Vivia innominata*, *Burt.* The Speckled Piculet.

I obtained a male of this species below Kotagherry on the 14th of March 1881. It is undistinguishable from Himalayan specimens with which I have compared it. The forehead is golden yellow with a strong orange tinge. †

* I think these specimens should be re-examined.—ED., S. F.

† Sign of the male; in the female forehead and crown are unicolorous green. Darling sent this years ago from the Wynaad, *vide* S. F., V., 351. —ED., S. F.

194.—*Megalæma viridis*, Bodd. The Small Green Barbet.

Very numerous indeed on the Nilghiris and its slopes, and through the Wynaad, occurring also not uncommonly in the better wooded portions of the Mysore country.

On the Nilghiris a great amount of damage is done in orchards, especially to apples and pears by this Barbet. It lives entirely on fruit, and in the evergreen forests of the south of India some kind of fruit is always in season. It will descend close to the ground to feed on the fruit of the so-called Brazil cherry or cape gooseberry (*Physalis peruviana*.)

Jerdon says that he "never saw any of these Barbets clinging like a Woodpecker, nor heard them tapping;" and says that Mr. Blyth positively asserted that they did not. All I can say is that the bird is one of the commonest on the Nilghiris, and for about nineteen years I had many opportunities of observing it closely, and I can as positively assert that they both cling like a Woodpecker and tap. They breed in holes in trees, and these holes are *always* cut out by themselves. I do not think they ever bore into the trunks or branches of trees for food, but they certainly do so for nesting purposes.

The sexes do not appreciably differ in size. The following are the dimensions taken in the flesh of three adults:—

Length, 9·2 to 9·5, expanse, 14·0 to 14·5; tail, 2·6 to 2·8; wing, 4·0 to 4·15; tarsus, 1·0; bill from gape, 1·4; weight, 2·75 to 3·5 ozs.

197.—*Xantholæma hæmacephala*, P. L. S. Müll.
The Crimson-breasted Barbet.

Sparingly distributed about the base of the Nilghiris and through the Wynaad.

198.—*Xantholæma malabarica*, Bly. The Crimson-throated Barbet.

This species seems to be spread through the Wynaad, and in some parts, as in the neighbourhood of Manantoddy in North Wynaad, is a comparatively common bird. In its habits it doesn't differ from the other Barbets; its voice is very similar to that of *X. hæmacephala*, but more subdued.

I measured a large number; the sexes do not appear to differ appreciably in size. The following is a *resumé* of the dimensions, &c., taken in the flesh of fifteen adults:—

Length, 5·85 to 6·7; expanse, 10·3 to 11·5; tail, 1·55 to 1·9; wing, 3·02 to 3·3; tarsus, 0·7 to 0·8; bill from gape, 0·85 to 0·91; weight, 1·12 to 1·5 oz.

Irides dark brown ; legs and feet litharge red ; claws and bill dull black ; base of lower mandible to just beyond angle of gonys, and base of upper mandible at gape plumbeous blue.

In quite young birds of this species the green of the plumage is paler, but somewhat brighter than in the adult ; a line above and below the eye, and the throat, are golden orange ; the sides of the neck and posterior portion of the ear-coverts are a pale dirty glaucous blue, and there is a dull black band across the top of the head. In one specimen there are a few orange-coloured feathers immediately above the base of the bill.

200.—*Cuculus striatus*, *Drap.* The Eastern Cuckoo.

Sparingly distributed in the Wynaad. I should think that it was a permanent resident, as I have heard it calling late in May.

202.—*Cuculus sonnerati*, *Lath.* The Banded Bay Cuckoo.

I have occasionally obtained this species on the slopes of the Nilghiris. I have not noticed it in the Wynaad or Mysore, but it doubtless occurs there.

203.—*Cuculus micropterus*, *Gould.* The Large-billed Cuckoo.

Like 200. I have found this species occasionally in the Wynaad. Both species doubtless occur in the Mysore country and on the slopes of the Nilghiris, but I have not noticed them.

205.—*Hierococcyx varius*, *Vahl.* The Hawk-Cuckoo.

This is the common Cuckoo of Southern India, occurring plentifully on the plateau of the Nilghiris, on their slopes, and all through the Wynaad and Mysore country. It is especially abundant on the Nilghiris, and there is hardly a garden or grove of trees that does not contain one or more. I have seen the young of this species being fed by *Trochalopteron cachimans*.

207.—*Hierococcyx sparveroides*, *Vig.* The Great Hawk-Cuckoo.

This species is nowhere abundant, but occurs most numerously on the Nilghiris, frequenting the sholas, and occasionally also well-wooded gardens. Birds from Southern India never

seem to attain to the very large size that birds from the Himalayas* do.

208.—*Cacomantis passerinus*, Vahl. The Indian Plaintive Cuckoo.

Not uncommon on the slopes of the Nilghiris which it ascends to about 5,500 feet. It also occurs, but more sparingly, in the Wynaad and Mysore country.

212.—*Coccytes jacobinus*, Bodd. The Pied Crested Cuckoo.

A common bird on the Nilghiris; it avoids forest or thickly-wooded country, and frequents cultivated land interspersed with scrub and bushes; it is most numerous perhaps about the cultivated land in the vicinity of Ootacamund, Coonoor, Kotagherry, &c., &c. I have also seen it occasionally in the Wynaad, and not unfrequently in the Mysore country. It lays its eggs in the nest of the *Malacocerci*, which frequent the same sort of places that it does.

213.—*Coccytes coromandus*, Lin. The Red-winged Crested Cuckoo.

I have never myself obtained this species anywhere in the tract this paper deals with, but some years ago I saw a skin of this species in the possession of a native taxidermist, who said he had himself shot it in South-East Wynaad.

214.—*Eudynamis honorata*, Lin. The Koel.

I once shot a pair of this species in a garden at Ootacamund, but their occurrence at that elevation is quite unusual; the bird, however, is not uncommon on the lower slopes of the Nilghiris, and in the plains country. In March and April of 1881 I found them common in the Wynaad, and very noisy.

216.—*Rhopodytes viridirostris*, Jerd. The Small Green-billed Malkoha.

This species does not ascend the hills, but occurs, though nowhere very numerous, in the better wooded portions of the country about the base of the Nilghiris and Wynaad.

The sexes do not differ appreciably in size, and the colours of the soft parts are the same in both. The following is a *resumé* of the dimensions, &c., recorded in the flesh:—

* And *à fortiori*, from Upper Burmah.—ED., S. F.

Length, 15·5 to 15·9 ; expanse, 16·0 to 16·2 ; tail, 9·0 to 10·0 ; wing, 5·1 to 5·4 ; tarsus, 1·4 ; bill from gape, 1·4 ; weight, 2·5 to 3 ozs. Irides deep brown ; bill, pale apple-green ; orbital skin, pale blue, palest round the eye, gradually deepening in shade toward the feathers ; legs and feet plumbeous.

217.—*Centrococcyx rufipennis*, Ill. The Coucal, or Crow Pheasant.

Occurs commonly through the Wynaad and slopes of the Nilghiris. It occurs also on the plateau of the Nilghiris but less numerously. It is looked upon as a great delicacy by the natives.* I noticed that through the portion of Mysore lying between the foot of the Nilghiris and Wynaad, it was a comparatively rare bird.

218.—*Centrococcyx bengalensis*, Gm. The Lesser Coucal.

I only met with this species on some half a dozen occasions in the Wynaad, and always in long grass. I have never met with it on the Nilghiris or its slopes.

219.—*Taccocua leschenaulti*, Less. The Southern Sirkee.

I have only occasionally met with this species, and should class it as a comparatively rare bird in the portion of Southern India that I have worked. I have met with it up to about 6,000 feet on the slopes of the Nilghiris.

224.—*Arachnothera longirostra*, Lath. The Little Spider-hunter.

Not uncommon on the slopes of the Nilghiris up to about 5,500 feet and through the Wynaad. It affects the better wooded portions of the country.

The following are the dimensions, &c., recorded in the flesh of a fine adult male of this species:—

Length, 6·3 ; expanse, 8·6 ; tail, 1·7 ; wing, 2·6 ; tarsus, 1·4 ; bill from gape, 0·6 ; weight, 0·7 oz.

Upper mandible black ; lower mandible pale plumbeous ; legs, feet, and claws plumbeous ; irides very deep blackish slate.

* So it, and the allied species *maximus* and *intermedius*, appear to be, by the Mahomedans, throughout Northern and Eastern India.—ED., S. F.

232.—*Cinnyris zeylonica*, Lin. The Amethyst-rumped Honey-sucker.

This species is sparingly spread through the Wynaad and round the base of the Nilghiris ascending the slopes to about 2,500 feet. Though apparently so closely allied to *C. minima*, it does not, like that species, change its brilliant plumage for more sober tints after the breeding season.

The following are the dimensions, &c., of an adult male:—

Length, 4·9; expanse, 6·9; tail, 1·4; wing, 2·3; tarsus, 0·6; bill from gape, 0·65; weight, 0·6 oz. Bill, legs, feet, and claws black; irides deep brown.

233.—*Cinnyris minima*, Sykes. The Tiny Honey-sucker.

This lovely little bird is most abundant on the higher slopes of the Nilghiris, but it occurs also throughout the Wynaad. After the breeding season it loses the bright colors of the throat and head, but retains the amethystine lower back.

The following are the dimensions of several males measured in the flesh:—

Length, 3·8 to 4·0; expanse, 5·9 to 6·1; tail, 1·2 to 1·3; wing, 1·9; tarsus, 0·5; bill from gape, 0·6; weight, 0·18 to 0·2 oz.

Bill, legs, feet, and claws black; irides deep brown.

234.—*Cinnyris asiatica*, Lath. The Purple Honey-sucker.

This species occurs on the Nilghiris and its slopes, but appears to be entirely replaced at the foot of the hills, and in the Wynaad by the next species.

235.—*Cinnyris lotenia*, Lin. The Large Purple Honey-sucker.

This species occurs throughout the Wynaad; it ascends the slopes of the Nilghiris to about 5,000 feet or rather more. I have shot it on the Coonoor Ghât, four miles from the station of Coonoor. This species (as well as *C. asiatica*) does put off the bright plumage during the non-breeding season. The female is slightly smaller than the male. The following is a *resumé* of the dimensions of a large number of specimens carefully measured in the flesh:—

Males.—Length, 5·3 to 5·6; expanse, 7·2 to 7·7; tail, 1·55 to 1·7; wing, 2·2 to 2·4; tarsus, 0·6; bill from gape, 1·1 to 1·3; weight, 0·35 oz.

Females.—Length, 4·7 to 4·9; expanse, 6·5 to 6·8; tail, 1·2 to 1·4; wing, 2·0 to 2·05; tarsus, 0·58; bill from gape, 1·0; weight, 0·25 oz.

In both sexes the bill, legs, feet, and claws are black; the irides deep brown.

[238.—*Dicæum erythrorhynchus*, *Lath.* Tickell's Flower-pecker.

This occurs about the bases of the Nilghiris. I have had a specimen from below Burliar, and another from the Wynaad.—A. O. H.] I have shot it at Goodalore.—W. D.

239.—*Dicæum concolor*, *Jerd.* The Nilghiri Flower-pecker.

This species is most abundant on the plateau of the Nilghiris; but it also occurs commonly all over the slopes, and through the Wynaad.

Jerdon's statement (B. of I., Vol. I., p. 375) about the food of this species is not quite correct. Though it does sip the nectar of flowers, and occasionally, I dare say, may eat insects, its principal food certainly consists of berries.

The sexes do not differ in size. The following are the dimensions of six specimens measured in the flesh:—

Length, 3·5 to 3·7; expanse, 6·1 to 6·6; tail, 1·0 to 1·15; wing, 1·9 to 1·95; tarsus, 0·5 to 0·55; bill from gape, 0·45 to 0·5; weight, 0·13 to 0·18 oz. Irides dark brown; lower mandible and sides of upper mandible towards base pale leaden blue; rest of upper mandible blackish; legs, feet, and claws dark plumbeous.

250.—*Sitta castaneiventris*, *Frankl.* The Chesnut-bellied Nuthatch.

This species does not apparently inhabit the hills or their slopes, but it occurs sparingly in the Wynaad and Mysore. I found it most abundant in the tract of thinly-timbered country in Mysore lying between Rampore on the borders of the Wynaad and the foot of the Nilghiris.

The following are dimensions and colors of soft parts recorded in the flesh:—

Length, 5·1 to 5·5; expanse, 9·5; tail, 1·5 to 1·7; wing, 3·0 to 3·15; tarsus, 0·65 to 0·7; bill from gape, 0·8 to 0·82; weight, 0·5 to 0·55 oz. Legs and feet dark greenish plumbeous; base of lower mandible, and base of upper mandible at forehead, pale plumbeous; rest of bill black; irides dark brown.

253.—*Dendrophila frontalis*, Horsf. The Velvet-fronted Nuthatch.

A common bird all over the region embraced in this paper. On the Nilghiris it is particularly abundant.

254.—*Upupa epops*, Lin. The Hoopoe.

Jerdon records this species from the Nilghiris, but it must, I think, be of extreme rarity there. I have shot a great number of Hoopoes on the Nilghiris and other places in Southern India, but I have never been fortunate enough to meet with it.

255.—*Upupa ceylonensis*, Reich. The Indian Hoopoe.

Not an uncommon bird on the Nilghiris and its slopes, any in the Wynaad and Mysore where the country is not heavily wooded. It is a permanent resident in Southern India, breeding in holes in trees, old walls, &c. The length given by Jerdon, 10·5 inches, seems rather small; the shortest length I have recorded is 11 inches, the longest 11·3 inches. The weight varies from 1·5 to nearly 2 ozs. The legs and feet are dirty grey; claws and bill blackish; pale brownish fleshy at base of lower mandible.

257bis.—*Lanius caniceps*, Bly. The Southern Rufous-backed Shrike.

This Shrike is very common on the Nilghiris and the higher portions of their slopes. It becomes less numerous as one descends towards the plains, and is very sparingly distributed in the Wynaad. I did not meet with it in the portion of Mysore I passed through.

Mr. Parker states that this Shrike impales its prey on thorns. It may do so in Ceylon, but it most assuredly does not do so in Southern India. I have had ample opportunities of observing the bird, and I could hardly have failed to have found some evidence of the fact. Nor have Morgan and others, who have also observed the habits of the bird closely, ever obtained any evidence of such a habit. I once, many years ago, did find a beetle impaled on a thorn, and still alive, but I am pretty sure it was self-impaled.

The following are the dimensions of several specimens measured in the flesh:—

Length, 9·0 to 10·5; expanse, 11·8 to 12·5; tail, 4·5 to 5·4; wing, 3·6 to 3·85; tarsus, 1·05 to 1·1; bill from gape, 0·8 to 0·9; weight, 1·4 to 1·62 ozs.

260.—*Lanius vittatus*, Valenc. The Bay-backed Shrike.

This pretty little Shrike is found at the base of the Nilghiris and in Mysore, but as far as I have observed only where the country was sparsely wooded.

261.—*Lanius cristatus*, Lin. The Brown Shrike.

A winter visitant to Southern India. From towards the end of November to early in March it is very common on the Nilghiris, frequenting gardens, orchards, &c. The great majority of the birds are immature, showing more or less of the barrings on the lower surface.

264.—*Tephrodornis sylvicola*, Jerd. The Malabar Wood-shrike.

This Wood-shrike does not ascend quite to the tableland of the Nilghiris, but I have shot it at Neddivuttum, at about 5,500 feet elevation, though it is rare at this height. It is nowhere very common, but is, perhaps, most numerous in the well wooded portions of the Wynaad. Usually it is in parties of from four to eight, occasionally in pairs. It does not differ in habits from *T. pelvica*.

The following are the dimensions, &c., of several taken in the flesh :—

Length, 8·4 to 8·7; expanse, 14·6 to 15·0; tail, 3·3 to 3·5; wing, 4·5 to 4·65; tarsus, 0·75; bill from gape, 1·12 to 1·21; weight, 1·12 to 1·4 oz.

Bill and claws black; legs and feet dark plumbeous; irides greenish yellow.

265.—*Tephrodornis pondicerianus*, Gm. The Common Wood-shrike.

I found this species sparingly distributed in the Wynaad. I have never met with it on the slopes of the Nilghiris.

267.—*Hemipus picatus*, Sykes. The Pied Fly-shrike.

This species, though classed as a Shrike, is in habits a Fly-catcher. It is a common bird on the Nilghiris and its slopes, and through the Wynaad and Mysore. It prefers well-wooded country.

268.—*Volvocivora sykesi*, Strickl. The Black-headed Cuckoo-shrike.

Occurs, but not abundantly, on the slopes of the Nilghiris in the Wynaad and Mysore. I have shot it in the Government Gardens at Ootacamund.

270bis.—*Grauculus macii*, Less. The Large Cuckoo-shrike.

Rarer than the preceding species, but found in the same localities.

272.—*Pericrocotus flammeus*, Forst. The Orange Minivet.

Common in the Wynaad and lower slopes of the Nilghiris. It gets less numerous the higher one ascends, and it may be practically said to stop about the elevation of Coonoor, though I have on two or three occasions seen it as high up as Ootacamund.

276.—*Pericrocotus peregrinus*, Lin. The Small Minivet.

I have occasionally met with this species in the Wynaad and at the foot of the Nilghiris, but it is rare.

277.—*Pericrocotus erythropygius*, Jerd. The White-bellied Minivet.

I have only met with this species in the thorny scrub at the foot of the Seegore Ghât.

278.—*Buchanga atra*, Herm. The King Crow.

Occurs, but somewhat sparingly, on the slopes of the Nilghiris, the Wynaad and Mysore. It is, however, not very common, and it does not, that I am aware of, go as high up as the plateau of the Nilghiris.

280.—*Buchanga longicaudatus*, Hay. The Long-tailed King Crow.

This species, like the last, is not very common; it occurs where the other does, and I have also not unfrequently procured it in the neighbourhood of Ootacamund. It is more of a forest-loving species than *atra*.

281.—*Buchanga cærulescens*, Lin. The White-bellied King Crow.

This species occurs on the lower slopes of, and at the foot of the Nilghiris, and in the Wynaad and Mysore.

It is not a forest bird, but frequents thorny scrub and bamboo jungle as a rule, and comparatively open spaces.

282.—*Chaptia ænea*, Vieill. Bronzed Drongo.

Jerdon (B. I., Vol. I., p. 431) says this species is found up to 4,000 feet elevation on the Nilghiris, but it ascends the hills to a much greater height, for I have frequently seen and shot it in the vicinity of Ootacamund, and also on the Bramagherries in Coorg. It is most numerous, however, on the lower ranges. It is a forest-loving species, and is not usually found in open places like *B. atra* and *B. longicaudata*. It has much the same habits as these species, however, perching on some dead twig in a conspicuous place from which it seizes its insect prey on the wing, returning usually to the same perch.

285.—*Dissemurus paradiseus*, Lin. The Lesser Racket-tailed Drongo.

This fine species is sparingly distributed on the slopes of the Nilghiris, through the Wynaad, &c., very seldom apparently ascending to a greater height than about 6,000 feet, though on one occasion I shot a specimen on the Kotagherry road close to Ootacamund. In April I found a pair in a tall Bombax tree close to Manantoddy, but as I saw one of the birds carrying materials to build the nest, and as the tree was a particularly difficult one to climb, I determined to leave the nest for a week to make sure of its containing eggs, but unfortunately at the end of the week the nest contained three young birds, apparently several days old, so the nest, though the birds were still building to it, must have contained eggs when I first found it.

I found this species most numerous in the forests on the Peria Ghât; they were at that time generally in parties consisting of two or three young and the old birds.

This species, though usually found in forests or their outskirts, is also not unfrequently found in open spaces, gardens, &c., especially where there is bamboo to which they appear to be particularly partial. They have a wonderful variety of notes, and can imitate the call of almost any of the birds found where they usually occur.

286.—*Chibia hottentotta*, Lin. The Hair-Crested Drongo.

I have found the Hair-crested Drongo very rare in Southern India, having met with it on only two or three occasions, and always feeding on the flowers of the silk cotton tree (*Bombax malabaricum*).

287.—*Artamus fuscus*, Vieill. The Asby Swallow Shrike.

This species does not quite ascend the higher ranges of the Nilghiris, but it is not uncommon at about 5,500 feet at certain seasons. I have also met with it in many places in Wynaad, &c.

The following are the dimensions, &c., taken in the flesh of a fine adult male shot at Karote at the foot of Balasore on the 13th of May :—

Length, 7·0; expanse, 15·5; tail, 2·2; wing, 5·5; tarsus, 0·6; bill from gape, 0·95; weight, 1·62 ozs.

Bill pale blue; tip black; irides deep brown; claws black; legs and feet dull purplish black.

The young of this species differs from the adult in having the breast and abdomen suffused with pale buff, with indistinct transverse barrings to the feathers. The feathers of the upper parts, except the head, edged with ferruginous buff; the primaries and secondaries edged with buffy white, and all, except the two central tail feathers, broadly tipped with ashy white, and not merely narrowly fringed as in the adult, and there is a narrow band of ferruginous buff across the forehead terminating at the anterior angle of the eye.

288.—*Muscipeta paradisi*, Lin. The Paradise Flycatcher.

Dr. Jerdon says that this species does not generally ascend the hills higher than 2,000 feet, but it is as common a bird at 5,000 feet as it is at 2,000 feet, and I have on several occasions shot it at heights of six to eight thousand feet, and seen it much oftener. My experience is that it is nowhere a very common bird, and rather locally distributed. I have quite failed to make out clearly the various changes that take place in the plumage of this species. I have shot specimens the same day, pure white and in various phases of the chesnut and white plumage, both adult and young birds. The female never, that I am aware, assumes either the long tail feathers or the white plumage, and the immature birds are at first, I think, chesnut.

290.—*Hypothymis azurea*, Bodd. The Black-naped Blue Flycatcher.

A common bird all through the Wynaad and the Nilghiris, but it does not quite ascend to the plateau. It is very fond of bamboo, and is found most numerous where this abounds.

292.—*Leucocerca aureola*, Vieill. The White-browed Fantail.

I saw this species only on two or three occasions in the Mysore country and Wynaad, and obtained one young bird at Rampore on the 21st of May. It is, I should say, decidedly a rare bird in the country through which I passed.

293.—*Leucocerca leucogaster*, Cuv. The White-spotted Fantail.

This Flycatcher is a common species on the Nilghiris, but it is most abundant on the warmer slopes about 5,000 to 6,000 feet; it also occurs through the Wynaad and in parts of Mysore, but less abundantly.

The following are the dimensions taken in the flesh of a fine male shot in Ootacamund on the 15th of March 1881:—

Length, 7·2; expanse, 9·2; tail, 4·0; wing, 3·05; tarsus, 0·7; bill from gape, 0·5; weight, 0·35 ozs.

Bill black; legs and feet dull purplish black; irides dark brown.

295.—*Culicicapa ceylonensis*, Sws. The Grey-headed Flycatcher.

Dr. Jerdon in his "Birds of India" has given a capital account of the habits of this species. As he remarks, it is very abundant on the higher ranges of the Nilghiris, but it is also common throughout the whole district included in the present paper wherever the country is well-wooded, and where it occurs is, I believe, a permanent resident.

297.—*Aleoonax latirostris*, ~~Vieill.~~ The Southern Brown Flycatcher.

I not unfrequently met with this species in the Wynaad. I have not noticed it in those parts of the Mysore country through which I passed. I have on two or three occasions found it on the slopes of the Nilghiris, but it is I think most numerous in the Wynaad, but even there it is not a common bird. It is of course only a cold weather visitant. I find I have specimens shot as late as the 4th of April.

300.—*Ochromela nigrorufa*, Jerd. The Black and Orange Flycatcher.

This lovely little bird is common on the Nilghiris and its slopes; it occurs also in the Wynaad, but is rare there. Jerdon's description of the habits of this is extremely good, except in that he states that "it is a very silent bird." I almost always

discover the whereabouts of the bird by its note, a sort of prolonged chur r-r-r. The following are the dimensions, colours, &c., taken in the flesh of ten specimens, five males and five females:—

Males.—Length, 5·0 to 5·65; expanse, 7·5 to 7·9; tail, 1·8 to 2·2; wing, 2·4 to 2·5; tarsus, 0·75 to 0·84; bill from gape, 0·58 to 0·6; weight, 0·35 to 0·4 oz.

Females.—Length, 4·8 to 5·0; expanse, 7·1 to 7·4; tail, 1·7 to 1·75; wing, 2·21 to 2·35; tarsus, 0·75 to 0·8; bill from gape, 0·55 to 0·6; weight, 0·25 to 0·35 oz.

In both sexes the legs, feet, and claws vary from fleshy to pale plumbeous brown; irides dark wood brown.

301.—*Stoporala melanops*, *Vig.* The Verditer Flycatcher.

Jerdon gives this species from the Nilghiris, but I myself have never met with it in Southern India; it must be, I think, of extremely rare occurrence.

302.—*Stoporala albicaudata*, *Jerd.* The Nilghiri Verditer Flycatcher.

A very common bird on the Nilghiris and the slopes to about 4,000 feet elevation; it also occurs at considerably lower elevations, but in much diminished numbers and only where the country is well wooded. It is a permanent resident, breeding in holes of trees, banks, walls, &c. The male during the breeding season has a pleasing but rather feeble song. The following are the dimensions, &c., of a large number of specimens recorded in the flesh; the sexes do not appear to differ materially in size.

Length, 5·8 to 6·6; expanse, 9·6 to 10·2; tail, 2·4 to 2·85; wing, 3·0 to 3·2; tarsus, 0·72 to 0·78; bill from gape, 0·68 to 0·71; weight, 0·62 to 0·8 oz.

304.—*Cyornis rubeculoides*, *Vig.* The Blue-throated Red-breast.

Occurs sparingly about the base of the Nilghiris and in the Wynaad. I obtained only two specimens, both males, in February and March—one at Seegore, the other at Nellacotta in the Wynaad.

306.—*Cyornis tickelli*, *Bly.* Tickell's Blue Red-breast.

This species is not uncommon in the drier and less densely wooded portions of the slopes of the Nilghiris and beyond into Wynaad and Mysore. I obtained one specimen, a male, close

to the town of Ootacamund on the 10th of February 1881, but it seldom, indeed, ascends to such an elevation. I found it most numerous in the thinly wooded portion of the country beyond Rampore in the Mysore country.

307.—*Cyornis ruficaudus*, Sws. The Rufous-tailed Flycatcher.

Occurs but sparingly on the plateau of the Nilghiris, along their slopes and in the Wynaad. It is migratory, I believe, leaving about the end of April.

309.—*Cyornis pallipes*, Jerd. The White-bellied Blue Flycatcher.

This species does not seem to ascend higher than about 5,600 feet elevation, but from thence it spreads all over the slopes and into the Wynaad. It is a shy bird, and keeps to the denser portions of the undergrowth.

It is nowhere common, and the females are hardly ever seen; although I was especially on the look-out for it I only obtained some seven or eight males, and but one female, which latter, I believe, has never before been described.

The male is a magnificent songster, the song being particularly rich and varied, and is almost exactly like that of *Oreocincla nilghiriensis* heard from a distance—in fact so close is the resemblance that I have often been puzzled whether the song I heard proceeded from a Flycatcher close at hand, or a Thrush at some distance.

The following are the dimensions of seven males and one female recorded in the flesh:—

Males.—Length, 6·0 to 6·4; expanse, 9·4 to 9·9; tail, 2·3 to 2·65; wing, 2·95 to 3·05; tarsus, 0·7 to 0·75; bill from gape, 0·8 to 0·86; weight, 0·75 to 0·8 oz.

Female.—Length, 6·0; expanse, 9·3; tail, 2·1; wing, 2·9; tarsus, 0·7; bill from gape, 0·82; weight, 0·62 oz.

In both sexes the legs, feet and claws are fleshy, more or less strongly tinged with purple, the bill is black, and the irides deep wood brown.

The female of this species is a bird quite *sui generis*, and is remarkable for having the entire lores snow white, while these in the male are black. In many particulars it closely resembles the English Robin.

The lores and a line of feathers on the lower lid white; forehead brownish olive, shading into olive grey on the crown and occiput; sides of the throat, ear-coverts, and feathers above and behind the eye dull blue grey, most of the ear coverts pale shafted; chin white, very slightly tinged with

fulvous (might be more so in other specimens); central portion of the throat, and all but quite the lower part of the breast a rich rusty red; extreme lower breast, abdomen, vent, lower tail-coverts and axillaries white; the bases of the feathers dusky, which showing through on the lower breast, and extreme upper abdomen, give a greyish tinge to these parts; wing-lining brownish white, margined with white; back slightly rufescent olive brown, most so on the rump; upper tail-coverts intense ferruginous; tail feathers ferruginous, duller, and somewhat brown on the inner webs, and at the tips; visible portion of coverts, except greater primary coverts, somewhat olivaceous rufescent; quills and primary greater coverts rather dark hair brown; the outer webs more or less suffused with the colours of the coverts.

[323bis.—*Erythrosterna parva*, *Bechst.* The White-tailed Robin Flycatcher.

Occurs in Southern Mysore, at the foot of the Nilghiris on the Bangalore road, and probably all round the bases of the hills and on their lower slopes.—A. O. H.]

339.—*Callene rufiventris*, *Bly.* The Rufous-bellied Short-wing.

Inhabits the Nilghiris, Bramagherries, and other ranges in South India. It does not, I believe, go much below about 6,000 feet elevation. It has much the habits of *Brachypteryx*, but even more than that species keeping to the denser portion of the undergrowth in evergreen forest. I cannot recall ever having seen it in the open. It keeps almost entirely to the ground, occasionally, however, when alarmed flying up into a tree, but soon returning to the ground. Found in pairs usually, sometimes singly, and is very partial to densely-wooded ravines, especially if they are moist. The male has a very pleasing little song, but consisting only of a few notes.

I measured a good many specimens. The following is a *resumé* of the measurements:—

Males.—Length, 6·6 to 6·8; expanse, 9·8 to 10·2; tail, 2·4 to 2·6; wing, 3·0 to 3·2; tarsus, 1·15 to 1·2; bill from gape, 0·81 to 0·9; weight, 0·8 to 1·0 oz.

Females.—Length, 6·35 to 6·5; expanse, 9·4 to 9·9; tail, 2·15 to 2·3; wings, 3·0 to 3·2; tarsus, 1·05 to 1·2; bill from gape, 0·8 to 0·82; weight, 0·8 to 0·82 oz.

In both sexes the legs, feet, and claws pale fleshy brown; bill black; irides dark wood brown.

The bird is of course a permanent resident where it occurs.

[385.—*Pyctorhis sinensis*, Gm. The Yellow-eyed Babbler.

Common in S. W. Mysore ; and I believe I have seen it from the Wynaad.—A. O. H.] I have shot this about six miles from Ootacamund.—W. D.

342.—*Myiophonus horsfieldi*, Vig. The Malabar Whistling Thrush.

This bird does not occur on the plateau of the Nilghiris, about 6,000 feet being the greatest elevation to which it ascends. It is not very numerous anywhere, but every small stream will contain a pair or two, and the larger ones several. It is always found about streams, and never wanders far (unless much disturbed) from their immediate vicinity, unlike *M. temmincki*, which is as often found miles away from any stream as near them. I can add nothing to Jerdon's excellent account of the bird. The following are the dimensions, &c., recorded in the flesh of a few specimens. The female is slightly smaller than the male :—

Males.—Length, 11·9 to 12·2 ; expanse, 19·5 ; tail, 4·8 to 5 ; wing, 6·35 to 6·5 ; tarsus, 1·9 to 2·0 ; bill from gape, 1·49 to 5 ; weight, 5·0 to 6·0 ozs.

Females.—Length, 11·5 to 11·7 ; expanse, 18·0 to 18·5 ; tail, 4·27 to 4·4 ; wing, 5·7 to 6·05 ; tarsus, 1·7 to 1·8 ; bill from gape, 1·4 to 1·5 ; weight, 4·25 to 4·5 ozs.

In both sexes the bill, legs, feet, and claws are black ; irides deep brown.

345.—*Pitta brachyura*, Lin. The Indian Ground Thrush.

A winter visitant to the South. I have shot it near Ootacamund all about the slopes, and in the Wynaad, but I have never found it numerous anywhere.

351.—*Cyanocinclus cyanus*, Lin. The Blue Rock Thrush.

A cold weather visitant, always solitary, and very fond of frequenting rocky ground.

353.—*Petrophila cinclorhyncha*, Vig. The Blue-headed Chat Thrush.

Also a cold weather visitant, generally distributed, but in some places, as at Coonoor and the Ghâts below it, the bird is very common.

354.—*Geocichla cyanotis*, J. and S. The White-throated Ground Thrush.

I have only met with the species in the Wynaad and the slopes of the Nilghiris up to about 4,000 feet elevation. A fine female, shot in the Peria forests, measured in the flesh :—

Length, 7·9 ; expanse, 13·0 ; tail, 2·7 ; wing, 4·1 ; tarsus, 1·2 ; bill from gape, 1·0.

Bill black ; base of lower mandible whitish ; legs and feet fleshy white ; claws pale brown ; irides deep brown.

357.—*Turdulus wardi*, Jerd. Ward's Pied Blackbird.

Rare in the South. I have only shot it a few times. I am not certain, but I think it is only a winter visitant.

360.—*Merula simillima*, Jerd. The Nilghiri Blackbird.

Very common on the plateau of the Nilghiris, and extending some little way down the slopes, but in considerably decreased numbers. It also occurs on the Bramagherries in Coorg, a female I obtained there being undistinguishable from numerous females obtained on the Nilghiris.

372.—*Oreocincla nilghiriensis*, Bly. The Nilghiri Thrush.

This fine bird, so far as I am aware, is found only on the higher ranges of the Nilghiris and Bramagherries, and even where it does occur is rare. It is usually found singly, sometimes in pairs. It is a glorious songster, and its rich and varied song can be heard for nearly a mile.

The following are the dimensions of a fine male shot on the Bramagherries on the 20th April 1881 :—

Length, 10·5 ; expanse, 16·0 ; tail, 3·7 ; wing, 5·3 ; tarsus, 1·2 ; bill from gape, 1·55 ; weight, 3·75 ozs. Legs, feet, and claws dark fleshy ; irides dark brown ; upper mandible blackish ; lower brown, palest at base ; gape yellowish.

389.—*Alcippe poiocephala*, Jerd. The Nilghiri Quaker Thrush.

Jerdon says that this is not a common bird. On the slopes of the Nilghiris, especially about Coonoor and the Ghât below it, it is, I should say, an exceedingly common bird. It ascends the hills to quite 6,000 feet, and is also found in the Wynaad and on the Bramagherries. It goes about in parties of from four or five to twenty or more, keeping chiefly amongst the undergrowth, but also not unfrequently ascending to the tops

of the highest trees, and though acting independently of each other, yet still keeping up communication by continually calling to and answering one another. The following are the dimensions taken in the flesh of an adult male:—

Length, 6·1; expanse, 8·5; tail, 2·5; wing, 2·78; tarsus, 0·8; bill from gape, 0·7; weight, 0·7 oz.

Irides slaty grey; legs, feet, and claws greyish fleshy; bill horny brown.

390.—*Alcippe atriceps*, *Jerd.* The Black-headed Wren Warbler.

This species only ascends the hills to about 4,000 feet. All about the base of the hills, and through the Wynaad, &c., it is a common bird, going about in larger or smaller parties, but, unlike *piocephala*, it seems to prefer bamboo and scrub. But it also occurs in evergreen forest. It is particularly numerous about Manantoddy.

The following is a *resumé* of specimens measured in the flesh:—

Length, 5·3 to 5·8; expanse, 7·0 to 7·7; tail, 2·0 to 2·15; wing, 2·3 to 2·4; tarsus, 0·9 to 0·98; bill from gape, 0·68 to 0·7; weight, 0·6 oz.

Irides bright yellow; lower mandible and upper mandible along commissure, fleshy pink; rest of upper mandible dull black; the legs, feet, and claws vary much; sometimes they are pale plumbeous, sometimes pure fleshy pink, and at other times pink, more or less strongly tinged with purple.

398.—*Dumetia albogularis*, *Bly.* The White-throated Wren Babbler.

I found this Babbler very common about Rampore. I also met with it in many places in the Wynaad, and I have shot it at Neddivuttum at an elevation of 6,500 feet, but it seems to be very local in its distribution. I might march for days without seeing one, and then pass through a tract in which I met with a dozen or more parties in a day's march.

The following are the dimensions, &c., of a couple of specimens:—

Length, 5·8, 5·9; expanse, 7·1, 7·2; tail, 2·3, 2·5; wing, 2·1, 2·2; tarsus, 0·75, 0·8; bill from gape, 0·6, 0·61; weight, 0·5 oz.

Irides white; bill, legs, feet, and claws pinkish fleshy; upper mandible along culmen and claws tinged with brown.

399.—*Pellorneum ruficeps*, Sws. Swainson's Wren Warbler.

I have never found this bird very numerous. I have on one occasion shot it at Neddivuttum, and a few times in the station at Coonoor, but it is rare indeed at this elevation. It spreads through the Wynaad, and I have seen it on the Bramagherries. It is usually in flocks, but not unfrequently in pairs, and keeps almost entirely on the ground among brushwood or bamboo jungle. It has the same note as the other species of *Pellorneum* with which I am acquainted, a clear musical whistle resembling the words "pretty dear." The whistle consists of four notes. This note is continually repeated while the birds are feeding or moving about undisturbed, but when they are disturbed they utter another and quite different note, a harsh sort of "churr."

The following are dimensions, &c., of two fine males:—

Length, 7·2 to 7·3; expanse, 9·3 to 9·6; tail, 2·6 to 2·65; wing, 2·9; tarsus, 1·1; bill from gape, 0·9; weight, 0·8 oz. Irides in the quite adult are crimson lake, in less mature birds cinnamon brown; legs, feet, and claws, and lower mandible, fleshy white; upper mandible dark brown.

404.—*Pomatorhinus horsfieldi*, Sykes. The Southern Scimitar Babbler.

This species is a common bird on the Nilghiris, many parts of Wynaad, and the Bramagherries, frequenting forests and gardens, almost always in pairs. Occasionally, however, it does occur in small parties, but in these cases I am inclined to think that the parties consists merely of a pair of adults and their young. Jerdon says it ascends the Nilghiris to above 6,000 feet. So it does, for it goes as high up as it possibly can without leaving the forest. I have myself shot it immediately below the summit of Dodabetta, the elevation of which is 8,727 feet. Jerdon also says it is very shy and wary; well that just depends upon circumstances. I have seen it remarkably shy close to towns where every native boy in the place was continually amusing himself by either throwing stones, or firing with a pellet-bow at every small bird he came across; and again in places not much frequented I have found it so tame as to allow me to approach within a few yards of it; but when it has been much disturbed, and is consequently shy, there is no bird more wary or successful in evading observation. It must, I think, breed twice, as I found a nest on the 10th of March with fully fledged young, and late in April another nest with perfectly fresh eggs.

There does not seem to be any material difference in the size of the sexes:—

Length, 9·3 to 9·7; expanse, 11·8 to 12·25; tail, 3·5 to 4·2; wing, 3·8 to 4·0; tarsus, 1·2 to 1·3; bill from gape, 1·21 to 1·35; weight, 1·5 to 1·8 oz.

Lower mandible and part of upper mandible yellow, varying from a very pale to a moderately dark orange yellow; rest of upper mandible blackish; irides crimson in the adults, dark wood brown in the immature; legs and feet dark plumbeous brown.

409.—*Garrulax delesserti*, *Jerd.* Delessert's Babbler.

This species is, as remarked by Jerdon, rare. I have only seen it, and, on but few occasions, on the slopes of the Nilghiris, and on the Bramagherries. It has the habits of the other Babblers, associating in parties and working about on the ground, and amongst the brushwood, the whole party at intervals giving vent to their harsh unmusical laugh.

Two specimens I measured in the flesh were as follows:—

Male.—Length, 10·2; expanse, 13·5; tail, 3·75; wing, 4·05; tarsus, 1·45; bill from gape, 1·3; weight, 3·2 ozs.

Female.—Length, 10·2; expanse, 13·2; tail, 3·75; wing, 4·2; tarsus, 1·45; bill from gape, 1·3; weight, 2·75 ozs.

In both sexes the irides are crimson; lower mandible, legs, feet, and claws fleshy white; upper mandible blackish brown.

423.—*Trochalopteron cachinnans*, *Jerd.* The Nilghiri Laughing Thrush.

Exceedingly numerous on the plateau of the Nilghiris, and occurring on the slopes as low down as 4,000 feet, but not lower I think.

This bird is one of the most characteristic birds of the Nilghiris. It is found everywhere in forests, gardens; in fact wherever there are a few bushes or a little scrub the bird is sure to be found, and its pleasant noisy laugh is one of the commonest sounds one hears about Ootacamund, Coonoor, &c.

Jerdon gives a very good description of its food and habits. The male is rather larger than the female. The following are the dimensions of a few of both sexes:—

Males.—Length, 9·2 to 9·5; expanse, 11·1 to 11·5; tail, 3·9 to 3·95; wing, 3·75 to 3·8; tarsus, 1·4; bill from gape, 0·9 to 0·92; weight, 1·4 to 1·6 oz.

Females.—Length, 8·3 to 8·6; expanse, 10·2 to 10·5; tail, 3·6 to 3·75; wing, 3·32 to 3·5; tarsus, 1·2; bill from gape, 0·78 to 0·89; weight, 1·12 to 1·5 oz.

In both sexes the legs and feet are greenish plumbeous; the claws and bill black; and the irides crimson lake in the adult, dark reddish brown in the immature.

424.—Trochalopteron jerdoni, Bly. The Banasore Laughing Thrush.

The habits of this bird are much the same as those of *cachinnans*, but it is a much more shy and wary; at least I found it so, but I had not the opportunity for an extended observation. The voice is also similar, but, as observed by Jerdon, more subdued. I procured twelve specimens of *jerdoni* on the Bramagherries, a range of hills in Coorg within sight of Banasore or Balasore (it is called as frequently by one name as by the other), the locality where Jerdon procured the type. Banasore is separated from the Bramagherries in a direct line by a distance of only about twenty miles.

Jerdon's description of this species is imperfect and unsatisfactory. Blyth's original description, J. A. S. B., 1851, Vol. XX, p. 522 (which is given below as a note*), is far better but hardly full enough, and as three other closely allied species are already known, there cannot be a too detailed description. I may here mention that Mr. Rhodes Morgan informs me that there is on the higher ranges of the Animullays a *Trochalopteron* similar to *jerdoni*, and having the grey throat and breast of that species. Mr. Morgan did not procure any specimens of the bird, but from what he saw of it he inclines to the belief that it is identical with *jerdoni*; it would be very interesting to know that this really is the case. I should think the probabilities are that it will prove a distinct species.

The following is a detailed description of the species:—

Chin, upper throat, feathers at base of lower mandible, lores, a streak behind the eye, forehead, and a narrow line above the white supercilium, dull black; supercilium white, as far as posterior angle of eye, from whence it gradually becomes tinged with ashy until it merges and is lost in the dark ashy of the nape. The supercilium and the narrow black streak above it are the same length, and extend to 0·5 beyond the posterior angle of the eye; crown and occiput (occupying the space within the supercilia) dark slaty brown; feathers of the crown, in most specimens, margined somewhat darker, so as to produce a some-

* NOTE:—Blyth's original description of *T. jerdoni* is as follows:—

“GARRULAX (?) JERDONI, nobis, resembles G. (?) CACHINNANS, Jerdon, except that there is no trace of rufous on the cheeks, foreneck, and breast; the black of the chin is also less developed, and the nape is of a dull ashy hue: foreneck and breast paler ashy, passing to whitish on the ear-coverts. The medial abdominal feathers only are rufous; those of the flanks, back wings, and tail are olive as in G. (?) CACHINNANS, and the head, lores, and supercilia are likewise similar.”

what scaly effect; this varies a good deal in individual specimens; in some the crown and occiput are the same colour, forming a distinct cap contrasting with the dark grey of the nape and mantle; in others the colour gradually shades away till it merges into the grey of the nape, thus not producing any distinct line of demarcation; nape and interscapulary region dark ash grey, darkest in the centre, gradually paling on the sides towards the breast; rest of the upper surface olive brown (the same colour as in *cachinnans*). The grey of the nape is not abruptly defined, but gradually shades away into the olive of the back; ear-coverts pale silver grey, some of the upper feathers tipped black, where these merge into the black spot behind the eye; throat mingled grey and white; breast and sides of neck immediately behind the ear-coverts ash grey, the feathers more or less dark shafted, giving a streaky appearance to these parts. The amount of white on the throat, the depth of tint of the ash colour of the breast, and the dark shafting to the feathers varies considerably in individual specimens. Flanks, tibial plumes, and lower tail-coverts, olive brown, like that of the upper surface; abdomen rufous but paler than in *cachinnans*,—in fact nothing more than a ferruginous buff.

I append a short key to the four species, *cachinnans*, *jerdoni*, *fairbanki*, and *meridionale*.

Chin black	{	Throat and breast rusty	...	<i>cachinnans</i> .
		Throat and breast white and grey,	and	}
		striated	...	<i>jerdoni</i> .
Chin grey	{	Forehead, crown, and occiput form-	ing a defined dark cap	}
		Forehead, crown, and occiput, uni-	colorous with nape into which	}
		they blend	...	<i>meridionale</i> .

I have compared two specimens of *meridionale* with nine of *fairbanki*, to see how far the seven points of distinction given by Mr. Blanford (J. A. S. B., Vol. XLIX, Pt. II., p. 143) hold good, with the following results:—

Mr. Blanford says: “*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 to the ear-coverts.”

This point, as far as I can judge from our not-overgood specimens, appears to hold good.

“(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 crown in *T. fairbanki*.”

This point holds good in one specimen of *meridionale*, in the other specimen the upper feathers of the ear-coverts (which are grey, strongly tinged with rusty), are tipped with dark brown, forming a small but distinct patch behind the eye, the same colour as the lores and crown.

“(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.”

This is the best and most characteristic point of difference between the two species, but it is hardly “the back and upper parts generally being greyer.” This would perhaps be better expressed by saying that these parts in *meridionale* want the rusty tinge they have in *fairbanki*; remove this rusty tinge, and the colour of the upper parts in both species would be identical.

“(4) By the tail feathers being browner, and more distinctly transversely barred above.”

This point does not hold good as far as the barring is concerned.

“(5) By the striation on the throat and breast being more strongly marked.”

This point does not hold good; two specimens of *fairbanki* have the striation quite as much developed as in the Travancore birds.

“(6) By the middle of the abdomen being white instead of ferruginous.”

Several of our specimens of *fairbanki* show traces of white on the abdomen, while in one specimen of *meridionale* there is not a trace of white on the abdomen, it being uniformly rufous.

“(7) By the rather stouter bill.”

This point does not hold good; there is nothing to choose between the stoutest-billed *meridionale*, and five out of nine specimens of *fairbanki* in this respect.

I obtained twelve specimens of *jerdoni* on the Bramagherries, but unfortunately only two out of the ten measured were males. This does not so much matter, however, as these two males do not appreciably differ in size from the females. The following is a *resumé* of the dimensions, &c., of these ten specimens:—

Length, 8·0 to 8·6; expanse, 9·9 to 10·7; tail, 3·3 to 3·7; wing, 3·05 to 3·4; tarsus, 1·2 to 1·3; bill from gape, 0·9 to 1·01; weight, 1·5 to 1·82 oz. The bill is dull black; the legs, feet, and claws dark plumbeous brown; irides in the adult crimson lake, in immature birds deep red brown.

Jerdon in his description (B. of I., Vol. II., page 49) omits

all mention of the black chin, the most important characteristic serving at once to separate it from the other two closely allied species, *fairbanki* and *meridionale*.*

433.—*Malacocercus griseus*, Lath. The White-headed Babbler.

I only met with this species in the Mysore country, and even there only in places that were not heavily wooded. I found it most numerous between Muddur and Gundaluput. It was nowhere very common. Jerdon has given a very full and elaborate description of the habits of this bird (*vide* B. of I., Vol. II., page 60.)

The following are the dimensions, &c., of three specimens:—

Length, 9·0 to 9·2; expanse, 12·45 to 12·5; tail, 3·8 to 4·6; wing, 3·9; tarsus, 1·26 to 1·3; bill from gape, 0·9 to 1·0; weight, 2·25 to 2·5 ozs. Legs, feet, claws, bill, and orbital skin dead white, slightly tinged with yellow; irides creamy white.

434.—*Malacocercus malabaricus*, Jerd. The Jungle Babbler.

All over the Nilghiris and its slopes, and through the Wynaad, this species is common. Jerdon calls it the Jungle Babbler. As far as my experience of it goes, it studiously avoids all heavy jungle, and I doubt if it ever enters any forest or heavy jungle a distance of a hundred yards. Its chief haunts are among scrub, and in the cultivated lands in the vicinity of Ootacamund, Coonoor, Kotagherry, &c., it is specially abundant; these fields are as a rule intersected in all directions by ravines filled with brushwood, besides many patches of scrubby uncultivated land; the birds feed in the fields, and when disturbed, or they retire of themselves, they betake themselves to this scrub. They are always in parties, even in the breeding season, and in habits resemble other members of the genus, feeding much on the ground, and moving about together. Their note is a sort of chuckling laugh, and as soon as one commences, the whole party join in a chorus; they are noisy though sprightly birds. The following are the measurements, &c., taken in the flesh of two males and two females. The sexes do not differ in size:—

Length, 9·5 to 10·1; expanse, 12·3 to 13·1; tail, 3·9 to 4·1; wing, 3·8 to 4·31; tarsus, 1·3 to 1·38; bill from gape, 1·05 to 1·1; weight, 2·5 ozs.

Legs, feet, claws, bill, and orbital skin dirty fleshy white; upper mandible and claws tinged more or less strongly in dif-

* But these two were then unknown, and he says like *cachimans* which has the chin black.—ED., S. F.

ferent individuals with pale brown ; lower mandible sometimes tinged with pale yellow ; irides bright pearly white.

436.—*Argya malcolmi*, Sykes. The Large Grey-fronted Babbler.

This Babbler is not a common bird in the country embraced in this paper. I have met with a few flocks occasionally on the lower slopes below Kotagherry, and in the Mysore country near Gundulapet and Muddur. I have never met with it on the slopes below Coonoor, Neddivuttum, or the Seegore Ghât. I may mention a curious incident about this bird. In 1869 or 1870, I am not certain which, a flock of about twenty individuals of this species suddenly made their appearance in the town of Ootacamund, taking up their abode in the Government Public Gardens, from whence they strolled among the well-wooded gardens in the vicinity for about a radius of a mile. I noticed their arrival at once, for I was, at that time, quite unacquainted with the bird, and their very peculiar and unfamiliar note made them very conspicuous. I left Ootacamund in 1872, and then they seemed to be just the same number ; when I returned nearly ten years afterwards the flock was still there and frequenting the same place, but reduced to five individuals. I made many enquiries among both Europeans and natives who had noticed their arrival, and found that they always remained thereabouts, never seemed to breed, and gradually diminished in numbers. This party always frequented the tops of the highest trees, and if disturbed when feeding in the ground, at once betook themselves to the high trees.

I shot one, a female, out of the remaining five, and this I measured with the following results :—

Length, 11·1 ; expanse, 14·5 ; tail, 5·4 ; wing, 4·6 ; tarsus, 1·41 ; bill from gape, 1·09. Irides bright yellow ; upper mandible dark brown ; lower mandible, legs, and feet fleshy, slightly tinged blue.

437.—*Layardia subrufa*, Jerd. The Rufous Babbler.

This bird in habits and voice is quite a *Malacocercus* ; the only points of difference are that it keeps to much denser cover, being found far away in forests, and the voice is softer and more subdued. It is especially partial to dense thorny scrub jungle and bamboo. It feeds, like the *Malacocerci*, on the ground chiefly. It does not ascend to the plateau of the Nilghiris, but I have shot it about a couple of miles from Coonoor on the Ghât. It is also not uncommon in the Wynaad, but I did

not meet with it anywhere in the Mysore country, which is very much drier than the Wynaad.

I procured a good number of specimens. The following is a *resumé* of the dimensions and colours of soft parts of those measured. Sexes do not differ in size:—

Length, 9·9 to 10·2; expanse, 11·0 to 11·3; tail, 4·4 to 4·9; wing, 3·5 to 3·6; tarsus, 1·35 to 1·4; bill from gape, 0·92 to 1·0; weight, 2·1 to 2·75 ozs.

Upper mandible from gape to nostril chrome yellow, rest of upper mandible blackish brown, shaded along commissure with pale yellow; lower mandible chrome yellow, sometimes shaded with pale brown; irides sometimes creamy white, sometimes pale yellow. Legs and feet vary greatly; they are dark yellowish fleshy, pale reddish brown, greyish yellow, &c.

[438.—*Chatarrhæa caudata*, Dum. The Striated Bush Babbler.

I observed three birds of this species, close to the Railway Station, at the base of the Coonoor Ghât. I have no doubt it occurs everywhere on the lower levels where not too wet and jungly.—A. O. H.]

442.—*Schœnicola platyurus*, Jerd. The Broad-tailed Reed Bird.

I failed to procure specimens of this bird during my trip, though I saw it on two or three occasions in the dense screw-pine swamps in the Wynaad.

446.—*Hypsipetes ganeesa*, Sykes. The Southern Black Bulbul.

This species is very numerous on the higher portion of the Nilghiris, at about Ootacamund, Coonoor, &c., but it gradually diminishes in number as it descends, stopping at about 4,000 feet. It is also found on the Bramagherries. It goes about in parties usually, though occasionally met with in pairs; it is very noisy, keeping up a continual chatter. It feeds on fruit, and is rather a wary bird.

450.—*Criniger ictericus*, Strickl. The Yellow-browed Bulbul.

This bird does not occur on the plateau of the Nilghiris, but it is common from about the elevation of about 6,500 feet downwards to the foot of the Ghâts. It also occurs in the forests of Wynaad, on the Peria Ghât for instance, and on the Bramagherries in Coorg. It goes about in pairs and small

parties, feeds on fruit, has a soft, rather mellow whistle, and keeps much to the undergrowth of the evergreen forests, venturing occasionally, however, into gardens.

A specimen I shot in the Peria forests differed so conspicuously in the colours of the soft parts, from what is recorded by Jerdon, that I give it. *Male*, shot 1st May.—Irides wood brown; legs and feet pale blue; claws bluish horny; upper mandible black; lower mandible pale brown, darkest along edges and at tip.

[452.—*Ixos luteolus*, Less. The White-browed Bush-Bulbul.

Occurs in the Wynaad, whence I once received a specimen, but is, I believe, rare there.—A. O. H.] I met with this species at Rampore in Mysore.—W. D.

452.—*Rubigula gularis*, Gould. The Ruby-throated Bulbul.

This little Bulbul is a bird of the evergreen forests, with the usual habits of the genus, and a note very similar to that of *R. flaviventris*. It is by no means common; and even in the district in which it occurs is very local; it usually associates in small flocks. I met with it first near Devala in Wynaad. It does not ascend the hills that I am aware of—at least I have never met with it on the Ghâts.

I only procured a few specimens. The following are the dimensions and colours of soft parts of four specimens, two males and two females:—

Length, 6·7 to 6·8; expanse, 9·4 to 9·5; tail, 2·8 to 3·0; tarsus, 0·5 to 0·55; bill from gape, 0·7 to 0·78; weight, 0·7 ozs. Irides vary from white to pale yellow; bill and claws black; legs and feet plumbeous, sometimes tinged with brown.

457.—*Brachypodius poiocephalus*, Jerd. The Grey-headed Bulbul.

The species is not uncommon in some parts of the Wynaad, as at Manantoddy and its neighbourhood, the Peria forests, &c. I have also found it in other parts of Wynaad, but in much reduced numbers, and in May last I met with one specimen about a mile from Coonoor.

The bird is only found in well-wooded places—I mean by that on the outskirts of the evergreen forests, and similar places; for although a place may be well-wooded with deciduous trees, bamboos, &c., the bird would not frequent it, so that

it might, like *Irena puella*, be termed a bird of the evergreen forests. It has the same habits as other members of the genus, but the note is quite unlike that of any other species of *Brachypodius*, with which I am acquainted, being a single soft low whistle. Those I examined had eaten berries. Usually they are in pairs, and I have even found them singly, but in the mornings and evenings they may be found in numbers feeding in company with other Bulbuls, Orioles, Irenas, &c., in flocks. They are very wary, and after being fired at once or twice become so wary that it is next to impossible to approach within shot. I managed to secure a large number of specimens, but this was by stationing myself under a tree in fruit in the morning and evening with my air gun.

The following is a *resumé* of the measurements of a large number of specimens taken in the flesh. The sexes do not vary in size:—

Length, 7·0 to 7·5; expanse, 9·2 to 10·0; tail, 2·7 to 3·25; wing, 2·9 to 3·25; tarsus, 0·5 to 0·65; bill from gape, 0·7 to 0·85; weight, 0·8 to 1·15 oz.

In both sexes the legs are fleshy, strongly tinged with orange; the bill pale green, almost the same shade exactly as the forehead; the irides a clear blue grey, the grey tint predominating more or less in different specimens.

Jerdou's description of this species was evidently taken from a single specimen, and as individuals vary to a considerable extent, it will be perhaps as well to re-describe the species. Jerdon, moreover, in his description says: "Feathers of the rump light yellowish green, broadly streaked with black." This is apt to convey a very erroneous impression; the feathers, as in all the *Brachypodii*, are black, very broadly fringed with a lighter colour, in this case by green. The following is a detailed description of a fine adult male:—

Feathers immediately above nostril and forehead bright greenish yellow; the feathers immediately in front of the lores are hardly, if at all, tinged with green, the colour being an almost pure gamboge yellow; lores, feathers round eye, a short streak from posterior angle of eye, most of the feathers of the ear-coverts, and a patch at the base of lower mandible, dull green, much the colour of the back, but duller; the bases of the feathers on lores are black, and this showing through gives a blackish appearance to these parts; chin and upper throat dull black; crown, occiput, nape, sides of neck immediately behind ear-coverts and lower throat, a rather dark ash grey; interscapulary region, scapulars, upper back, and visible portion of closed wing rather dark warm olive green; there is the same green on the lower surface, but much lighter in tint,

darkest on the upper breast, gradually paling, till on the tibial plumes, flanks, and lower abdomen the feathers are merely washed with a delicate tint of green.

Feathers of the lower back and rump black, very broadly edged with pale ashy green, the black showing through to a considerable extent, giving the mottled appearance to these parts characteristic of the *Brachypodii*; the feathers too are loose and very full, also characteristic of the genus; upper and under tail-coverts, four central tail feathers, and entire under surface of tail, a delicate French grey; the four lateral tail feathers on each side black for two-thirds of their length, the terminal third French grey and margined on their outer webs with green; the black on the tail is confined entirely to the upper surface of the feathers, the lower surface for their entire length being grey; primaries, secondaries, and tertiaries blackish brown; the first primary entirely of this colour, the remainder edged on their outer webs with green, at first very narrowly, but more broadly on each succeeding feather, till on the tertiaries the entire outer webs, and on the later ones the tips of the inner webs also, are green.

Taking a large series, the birds are found to vary somewhat *inter se*. In some specimens the grey of the head and throat is almost or entirely wanting, and the amount of black on the chin and throat of the different specimens varies considerably; the green edging to the outer webs of the tail feathers too varies; in some all the tail feathers are green edged, in others only the outer four on each side. With regard to the almost or entire want of grey on the head and throat, this appears to be a sign of nonage.

This species is apparently figured and described in the "Voyage de la Bonite, Pl. 5, under the name of *Ixos fisquetii*. A young bird showing the merest trace of grey about the head and throat, and with the central tail feathers grey edged.

460bis.—*Otocompsa fuscicaudata*, Gould. The Southern Red-whiskered Bulbul.

An exceedingly abundant species all over the Nilghiris, through the Wynaad and Mysore. Most numerous perhaps on the higher ranges. Found singly, in pairs, or parties. It is a very familiar bird, keeping much to gardens, &c., and as a rule avoiding heavy forest.

462.—*Molpastes hæmorrhous*, Gm. The Madras Bulbul.

This species is very rare on the highest portion of the Nilghiris, being only occasionally seen about Ootacamund, but

about four miles from Ooty, it commences to get common. It is very numerous about Coonoor, and all down the Ghâts. It is much rarer on the Neddivuttum side, owing, I suspect, to there being so much evergreen forest on that side which it dislikes, its chief haunts being comparatively open land studded with bushes and scrub. Jerdon says it ascends the Nilghiris only to about 6,000 feet. It is quite possible it may have been so when he made his observations, but now, though rarely, it certainly is found right up to Ootacamund, for I have shot it more than once in the Government Gardens:—

A male measured in the flesh:—

Length, 8·2; expanse, 12·4; tail, 3·5; wing, 3·8; tarsus, 0·85; bill from gape, 0·82; weight, 1·2 oz.

463.—Phyllornis jerdoni, Bly. The Green Bulbul.

I did not procure specimens of this species during my trip. I met with it on a few occasions in the Mysore country.

464.—Phyllornis malabaricus, Gm. The Malabar Green Bulbul.

This species is not uncommon in the Wynaad and on the slopes of the Nilghiris. I have shot it as high up as the Government Plantations at Neddivuttum, about 6,000 feet elevation, but it does not go higher than this I think. Its voice is very similar to that of *aurifrons*, and it has the usual habits of the genus, going about in pairs or small parties. It lives largely on fruit, but I have also found insects in the stomachs of some. It is very fond of frequenting the silk cotton trees (*Bombax malabaricum*) when in flower.

The following are the dimensions, &c., taken in the flesh of three fine males:—

Length, 7·2 to 8·2; expanse, 11·7 to 12·0; tail, 2·7 to 3·85; wing, 3·6 to 3·7; tarsus, 0·7 to 0·75; bill from gape, 0·95 to 1·0; weight, 0·82 to 1·3 ozs.

468.—Iora tephala, Lin. The Common Iora.

A common bird all through the Wynaad, the base of the Nilghiris, and up their slopes to an elevation of about 3,000 feet. Jerdon has given a full account of the habits of the species (B. of I., Vol. II., p. 100) under the head of *Iora zeylonica*.

469.—Irena puella, Lath. The Fairy Blue Bird.

Found in the Wynaad, and on the slopes of the Nilghiris up to about 5,000 feet, but only in the evergreen forests. It avoids dry open country. A full account of its habits, &c., will be found in our Tenasserim paper, S. F., Vol. VI., and Jerdon, B. of I., Vol. II., 105.

470.—*Oriolus kundoo*, Sykes. The Indian Oriole.

This species occurs on the Nilghiris (rarely ascending higher than about 6,000 feet) and through the Wynaad. It is most abundant at the lower elevations.

[471.—*Oriolus indicus*, Jerd. The Black-naped Indian Oriole.

I have received a specimen from the Wynaad from, I think, the neighbourhood of Manantoddy. It must be rare, as it was sent as an unknown bird by a stranger.—A. O. H.]

472.—*Oriolus melanocephalus*, Lin. The Black-headed Oriole.

This Oriole occurs over the same country as *O. kundoo*, but it ascends the hills somewhat higher, and I have on more than one occasion seen and shot it close to Ootacamund.

475.—*Copsychus saularis*, Lin. The Magpie Robin.

The Dhial is common in the Wynaad, and it also occurs on the slopes of the Nilghiris to an elevation of about 4,500 feet.

476.—*Cercotrichas macrura*, Gm. The Shama.

I only met with this species in some thick bamboo jungle at the foot of the Bramagherries, where I obtained a male. In former years I have once or twice obtained it also in bamboo jungle a few miles from Seegore at the foot of the Nilghiris.

479.—*Thamnobia fulicata*, Lin. The Southern Black Robin.

I found this Robin very common in the Mysore country through which I passed, where the country was not heavily wooded. It also occurs commonly on the slopes of the Nilghiris up to about 3,000 feet, but not higher I think. It avoids heavy jungle, and frequents open stony ground grown over with thorny scrub.

On the 23rd of May last year I found a nest of this species containing three partially incubated eggs. The nest was placed under a bush on the very edge of the road.

Two males measured:—

Length, 6·5 to 6·7; expanse, 9·3 to 9·6; tail, 2·5 to 2·6; wing, 2·95; tarsus, 1·0 to 1·01; bill from gape 0·61 to 0·71; weight, 0·8 oz. Bill, legs, feet, and claws black; irides very dark brown.

481.—Pratincola caprata, Lin. The Black Bush Chat.

Occurs sparingly in the Mysore country, and I observed it two or three times in the Wynaad, in cultivated land. It keeps to the plains country.

482.—Pratincola bicolor, Sykes. The Hill Black Bush Chat.

This is one of the most common, and certainly the most familiar bird on the Nilghiris. It is especially common on the plateau at Ootacamund and its vicinity, and about Coonoor, Kotagherry, &c. It loves to frequent the neighbourhood of houses, and it is a most familiar and pleasing little bird. When found away from towns, it keeps to open cultivated land, seldom, I think, descending lower than about 5,000 feet. It breeds freely on the Nilghiris, commencing as early as February.

[483.—Pratincola maura, Pall. The Indian Bush Chat.

This is reported common in S. W. Mysore during the cold season.—A. O. H.]

497.—Ruticilla rufiventris, Vieill. The Indian Redstart.

This Redstart is only a winter visitant to the south, and even then it is not numerous. I have never known it to ascend the hills. I have seen it most often about the stony ground at the base of the hills, and procured specimens near Seegore.

507.—Larvivora superciliaris, Jerd. The Blue Wood Chat.

This Wood Chat is very abundant on the Nilghiris and their slopes. It also occurs not uncommonly in the Wynaad, and I found it in the forests on the Bramagherries. It usually keeps in the forests, frequenting chiefly banks of streams and marshy spots, usually singly, sometimes in pairs, hopping about on the ground, and when disturbed, flying up into some low tree, but only to alight again almost immediately.

It is a permanent resident on the Nilghiris (breeding in holes of trees), but whether it is so in the Wynaad or not I cannot say. It is a noticeable fact that the males seem to be very much more numerous than the females.

Jerdon gives the bill as dusky, so it is in the immature, but

in the adult it is quite black; legs and feet fleshy; irides very dark brown.

[514.—*Cyanecula suecica*, *Lin.* The Red-spot Blue-throat.

This is common in both S. W. Mysore and the Wynaad.—A. O. H.]

? 515.—*Acrocephalus stentorius*, *Hemp.* and *Ehr.*
The Large Reed Warbler.

On the 2nd of April last year, while passing through a coffee estate in Charambady, Wynaad, I noticed two large *Acrocephali* in a rose hedge, but I was unable to obtain a specimen, so I have entered the species with a query, as it is possible* they might have been *515bis*.—*A. orientalis*, *Tem.* and *Sch.*

516.—*Acrocephalus dumetorum*, *Bly.* The Lesser Reed Warbler.

A cold weather visitant, and very abundant from about the middle of December to late in March on the Nilghiris. It occurs also in the Wynaad, and I have shot it on the Bramagherries. It frequents gardens, and the undergrowth on the outskirts of the jungles, working its way through tangled and dense vegetation in a marvellous way, and as it moves about, keeps continually uttering its peculiar note, which cannot be syllablized, but can be produced exactly by placing the tongue against the teeth, and drawing it back rapidly. The sexes do not vary in size, the following being a *resumé* of a number measured in the flesh:—

Length, 5·5 to 5·7; expanse, 7·3 to 7·7; tail, 1·95 to 2·1; wing, 2·3 to 2·55; tarsus, 0·9 to 0·95; bill from gape, 0·6 to 0·71; weight, 0·3 to 0·35 oz. Upper mandible dark brown; lower mandible fleshy; legs and feet pale fleshy brown; irides pale wood to yellow brown.

[517.—*Acrocephalus agricolus*, *Jerd.* The Paddy-field Warbler.

I received one specimen of this from the Wynaad.—A. O. H.]

530.—*Orthotomus sutorius*, *Penn.* The Indian Tailor Bird.

This bird does not ascend to quite the plateau of the Nilghiris, but occurs from about the level of Coonoor downward, and

* I don't think so as we have *stentorius* from all over Southern India.—Ed., S. F.

all through the Wynaad and the Mysore country. It avoids very dry and stony localities, frequenting the better wooded portions of the country. It is such a well known and familiar bird, and has so often been written about, that it would be superfluous for me to say anything more of it now.

534.—Prinia socialis, Sykes. The Ashy Wren Warbler.

I have only met with this species on the Nilghiris, where it is not uncommon in the vicinity of Ootacamund, Coonoor, &c. It does not descend the slopes that I am aware of—at least I have, I think, never met with it below about 6,000 feet. It goes about in pairs, or singly, usually the latter, never in flocks or parties. It keeps among the scrub, and is very fond of working its way up to some conspicuous post, to the top of one of the long flower stalks of *Lobelia excelsa*, for instance, where it will halt for a minute or two, and then after making a feeble attempt at a song will dive suddenly into the brushwood and disappear.

Jerdon says (B. of I., Vol. II., p. 171): “The eggs are usually reddish white with numerous darker red dots, &c.....”

I have taken a great number of the nests of this bird in my time, over 50 perhaps, but I never obtained one in which the *Prinias*' eggs were not a uniform red throughout, lighter or darker in different nests, but *always* red throughout, and not as Jerdon would make out, only *sometimes* brick red throughout.

The following are the dimensions, &c., of two fine males:—

Length, 5·5; expanse, 6·6; tail, 2·3 to 2·5; wing, 2·0 to 2·05; tarsus, 0·85 to 0·9; bill from gape, 0·62; weight, 0·35 ozs. Bill black; legs and feet yellowish fleshy; irides litharge red.

536.—Prinia gracilis, Frankl. Franklin's Wren Warbler.

This species, whether *gracilis* or *hodgsoni*, does not ascend the hills to any great height; the highest elevation at which I have ever obtained it has been about 3,500 feet. It spreads through the Wynaad, but I have never found it common. It is always in small parties of from four to a dozen or more. An adult male that I shot at Charambady in the Wynaad on the 2nd of April has the pectoral band very distinct.

539.—Cisticola cursitans, Frankl. The Fantail Warbler.

I met with this species a few times in the Wynaad, near Maunantoddy in rice cultivation, and in long grass bordering

ditches, &c. I procured one specimen, a male, for identification, and this is identical with many among the large series contained in our museum.

540.—*Cisticola erythrocephalus*,* *Jerd.* The Red-headed Fantail Warbler.

I found this species only on the Bramagherries, and on the Peria forest hills, and they were rare there, and very difficult to obtain, keeping, as they do, to the long elephant grass. I found them generally in small parties, very shy, and keeping most persistently to the long grass. I noticed the peculiar loud call mentioned by Jerdon.

The following are the dimensions and colours of soft parts of two specimens (both unfortunately females) taken in the flesh:—

Length, 4·8 to 5·0; expanse, 5·7; tail, 2·0 to 2·1; wing, 1·7 to 1·75; tarsus, 0·7 to 0·75; bill from gape, 0·5 to 0·6; weight, 0·3 to 0·35 oz.

Irides burnt sienna; lower mandible, legs, feet, and claws fleshy; upper mandible pale brown.

Two specimens of this species in the museum—one from Saugor, C. P., and the other from the Pulneys—have the entire top of the head and entire lower parts uniform ferruginous; the Saugor bird is not dated, the bird from the Pulneys was shot on the 12th June, and is sexed a male. I collected five specimens, † four from the Peria forests, shot between the 1st and 6th of May, and one shot on the Bramagherries on the 17th April. All these birds have the head more or less strongly striated,—in fact in four out of the five the black markings preponderate over the ferruginous. In one the entire head is almost black, there being only a supercilium, and a few narrow edgings to the feathers of the head, ferruginous. In the one exception the head is ferruginous, with only a few black spots showing here and there. In all these five specimens the throat, breast, flanks, and lower tail-coverts alone are ferruginous, the chin and abdomen being white. This species may, however, always be distinguished from *curvirostris* by not having the tail feathers white tipped, and by the ferruginous of the lower surface, which is always present in a greater or less degree.

* From the dimensions given and description, I suspect these birds are *C. tytleri* (vide ante p. 219 n. and 221 n.)—ED., S. F.

† I have not seen these specimens, and Mr. Davison's remarks make me doubtful of the identification.—ED., S. F.

543.—*Drymœca inornata*, Sykes. The Earth-brown Warbler.

I have entered the Wren Warbler found on the Nilghiris, its slopes, the Wynaad, the Mysore country, &c., under the above name. I may, however, have confounded two species, *D. longicaudata** and the above. However, if the two are distinct species, they certainly do not differ in habits. *D. inornata* is found from the plateau of the Nilghiris all down the slopes, in the Wynaad and Mysore, frequenting by preference the long elephant grass, but found also in scrub jungle. Jerdon has given a very good description of the habits of the species (B. of I., Vol. II., p. 179).

553.—*Hypolais rama*, Sykes. Sykes' Warbler.

We have a specimen of this in our museums, a female, procured by Miss Cockburn, at Kotagherry, on the 14th October 1874. The measurements of this, as recorded by Miss Cockburn, are as follows:—

Length, 5·5; expanse, 7·0; tail, 2·0; weight, 2 drs. Legs and feet light grey; bill brown above, light beneath; irides greyish.

556.—*Phylloscopus magnirostris*, Bly. The Large-billed Tree Warbler.

I shot a female of this species in some undergrowth near Manantoddy on the 18th of May 1881. I have compared it very carefully with our large series, and find it is undoubtedly of this species.

559.—*Phylloscopus nitidus*, Bly. The Bright-Green Tree Warbler.

I procured a specimen of this species at Manantoddy on the 10th of April 1881; it was a male. I saw several others during the trip.

560.—*Phylloscopus viridanus*, Bly. The Greenish Tree Warbler.

This is the common *Phylloscopus* of the Nilghiris, Wynaad, &c. They come in early, and I have shot it in Wynaad as late as the 4th of April.

* But *D. longicaudata* is certainly merely the winter plumage of *D. inornata*.—
ED., S. F.

560 bis.—*Phylloscopus tytleri*, *Brooks*. Brooks' Tree Warbler.

I obtained one specimen, a male, of this species at Ootacamund on the 10th of March 1881. This measured in the flesh:—

Length, 4·7; expanse, 7·4; tail, 1·65; wing, 2·4; tarsus, 0·7; bill from gape, 0·52; weight, 0·35 oz.

I shot a second specimen at Ooty on the 22nd of January last.

I also append the measurements, taken in the flesh, of seven specimens of this rare species which were collected at Simla and its immediate neighbourhood. All these specimens having been collected in September and October are in the bright autumnal plumage. The specimen I obtained at Ootacamund is more like, though not quite so, dull coloured as the specimens collected from April to June in Cashmere. Of the Simla specimens, five are males, one a female, and one has not been sexed.

The sexes do not apparently differ in size.

My specimen from Ootacamund was most carefully compared with our comparatively large series, both by Mr. Hume and myself, and there is no doubt whatever about the identification:—

Length, 4·4 to 4·7; expanse, 6·65 to 7·3; tail, 1·45 to 1·8; wing, 2·15 to 2·45; tarsus, 0·7 to 0·75; bill from gape, 0·5 to 0·53; weight, 0·25 oz.

The legs and feet vary; they were dark greenish plumbeous, dingy green, yellowish grey, dark brownish green, and very dark plumbeous brown; upper mandible and apical half of lower mandible blackish brown; rest of bill and gape yellowish; irides dark brown.

561.—*Phylloscopus affinis*, *Tick*. Tickell's Tree Warbler.

From December to April this Warbler is very numerous on the plateau of the Nilghiris, and even on the slopes. It has all the habits of the other *Phylloscopi*, and it also has a peculiar habit that I have not noticed in any other species of the genus.

The land in the vicinity of Ootacamund, Coonoor, Kotagherry, &c., is cultivated in a very crude sort of way by a tribe of hill people called Badagas, and in and about the cultivated land are patches of land lying fallow and sparsely covered with brushwood. Parties of this *Phylloscopus* assemble together (I have seen twenty or thirty together), and feed

about on the ground, acting to a certain extent independently of one another. When disturbed they scatter and take refuge in the bushes, but when all is quiet, they drop one by one to the ground, and soon all re-assemble. They are of course commonly found wandering about singly or in small parties, and even then they feed much on the ground; from what I have observed, I should say, far more than they do in trees and bushes. They are a familiar little bird, and are fond of frequenting gardens, when they hunt about among the flower or vegetable beds, destroying a great number of insects. Their note is a feeble *tsip*, *tsip*, uttered very frequently.

The female is slightly smaller than the male, and perhaps in freshly moulted specimens a shade lighter coloured.

The following are the dimensions of three males and a female recorded in the flesh:—

Males.—Length, 4·7 to 4·8; expanse, 7·1 to 7·3; tail, 1·7 to 1·8; wing, 2·0 to 2·4; tarsus, 0·7 to 0·71; bill from gape, 0·5 to 0·51; weight, 0·2 oz.

Female.—Length, 4·5; expanse, 6·6; wing, 2·0; tail, 1·8; tarsus, 0·71; bill from gape, 0·5.

Upper mandible dark greenish brown; lower mandible yellow; legs and feet yellowish fleshy, sometimes tinged brown.

589.—*Motacilla maderaspatensis*, *Gm.* The River or Large Pied Wagtail.

A few pairs of this Wagtail frequent the shores of the lake at Ootacamund. I have also seen it at Gundalupet in Mysore, and about the river at Manantoddy, and other streams in the Wynaad, but it is not an abundant bird. It is a permanent resident where it does occur, breeding in holes in banks, among stones and rocks, &c., but always I think in the vicinity of water.

[591*bis*.—*Motacilla dukhunensis*, *Sykes.* The Indian White-faced Wagtail.

Common below the foot of the Coonoor Ghât. Received also from S. W. Mysore, and I doubt not common everywhere below 3,000 feet, if not higher, in suitable ground during the cold season.—A. O. H.]

592.—*Calobates melanope*, *Pall.* The Grey and Yellow Wagtail.

A cold weather visitant to the south, but very common during its stay. It is found everywhere close to streams, in marshy places, in cultivated land, in gardens, &c.

It is a very familiar bird, and not at all shy, and will trip along looking for insects. They arrive in September, and have almost all left by the end of March.

[593.—*Budytes cinereocapillus*, *Savi*. The Slate-headed Field Wagtail.

I have seen this from Wynaad and S. Mysore.—A. O. H.]

59?—*Budytes* Sp. ? Field Wagtail ?

In former years, when I neither collected nor worked at birds, I saw during the cold weather on several occasions a *Budytes* on the marshy banks of the lake at Ootacamund, but I have not recently been able to procure a specimen for identification.

[594 *bis.*—*Budytes citreolus*, *Pall.* The Grey-backed Yellow Wagtail.

Several specimens were sent from the Wynaad.—A. O. H.]

595.—*Limonidromus indicus*, *Gm.* The Forest Wagtail.

This species, which Jerdon classes as a Wagtail, is as far as habits at any rate go, much more of a Pipit. Jerdon well describes it as a "wood-loving species." I have shot a good number in my time, but I certainly never met with it in the open. I have always found it under cover. It is usually found singly, occasionally in pairs in thin tree jungle, feeding on the ground. When disturbed, it either runs along the ground till some distance away, when it takes wing, or else rises at once and flies up into some tree, generally alighting on some large bough, along which it walks, and then flies on to another, and so on till, if it sees danger still present, it flies off to another part of the jungle; or, if it thinks all is quiet, drops on to the ground, and recommences feeding. The only note I have heard it utter is a feeble sharp *chip*. This it utters chiefly when disturbed, but occasionally also when quietly feeding. It seems to live entirely on insects. At least I have never found anything but insects, chiefly the remains of ants, in those I have examined. It occurs all over the Nilghiris, Wynaad, and the Mysore country through which I passed, but it is rare.

596.—*Anthus maculatus*, *Hodgs.* The Indian Tree Pipit.

This Pipit is a cold weather visitant to the south in large numbers, and spreads over the whole of the Nilghiris, the Wynaad, and Mysore. It is always in small flocks, and feeds,

as a rule, in shady places, such as gardens, forest paths, &c. When disturbed, they immediately take refuge in the nearest trees. I have occasionally found them feeding on grassy hill sides.

598.—*Anthus montanus*, Jerd. The Hill Tree Pipit.

This Pipit seems to be restricted to the plateau of the Nilghiris. I failed to find it on the Bramagherries, nor can I learn that it occurs on the Anamullays or Shevaroy's. On the Nilghiris it is not uncommon, frequenting grassy land, but always close to cover, to which it betakes itself when disturbed, perching on some tree or bush. It is always found singly or in pairs, never in flocks, and it is a permanent resident on the Nilghiris.

The following is a *resumé* of the dimensions of eight specimens measured in the flesh; the sexes do not vary the one from the other in size or colours of soft parts:—

Length, 6.6 to 7.0; expanse, 9.8 to 10.4; tail, 2.3 to 2.62; wings, 2.9 to 3.2; tarsus, 0.95 to 1.0; bill from gape, 0.65 to 0.71; weight, 0.8 to 0.85 oz.

Upper mandible and apical portion of lower mandible, and claws dark brown; rest of lower mandible, legs, and feet pale fleshy brown; irides deep wood brown.

600.—*Corydalla rufula*, Vieill. The Indian Tit-lark.

Very common on the Nilghiris, the Bramagherries, the Wynaad, in fact wherever there is open grassy land. It is a bird of the open grassy country, avoiding cover, and it never, that I am aware of, perches on trees. It is a permanent resident on the Nilghiris and Bramagherries, but I do not know whether it is so in the low country of Wynaad and Mysore. Birds of this species from Southern India are darker and brighter coloured than those from parts of India further north.

603.—*Agrodroma similis*, Jerd. The Rufous Rock Pipit.

I have only noticed this Pipit on the slopes of the hills near Coonoor and Kotagherry. It is decidedly rare. I have found it on grassy land and in barley fields that had been reaped. It is shy. Its flight is strong and undulating, its note is much like that of *C. richardi*, but louder and clearer.

The following are the dimensions and colours of soft parts of a fine male and female:—

Male.—Length, 7.95; expanse, 12.3; tail, 3.4; wings, 3.7; tarsus, 1.11; bill from gape, 0.95; weight, 1.2 oz.

Female.—Length, 7·71; expanse, 11·41; tail, 3·18; wings, 3·3; tarsus, 1·1; bill from gape, 0·9; weight, 1·05 oz.

Irides wood brown; upper mandible black; lower mandible fleshy, the tip blackish; tarsus reddish fleshy; feet darker; claws dark reddish brown; gape yellow.

631.—*Zosterops palpebrosa*, Tem. The White-eyed Tit.

This pretty little bird is very abundant on the higher ranges of the Nilghiris. It also extends over the slopes, but diminishes in numbers the lower down it gets, till in the low country of the Wynaad, &c., it may be said to be rare. Except during the breeding season, it goes about in small flocks, working about among the trees and bushes in a most systematic manner, keeping up a continuous twitter the while. As far as I have observed, I believe it to be entirely insectivorous, but according to Hutton it eats berries too (*vide* B. of I., Vol. II., p. 266). I have found many hundreds of its nests in my time, but I certainly never found one, as stated by Hutton, suspended with fibres of silk or hair, but always securely hung in the fork of some branch or twig of a bush.

645.—*Parus nipalensis*, Hodgs. The Indian Grey Tit.

Occurs all over the Nilghiris and the Wynaad, and the better wooded portions of the Mysore country. It is abundant on the higher ranges of the Nilghiris, specially near the inhabited parts. The natives of the Nilghiris call it *Puttani Kurivi* (Anglicè Pea Bird) from the destruction it commits among peas. It also eats fruits and berries of various kinds, and insects as well; in fact its food appears to be as much vegetable as animal. It has the usual habits of the tribe, except that it usually goes singly or in pairs, and seldom indeed in flocks. A male measured in the flesh:—

Length, 5·7; expanse, 9·2; tail, 2·4; wing, 2·8; tarsus, 0·78; bill from gape, 0·5; weight, 0·6 oz. Bill black; legs and feet plumbeous.

648.—*Machlolophus aplonotus*, Bly. The Southern Yellow Tit.

This Tit does not ascend to the plateau of the Nilghiris, but it is not uncommon in the vicinity of Coonor, Kotagherry and from thence down the slopes, and into the Wynaad. Unlike the last species it avoids the immediate vicinity of habitations keeping more to the jungles. Its note is exactly like that of its northern representative—*M. xanthogenys*.

The following are the dimensions of two males:—

Length, 5·7, 5·9; expanse, 9·5, 10·8; tail, 2·4, 2·5; wing, 2·9, 3·2; tarsus, 0·75, 0·79; bill from gape, 0·5, 0·51; weight, 0·62, 0·65 oz. Bill black; legs, feet, and claws plumbeous; irides dark brown.

660.—*Corvus macrorhynchus*, Wagl. The Indian Corby.

Exceedingly common everywhere throughout the district under consideration.

663.—*Corvus splendens*, Vieill. The Indian Grey-necked Crow.

This species does not ascend the hills, and even in some parts of the low country at the foot of the hills it does not occur, or is rare, for instance from Goodalore to Nellacotta, though on reaching Nellacotta it suddenly appeared, and was common; and this I noticed in other places, though in general it swarms throughout the low country wherever there are human habitations. Jerdon has given (*B. of I.*, Vol. II., p. 298 *et. seq.*) a very full account of its habits.

674.—*Dendrocitta rufa*, Scop. The Indian Magpie.

This species very rarely ascends the hills above 5,000 feet elevation. I have on one occasion shot it about seven miles from the town of Ootacamund at an elevation of about 6,500 feet; but this was the only occasion in all the years that I resided on the Nilghiris that I met with it so high up.

But on the Ghâts from about 5,000 feet it is not uncommon, and becomes more numerous the lower one descends. It is quite common through the Wynaad and the Mysore country. I can add nothing to Jerdon's description of its habits.

? 676.—*Dendrocitta himalayensis*, Bly. The Himalayan Magpie.

Jerdon records this as from the hills of Southern India (*vide B. of I.*, Vol. II., p. 316). It may be so, but I spent the greater portion of my life in South India, and never from the time I was a boy of about ten or twelve years of age missed collecting birds, and I have never met with it. If it really does occur, it must be of extreme rarity. Jerdon himself never procured it; he merely thought he recognized it on the Seegore Pass. Horsfield got a specimen in Madras, but on what authority that it was killed in South India he does not say. On the whole I

should say the evidence was insufficient to class it as a Southern Indian bird. *

678.—*Dendrocitta leucogastra*, Gould. The Long-tailed Magpie.

This beautiful species occurs on the slopes of the Nilghiris from about 5,000 feet, but it is not common. It is much more numerous in the Wynaad, but I did not observe it in Mysore. It is, unlike *D. rufa*, a forest species, keeping to the evergreen forests, and avoiding deciduous jungle and bamboo forests, while *D. rufa* delights in these. It has, however, much the same habits as *D. rufa*; the note is similar, but louder, harsher, and less metallic.

The following are the measurements of a splendid adult female :—

Length, 19·2 ; expanse, 17·6 ; tail, 12·25 ; wing, 5·65 ; tarsus, 1·12 ; bill from gape, 1·12 ; weight, 3·5 ozs. Bill black ; legs and feet dull black ; irides deep brown.

684.—*Acridotheres tristis*, Lin. The Myna.

This Myna in the south of India (at any rate in the district embraced in the present paper) does not ascend the hills at all (while in Northern India, at Simla for instance, it is not uncommon), but at the foot of the hills, and in the Wynaad, it occurs not uncommonly.

Wynaad specimens are identical with those from Simla and other parts of Upper India, having the black of the throat and upper breast abruptly defined, and the rest of the upper parts pale, and not as in birds from Ceylon and Anjango, where the dark colour of the throat and breast coalesce with the colour of the lower parts which is also dark.

686 bis.—*Acridotheres mahrattensis*, Sykes. The Southern Dusky Myna.

This Myna is very abundant on the Nilghiris, especially on the higher ranges. It also occurs throughout the Wynaad and Mysore but in diminished numbers. They are very fond of attending on cattle while grazing, catching the grasshoppers and other insects disturbed ; and, as mentioned by Jerdon, they are very partial to clinging to the stems of the *Lobelia excelsa*, and I have shot them with their foreheads completely covered with pollen from the flowers. They also do immense damage to the fruit gardens on the Nilghiris, and it is next to impossible, without the aid of nets or other means, to preserve pears from their depredations.

* I should say, *certainly*, does not occur in Southern India.—ED, S. F.

687.—*Sturnia pagodarum*, Gm. The Black-headed Myna.

I met with this Myna only at Gundalupet and Bandipur in Mysore, where I found it not uncommon. I have occasionally seen it about Ootacamund associating with flocks of *Acridotheres malrattensis*, but this has been very rarely, and these birds were evidently only stragglers.

688.—*Sturnia malabarica*, Gm. The Grey-headed Myna.

Occurs sparingly on the slopes of the Nilghiris, of the Wynaad, and parts of Mysore. Jerdon states that it is only a cold weather visitant to the south of India, but I should be inclined to doubt this, as I have repeatedly seen, and often shot it as late as the end of April on the Ghât below Coonoor. It does not, that I am aware, ascend above about 5,000 feet elevation.

689.—*Sturnia blythi*, Jerd. The White-breasted Tree Myna.

I found this species rare in the country I passed through, meeting with it only twice. I obtained two specimens, one quite a young bird; in this the irides were slaty grey, the bill pale yellow, fleshy at base of lower mandible. The other was a fine adult male shot at Karote at the foot of the Balasore peak. In this the bill was blue at base, then green, then yellow; the irides a clear pearly white; legs, feet, and claws horny yellow. It measured in the flesh:—

Length, 7·7; expanse, 12·5; tail, 2·25; wing, 3·9; tarsus, 0·9; bill from gape, 1·09; weight, 1·7 oz.

They have a similar note, and similar habits to *S. malabarica*.

[690.—*Pastor roseus*, Lin. The Rosy Pastor.

I have seen a specimen obtained near Gundalupet.—A. O. H.] I have obtained several specimens of this species from the foot of the hills near Seegore and about 14 miles from Ooty.—W. D.

692.—*Eulabes religiosa*, Lin. The Southern Hill Myna.

This is a bird of the evergreen forests; it occurs on the slopes of the Nilghiris from about 4,000 feet downwards, and through the Wynaad, but it is very local. It was not uncommon in the Peria forests. It goes in parties of five or six or in pairs as a rule, and is fond of frequenting the highest trees; enormous trees standing dead in some plantation surrounded by evergreen

forest are favorite resorts, and it is in such places that the bird usually breeds.

A fine adult female measured :—

Length, 10·0 ; expanse, 17·0 ; tail, 2·7 ; wing, 5·2 ; tarsus, 1·2 ; bill from gape, 1·4 ; weight, 5 ozs. Bill pale orange vermilion ; legs and feet dull yellow ; claws black ; irides deep brown.

694.—*Ploceus philippinus*, *Lin.* The Indian Weaver Bird.

I am not aware that this bird ascends the hills at all, but it occurs at the foot of the hills and through the Wynaad, and even in Mysore. Jerdon has given a capital account of it (*vide* Birds of India, Vol. II., p. 344 *et seq.*) except the passage on p. 345 from the word *but* in line 13 to the end of line 19. This passage evidently refers to 696 *bis* of our catalogue, *Ploceella javanensis*, which does, as I have myself observed, suspend its nest from the eaves of houses.

697.—*Amadina malacca*, *Lin.* The Black-headed Munia.

I met with this Munia in the Wynaad on two or three occasions, but did not observe it elsewhere.

699.—*Amadina punctulata*, *Lin.* The Spotted Munia.

Comparatively common on the Nilghiris and its slopes, but I did not observe it in the Wynaad. It is most abundant about Ootacamund, feeding in small flocks about cultivated land. It has the usual habits of the genus, builds a globular nest, which it lines with feathers, and after the young are hatched and have flown, the two old birds and the young still continue to use the nest at nights till the moonsoon destroys it.

700.—*Amadina pectoralis*, *Jerd.* The Rufous-bellied Munia.

This Munia occurs on the Ghâts of the Nilghiris up to about 5,000 feet, and it is also spread through the Wynaad, but I have not noticed it in Mysore. I have usually found it in small parties or pairs. It is more of a forest Munia than any of the others. I have found it most common about the Ghât below Coonoor, where it feeds in pairs or parties among the droppings of cattle, and on the grain dropped from carts, &c., passing up to Coonoor.

It is rather local in its distribution.

704.—*Estrela amandava*, *Lin.* The Red Waxbill.

I did not notice this species in the Wynaad, nor in those parts of Mysore which I traversed, but it is common on the Nilghiris and its slopes, most numerous perhaps on the tableland, where it frequents the cultivation. They are always in flocks (even in the breeding season apparently), and when rising, flying, or alighting, they keep up a continuous feeble, sharp, single note. This note too they occasionally utter when seated on the ground, feeding. They breed, as a rule, in thorny bushes, building a large globular nest of grass (generally green), but never lining it with feathers as *Munia punctulata* does. I have never, that I am aware, seen it perch on trees or bushes, except during the breeding season when it is building its nest.

706.—*Passer domesticus*, *Lin.* The Sparrow.

Common everywhere where there are human habitations; the Sparrow is specially abundant on the Nilghiris, and about the Badaga villages large flocks may be seen feeding in the fields. As a rule Sparrows build about houses, but on the road between Ootacamund and Coonoor large numbers breed in the holes in the steep cuttings on the road.

711.—*Gymnoris flavicollis*, *Frankl.* The Yellow-necked Sparrow.

This Sparrow occurs on the slopes of the Nilghiris to about 4,000 feet elevation. I have also seen it in Wynaad and Mysore.

I have found it most numerous on the Seegore Ghât. I have never seen it in the large flocks Jerdon speaks of, but in small parties, in pairs, and even singly. I have never found it near habitations, but always in thin tree jungle.

[722.—*Euspiza luteola*, *Sparrm.* The Red-headed Corn Bunting.

Occurs in the south and south-west of Mysore, and I believe in the Wynaad also at times.—A. O. H.]

738.—*Carpodacus erythrinus*, *Pall.* The Common Rose Finch.

A cold weather visitant, and found all over the district, but especially numerous on the Nilghiris, where it remains till quite late, till the last week in April, at any rate, for I have shot specimens then; the males are then in nearly full breeding plumage. It is always in flocks, and feeds about gardens, &c., on seeds. I have never seen it feeding except when there was a good deal of cover close at hand to which it could easily

retreat when alarmed. Although associating in flocks, they seem to act to a great extent independently of one another, for coming upon a flock, they do not all rise simultaneously but singly or in pairs, and so on.

755.—*Mirafra affinis*, Jerd. The Madras Bush Lark.

This Lark occurs round the base of the Nilghiris, and I found it rather numerous about Gundalupet and Muddur in the Mysore country. It frequents stony ground and ploughed land, and is partial to coming on to the roads. When approached it usually runs for a short distance a foot or two, and then squats close to the ground, and only when directly and very closely approached does it fly. I have passed one squatting within a yard, and it has not attempted to fly. Its flight is undulating and rather weak. It has the usual habit of the genus of rising a few feet into the air singing, and then descending with a quivering motion of the wings, usually alighting on a bush.

The following are the dimensions taken in the flesh of four specimens :—

Length, 5·4 to 5·9; expanse, 10·4 to 11·0; tail, 1·6 to 1·9; wing, 3·0 to 3·3; tarsus, 1·0 to 1·01; bill from gape, 0·6 to 0·7; weight, 0·75 to 1·0 oz.

Irides vary from burnt sienna to cinnamon brown; legs, feet, lower mandible, gape, and edge of upper mandible along commissure fleshy; rest of upper mandible brown; claws bluish horny.

760.—*Pyrrhulauda grisea*, Scop. The Black-bellied Finch Lark.

I only met with this species in Mysore, and only in those places that were arid and stony. As remarked by Jerdon, it is particularly partial to roads. When approached it squats close to the ground, and, as a rule, allows of a very near approach. It keeps entirely to the low country, and does not, I believe, ascend the hills at all.

765.—*Spizalauda deva*, Sykes. The Small Crown-crest.

This Lark was not at all uncommon between Gundalupet and Muddur in Mysore, frequenting the grassy plains, cultivated land, edges of roads, &c. It rises to a good height in the air singing (but not so high as *A. gulgula*). It has much the same habit as *A. gulgula*. I found it usually in pairs. The following are the dimensions of three specimens, two males

and one female. The female measures slightly smaller than the males, so I give them separately :—

Males.—Length, 5·7 to 6·05 ; expanse, 11·1 ; tail, 2·1 to 2·2 ; wing, 3·3 to 3·4 ; tarsus, 0·7 to 0·75 ; bill from gape, 0·6 ; weight, 0·75 oz.

Female.—Length, 5·5 ; expanse, 10·4 ; tail, 1·85 ; wing, 3·1 ; tarsus, 0·8 ; bill from gape, 0·6 ; weight, 0·7 oz.

Lower mandible, and upper mandible along commissure, legs, feet, and claws, fleshy, sometimes more or less tinged with brown ; rest of upper mandible horny brown ; irides vary from sienna to cinnamon brown.

765 *bis*.—*Spizalauda malabarica*, Scop. The Large Crown-crest.

This species replaces the last on the hills ; it is not uncommon on the plateau of the Nilghiris, frequenting the grassy hills in pairs or small parties, most usually the latter. It is a permanent resident there, or more correctly a great proportion are permanent residents, for I once during my trip came across a flock of about thirty a few miles from Gundalupet ; they kept together, and seemed very unsettled in their movements. I shot some to make quite sure that they were *S. malabarica*. Whether they were migrating to or from the hills I cannot say. This was on the 23rd of May. This was the only time that I have seen them away from the hills. They avoid the vicinity of cover as a rule. A few years ago they were common on many of the grassy hills and downs in the town of Ootacamund, but since these have been planted with trees and shrubs, the Larks have quite deserted them, and taken themselves off to the outskirts of the town where lots of grass land still remains untouched. They have the usual habits of the true Lark, and their song is much more powerful than that of the preceding species, but not so prolonged as that of *A. gulgula*, nor do they rise so high in the air as this last named species.

The following is a *resumé* of the dimensions taken in the flesh of a number of specimens, the males being a little larger than the female, but the sexes not differing in the colors of the soft parts :—

Males.—Length, 6·4 to 6·6 ; expanse, 12·2 to 12·75 ; tail, 2·2 to 2·4 ; wing, 4·0 to 4·12 ; tarsus, 0·98 ; bill from gape, 0·71 to 0·72 ; weight, 1·2 to 1·25 oz.

Females.—Length, 6·1 to 6·2 ; expanse, 11·6 to 12·0 ; tail, 1·9 to 2·0 ; wing, 3·5 to 3·8 ; tarsus, 0·98 ; bill from gape, 0·7 to 0·71 ; weight, 1·12 to 1·2 oz.

Lower mandible and upper mandible along commissure, legs, feet, and claws pale fleshy brown ; rest of upper mandible dark horny brown ; irides vary from wood to cinnamon brown.

767.—*Alauda gulgula*, Frankl.* The Indian Skylark.

The Skylark is very common on the Nilghiris, and occurs, but less abundantly, in the Wynaad, &c. It frequents only grassy places and avoids cover. Its song is very fine, and long continued, and it rises to a great height in the air. A few years ago its song during the season could be heard any morning within the town of Ootacamund, but since all the hills and swamps within the limits have been planted up with *Eucalypti*, the bird, like *S. malabarica*, has retreated to the outskirts of the station where plenty of grassy land still remains unplanted.

The following is a *resumé* of a number of specimens measured in the flesh:—

Length, 6·5 to 6·8; expanse, 11·7 to 12·7; tail, 1·85 to 2·4; wing, 3·5 to 4·0; tarsus, 0·95 to 1·0; bill from gape, 0·7 to 0·75; weight, 50·85 to 1·2 ozs.

Legs, feet, claws, and lower mandible fleshy, sometimes more or less tinged reddish; upper mandible dark horny brown, sometimes edged along commissure with pale fleshy brown; irides vary from hazel to dark nut brown.

773.—*Crocopus chlorigaster*, Bly. The Southern Green Pigeon.

I met with this Pigeon in flocks in Seegore, and between that place and Bandipur in Mysore. I also noticed it on one or two occasions in the Wynaad. They do not differ in any particular in habits from *C. viridifrons* of Burma, of which a full account will be found in Vol. VI. of S. F., and they have a similar note.

774.—*Osmotreron bicincta*, Jerd. The Orange-breasted Green Pigeon.

I did not obtain this species myself during my trip, but some years ago I saw a specimen that had been shot in Charambady in Wynaad by Mr. F. Hodgson.

775.—*Osmotreron malabarica*, Jerd. The Grey-fronted Green Pigeon.

I found this Pigeon in small flocks in different parts of the Wynaad, and in the better wooded parts of the Mysore country, but nowhere very abundant. It has the same note and habits as the other members of the genus. It does not ascend the hills, nor does it frequent any but well-wooded districts.

* This of course is *A. australis*, Brooks. Personally I concur with Davison that the southern hill form of *gulgula* scarcely merits specific separation.—ED., S.F.

775/5

The following is a *resumé* of a number of specimens measured in the flesh. The sexes do not appear to differ in size:—

Length, 10·6 to 11·1; expanse, 17·2 to 18·0; tail, 3·4 to 3·6; wing, 5·6 to 5·9; tarsus, 0·8 to 0·85; bill from gape, 0·9 to 0·95; weight, 4·5 to 5·5 ozs.

Irides, outer ring pink, inner bright pale blue; horny portion of bill bluish white; rest of bill pale bluish green; legs and feet lake pink; claws bluish white.

781 bis.—*Carpophaga cuprea*, *Jerd.* The Southern Bronze Imperial.

This fine Pigeon is not uncommon in the grand forests of the Wynaad and the slopes of the Nilghiris. I have always found it in small flocks. I have never found it anywhere except in heavy forest. It is particularly fond of eating the wild nutmeg. It swallows the nutmeg with the mace on, the latter being digested, but the nutmeg with its hard outer shell being voided.

786.—*Palumbus elphinstonii*, *Sykes.* The Nilghiri Wood Pigeon.

This Wood Pigeon is not uncommon in the woods on the Nilghiris and its slopes, but I did not meet with it in either the Wynaad or Mysore. It is, however, comparatively common in the Bramagherries in Coorg. It moves about a good deal, and a shola that may be full of them one week will not contain a single specimen the following week; this is due, I fancy, to the prevalence or otherwise of berries. I too have often noticed the fact mentioned by Jerdon of their feeding on the ground outside the forests. I found them very numerous in March in the forests about Neddivuttum, and procured a good number of specimens, eight of which I measured.

The sexes do not differ in size or colour of soft parts, one from the other.

The following is a *resumé* of the dimensions, &c., of these eight specimens:—

Length, 16·1 to 17·7; expanse, 25·0 to 26·5; tail, 6·3 to 6·9; wing, 8·3 to 9·0; tarsus, 1·08 to 1·15; bill from gape, 1·1 to 1·2; weight, 10·0 to 12·0 ozs.

Fleshy portion of bill, legs, feet and eyelids pink; rest of bill and claws horny white; irides vary from a pale yellowish red to a red brown.

792.—*Turtur pulchratus*, *Hodgs.* The Indian Turtle Dove.

I shot a specimen of this at Manantoddy. This specimen I have carefully compared with others from Simla and its neigh-

bourhood, and it in no ways differs from them. The abdomen, vent, and lower tail-coverts in the specimen I procured are snow white.

I saw several others close to where I procured my specimen, and I also noticed some Doves near Muddur in Mysore, which I incline to think were of this species. *Turtur meena* may occur, but I have not observed it.

794.—*Turtur senegalensis*, Lin. The Little Brown Dove.

This little Dove occurs sparingly on the tableland of the Nilghiris, and a few can always be obtained about the Badaga cultivation. It is much more common at the foot of the hills in the Mysore country, but always about cultivation, especially when the fields are stony. It avoids well wooded land.

Four specimens measured in the flesh as follows:—

Length, 10·5 to 10·8; expanse, 15·5 to 16·0; tail, 4·5 to 4·9; wing, 4·7 to 5·1; tarsus, 0·75 to 0·8; bill from gape, 0·75 to 0·8; weight, 2·75 to 3·0 ozs. Bill and claws black; legs and feet pink; irides deep brown.

795.—*Turtur suratensis*, Gm. The Spotted Dove.

This species was very common all over the district in suitable localities. Some years ago it was much more numerous in the vicinity of Ootacamund than it is now, but it is so slaughtered by the natives that it has greatly diminished in numbers. It is particularly fond of feeding about the roads.

796.—*Turtur risorius*, Lin. The Eastern Ring Dove.

These Doves were not uncommon about Seegore, and near Gundalupet. Many years ago I shot one at a village about seven miles from Ootacamund and on the plateau of the Nilghiris, but it is the only one I ever heard of being killed at this elevation.

798.—*Chalcophaps indica*, Lin. The Emerald Ground Dove.

This species does not occur as high on the Nilghiris as Ootacamund, but I have shot it as high up as Coonoor on the one side, and Neddivuttum on the other, but they are not common at this elevation; lower down on the Ghâts and in the Wynaad they occur more numerous, but they are not common anywhere. They keep a good deal to cover, and are fond of feeding along shady roads. Their coo is a very

prolonged and mournful one, and can be heard an immense distance. Their flight is exceedingly rapid. I have taken the nest on several occasions, and I can confirm Layard's statement as to the colour of the eggs. Blyth must have made some mistake, because the eggs always are more or less of "a pale yellowish drab" or very pale *café au lait*.

803.—*Pavo cristatus*, *Lin.* The Pea-fowl.

Occurs through the Wynaad and Mysore, and on the slopes of the Nilghiris up to about 4,000 feet; it is local and not common anywhere; the only place where I found it at all abundant was in the vicinity of Muddur in Mysore.

813.—*Gallus sonnerati*, *Tem.* The Grey Jungle-fowl.

This species occurs all through the Wynaad in the Mysore country, ascending quite to the summit of the Nilghiris, and is pretty abundant. The undergrowth of many of the forests on the Nilghiris is almost entirely composed of *Strobilanthes whitiani*, and when this seeds, as it does once in about seven years, the Jungle-fowl assemble in vast numbers to feed on the seed. They do this too when the bamboo seeds. In places, where as in the vicinity of Ootacamund and Coonoor they are much disturbed, they become exceedingly shy and wary, but where they are not much disturbed, they are easily approachable. The crow of the cock is peculiar, and might be syllabized kuk-kah-kah-kuk, and is quite unlike that of the red Jungle-fowl. The call of the female is something like kukkun-kuk kun.

The cock crows chiefly in the mornings and evenings, and sometimes also during the day in cloudy weather. The cock goes through a partial moult, losing his hackles and central tail feathers during the rains. When in really fine plumage the male is an exceedingly handsome bird. I shot a magnificent male on the 31st of March at a village a few miles from Ootacamund, and not wishing to carry it about with me all the morning, I sent it back to camp, and when I returned about mid-day, I found to my disgust that it had been skinned, so I can only give partial measurements and those taken from the skin, and I can give no weight, but I should judge that it weighed quite three pounds. The following are the dimensions of the skin:—
Male.—Length, 31·3; tail, 18·0; wing, 9·85; tarsus, 2·8; bill from gape, 1·4.

The following are dimensions taken in the flesh of three fine but ordinary males, and a female:—

Males.—Length, 24·9 to 26·6; expanse, 28·0 to 30·0; tail, 12·6 to 14·7; wing, 8·75 to 9·6; tarsus, 2·8; bill from gape, 1·4; weight, 2·0 to 2·5 lbs.

In the male the irides are orange red to wax yellow; the facial skin, comb, wattles, &c., pale pinky vermilion; legs and feet yellowish fleshy.

Female.—Length, 17·6; expanse, 23·5; tail, 5·5; wing, 7·5; tarsus, 2·5; bill from gape, 1·1; weight, 1·5 lbs.

814.—*Galloperdix spadiceus*, *Gm.* The Red Spur-fowl.

This Spur-fowl occurs over the same limits as the Grey Jungle-fowl, but is much more numerous, and does not confine itself to the forests and sholas, but occurs in scrub jungle. Since the introduction of a close season on the Nilghiris, this species and all the small resident game have greatly increased in numbers. I have seen the present species feeding on the roadside in the early morning, within the limits of the town of Coonoor. The male has a partridge-like call heard in the morning and evenings during the cold weather. The sexes do not vary in size apparently. The following is a *resumé* of the dimensions of eight specimens, four males and four females:—

Length, 13·3 to 14·2; expanse, 18·0 to 20·3; tail, 4·3 to 5·7; wing, 5·4 to 6·5; tarsus, 1·7 to 1·9; bill from gape, 0·85 to 1·0; weight, 11·0 to 16 ozs.

Legs, feet, facial skin, base of bill, bright red; rest of bill reddish horny; irides deep red brown.

815.—*Galloperdix lunulatus*, *Valenc.* The Painted Spur-fowl.

I have once killed this Spur-fowl on the Ghât below Coonoor. Mr. G. R. Dawson of Coonoor procured another there, and Mr. Rhodes Morgan shot one, I believe, on the Seegore Ghât. These are all the specimens that I know of having been procured.* The bird is certainly very rare on the Nilghiris. I do not know of its occurrence in Wynaad or Mysore.

822.—*Ortygornis pondicerianus*, *Gm.* The Grey Partridge.

Occurs sparingly on the slopes of the Nilghiris to about 5,000 feet on the Seegore side, and it is not uncommon in some parts of Mysore.

* But see "THE GAME BIRDS OF INDIA," I. 246. We have had specimens sent us from the Orange Valley below Kotagherry, and at least half a dozen localities about the bases of the Nilghiris.—ED., S. F.

826.—*Perdica asiatica*, Lath. The Jungle Bush Quail.

Not uncommon in some parts of Mysore, between Gundalupet and Muddur for instance. It is always in coveys keeping much to the thorny scrub. I have not noticed it on the slopes of the Nilghiris, nor did I come across it in the Wynaad.

A male measured in the flesh :—

Length, 7·2; expanse, 10·6; tail, 1·7; wing, 3·4; tarsus, 1·1; bill from gape, 0·5; weight, 2·75 ozs.

Legs and feet pale reddish yellow; upper mandible and tip of lower mandible dull black; base of lower mandible plumbeous; irides cinnamon red; claws pale reddish horny.

828.—*Microperdix erythrorhynchus*, Sykes. The Painted Bush Quail.

This handsome Quail occurs all over the district embraced within this paper. It is still common in many parts, but of late years has become quite scarce in the neighbourhood of Ootacamund and Coonoor, &c. But coming as it does under the protection of the close season, it is to be hoped it may again increase in numbers. It occurs in larger or smaller coveys, and with dogs affords some pretty shooting.

The sexes do not differ in size. The following are the dimensions of four specimens :—

Length, 6·9 to 7·3; expanse, 10·5 to 10·6; tail, 1·75 to 2·1; wings, 3·15 to 3·3; tarsus, 1·0 to 1·07; bill from gape, 0·6 to 0·61; weight, 2·12 to 2·5 ozs. Bill, legs, and feet, vermilion red; irides red brown.

829.—*Coturnix communis*, Bonn. The Quail.

I shot a specimen of this Quail, a female, within three miles of the town of Ootacamund on the 14th January 1881. In former years too I have on a few occasions met with them on the Nilghiris. I did not meet with it either in the Wynaad or Mysore.

830.—*Coturnix coromandelica*, Gm. The Rain Quail.

This Quail was not uncommon near Muddur in Mysore in moderate sized coveys. I also observed it in other parts of Mysore, near Gundalupet, Teppu Kardu, &c., and it also occurs in the Wynaad, though I did not obtain it there. Some years ago I shot one out of a small covey on the edge of the Government Cinchona Plantations at Neddivuttum, and on another occasion I killed one in Ootacamund.

831.—*Excalfactoria chinensis*, Lin. The Blue-breasted Quail.

I found this beautiful species occurring sparingly through the grassy portions of the Wynaad, and obtained some specimens at Rampore, on the confines of the Mysore territory. I did not observe it, nor do I know of its occurrence, on the hills.

832.—*Turnix taigoor*, Sykes. The Black-breasted Bustard Quail.

I found this species not uncommon about the cultivated fields in Mysore, always in pairs or singly, more frequently the latter. I did not meet with it in the Wynaad, but it doubtless occurs. I have never met with it on the hills.

834.—*Turnix joudera*, Hodgs. The Larger Button Quail.

I obtained a single specimen of this species, a male, near Karote at the foot of Banasore Peak in the Wynaad. It was the only time I met with it. It measured—

Length, 5·6; expanse, 10·1; tail, 1·05; wing, 2·95; tarsus, 0·9; bill from gape, 0·62; weight, 1·62 ozs.

Legs, feet, claws, lower mandible and upper mandible to nostril pale yellow; lower mandible tipped pale brown; rest of upper mandible dark brown; irides white.

[839.—*Sypheotides aurita*, Lath. The Lesser Florican.

A single specimen was killed on the slopes of the Nilghiris some years ago between Neddivuttum and Pykarra, going down to the Wynaad.—A. O. H.]

[840.—*Cursorius coromandelicus* Gm. The Indian Courier Plover.

Has been sent from S. W. Mysore, quite near to Gundalupet.—A. O. H.]

[849.—*Ægialitis dubia*, Scop. The Common Ring Plover.

Sultan's Battery, Wynaad; S. W. Mysore; near the foot of the Coonor Ghât, and I expect everywhere about the bases of the Nilghiris.—A. O. H.]

855.—*Lobivanellus indicus*, *Bodd.* The Red-wattled Lapwing.

I found it not uncommon in the Wynaad and Mysore. It occasionally also ascends the hills, for I have shot it within five or six miles of Ootacamund, but it does not, I think, breed on the hills, for I have only met with it during the cold weather.

[856.—*Lobipluvia malabarica*, *Bodd.* The Yellow-wattled Lapwing.

I have seen this from S. W. Mysore.—A. O. H.]

859.—*Œdicnemus scolopax*, *S. G. Gm.* The Stone Plover.

I have met with this species at the foot of the Nilghiris at Seegore. I also came across it at Bandipur, where I obtained both adult and young birds. On all occasions I have found it in thin tree jungle with hardly any undergrowth.

867.—*Scolopax rusticula*, *Lin.* The Woodcock.

On the Nilghiris Woodcock are not uncommon from about October to the end of February; they frequent the sholas, and Woodcock shooting is a favourite amusement on the hills.

868.—*Gallinago nemoricola*, *Hodgs.* The Wood-Snipe.

A cold weather visitant to the Nilghiris, and I have heard of its being killed in the Wynaad. It doubtless also occurs on the Bramagherries. On the Nilghiris it was never common, and it seems to be getting still more rare, year by year, and though when on the Nilghiris last I had offered all the native shikaris a large price for any specimens they could procure me, I failed to get any. It frequents much the same sort of places as the Woodcock does, but I have flushed it from among some bushes growing on the edge of a marsh.

870.—*Gallinago sthenura*, *Kuhl.* The Pintail Snipe.

Also only a cold weather visitant, but coming in earlier and leaving later than either the Jack or Wood Snipe. It arrives on the Nilghiris early in September usually, but I have known it to come in as early as the last week in August, and I have killed it as late as the 5th of May in the Wynaad.

[871.—*Gallinago cœlestis*, *Frenzl.* The Snipe.

This occurs throughout the region treated of, alike in hills and plains; but it may be much rarer, as some say, on the former.—A. O. H.]

872.—*Gallinago gallinula*, *Lin.* The Jack Snipe.

Occasionally visits the Nilghiris. I have not heard of its being obtained in the Wynaad. It is possible that it is not so rare as it appears, as it may often be overlooked from its inveterate habit of lying so close as to be almost impossible to flush without dogs.

873.—*Rhynchœa bengalensis*, *Lin.* The Painted Snipe.

I have seen specimens of this Snipe from the Wynaad, but I do not know whether it is a permanent resident there or not. I am not aware of its ever having been seen or obtained on the hills.

Since the above was written Mr. Rhodes Morgan writes to me that a specimen was shot by Mr. Hadfield in January containing a fully shelled egg, so it must breed in the Wynaad.

[884.—*Tringa minuta*, *Leisl.* The Little Stint.

I myself saw this below the Coonoor Ghât, and have received it from S. W. Mysore.—A. O. H.]

891.—*Rhyacophila glareola*, *Lin.* The Spotted Sandpiper.

Common about marshes, pools of water, and along the banks of streams, where these are not bordered by trees. On the Nilghiris it remains very late. I have seen specimens about the ponds in the Botanical Gardens at Ootacamund as late as July. I thought that they might possibly breed there, but the most careful searching failed to discover any nest.

892.—*Totanus ochropus*, *Lin.* The Green Sandpiper.

Some years ago I saw a specimen of this Sandpiper shot on the bank of the lake at Ootacamund. It is the only time I have seen it in Southern India. To the hills at any rate it must be a very rare visitant.

893.—*Tringoides hypoleucus*, *Lin.* The Common Sandpiper.

As common as 891, and frequenting the same kind of places. On the Nilghiris, at any rate, it does not stay so late as *R. glareola*.

[894.—*Totanus glottis*, *Lin.* The Green Shank.

Received from the Wynaad. Doubtless common everywhere, where there is water, below 3,000 feet.—A. O. H.]

900.—Parra indica, Lath. The Bronze-winged Jacana.

Occurs in the Wynaad. Mr. T. Darling of the Rasselas Estate, near Manantoddy, obtained a specimen.

905.—Gallinula chloropus, Lin. The Water Hen.

Common on the lake at Ootacamund, where it breeds among the sedge, growing on the margin. I have also often seen it in Wynaad, and in Mysore on the Gundalupet lake.

907.—Erythra phoenicura, Penn. The White-breasted Water Hen.

Rare on the Nilghiris and its slopes, but not uncommon at the base of the hills, through the Wynaad, and in Mysore. I have killed it in the Botanical Gardens at Ootacamund.

[910.—Porzana bailloni, Vieill. Baillon's Crake.

Sent us from the Wynaad.—A. O. H.]

911.—Porzana fusca, Lin. The Ruddy Crake.

I obtained two specimens, both males, of this species, in some rice fields at Karote in the Wynaad on the 2nd of May. It was the only time I saw it during my trip. I have never met with it, nor am I aware of its ever having been obtained on the hills.

In the specimens I obtained, the bill was black, the legs and feet coral red, and the irides crimson.

913.—Hypotænidia striata, Lin. The Blue-breasted Banded Rail.

The late Mr. J. Darling shot a specimen of this Rail in the Wynaad; he showed me some fragments of the skin, sufficient for identification however.

919.—Ciconia alba, Bechst. The White Stork.

Mr. G. A. R. Dawson, of Coonoor, obtained two specimens of this bird on the Nilghiris, one of which is, I believe, still in his possession. He says: "During the month of October 1870, a flock of eighteen of this species were seen feeding on the open grass land near the sandy nullah between Ootacamund and Pykarra. I was only made aware of the fact by a couple of the birds having been shot by a native and brought to me. I visited the spot early next morning, but found the birds had flown."

I have never myself come across this species in Southern India.

920.—*Dissura episcopa*, Bodd. The White-necked Stork.

Saw a pair on a dead tree on the river bank at Manantoddy, Wynaad, the only pair I saw during the trip.

[923.—*Ardea cinerea*, Lin. The Heron.

Occurs in S.-W. Mysore. I believe in the very piece of water Davison visited.—A. O. H.]

[924.—*Ardea purpurea*, Lin. The Purple Heron.

One specimen was sent us for identification from somewhere about the bases of the Nilghiris.—A. O. H.]

[927.—*Herodias garzetta*, Lin. The Little Egret, and

929.—*Bubulcus coromandus*, Bodd. The Cattle Egret,

were both contained in a collection made in S.-W. Mysore.—A. O. H.]

930.—*Ardeola grayi*, Sykes. The Pond Heron.

Common through the Wynaad and Mysore in suitable localities. Some years ago this species was rare on the Nilghiris, a few occurring during the cold weather about the lake at Ootacamund, but within the last three or four years it has become quite numerous about the marshy banks of the lake. I counted thirty in the course of a walk one morning. It is, however, only a cold weather visitant to the Nilghiris, disappearing as the breeding season approaches.

931.—*Butorides javanica*, Horsf. The Little Green Bittern.

On several occasions I met with this bird both in the Wynaad and in Mysore, always on the banks of well-wooded streams. I am not aware that it ascends the hills.

932.—*Ardetta flavicollis*, Lath. The Black Bittern.

I have shot this species on the Moyar river immediately below Neddivuttum. I have also seen it in the Wynaad. Very rarely it ascends the hills. I have once seen a specimen killed by a native shikaree close to Ootacamund. Like many of the Herons this species is crepuscular in its habits.

[933.—*Ardetta cinnamomea*, *Gm.* The Chestnut Bittern.

Two or three specimens of this were sent us some years ago from the Wynaad.—A. O. H.]

937.—*Nycticorax griseus*, *Lin.* The Night Heron.

Though I have never actually procured a specimen, I have on several occasions heard the Night Heron in the Wynaad.

940.—*Anastomus oscitans*, *Bodd.* The Shell Ibis.

I saw a small flock of about twenty of these birds at Bandipur in Mysore.

942.—*Inocotis papillosus*, *Tem.* The Warty-headed Ibis.

I found flocks of this Ibis frequenting the trees bordering the banks of the river at Manantoddy in the Wynaad during April 1881. It was the only time I saw the species during my trip. They were exceedingly noisy, and were no doubt preparing to breed.

[950.—*Sarcidiornis melanonotus*, *Penn.* The Comb Duck.

This occurs in S.-W. Mysore certainly, also I believe in the Wynaad.—A. O. H.]

[951.—*Nettopus coromandelianus*, *Gm.* The Cotton Teal.

This certainly occurs in both the Wynaad and S. Mysore.—A. O. H.]

[952.—*Dendrocygna javanica*, *Horsf.* The Whistling Teal.

I have seen this both from the Wynaad and S. W. Mysore, but never *fulva*, though this too *may* possibly occur.—A. O. H.]

[954.—*Casarca rutila*, *Pall.* The Ruddy Shell Drake.

Occurs, but is rare in both the south of Mysore and the north of Coimbatore about the bases of the Nilghiris.—A. O. H.]

[957.—*Spatula clypeata*, *Lin.* The Shoveller.

A specimen was sent me from the Wynaad, where I presume it is rare.—A. O. H.]

959.—*Anas pœcilorhyncha*, Forst. The Spot Bill or Grey Duck.

I saw a pair of this species in a small swampy jheel surrounded by jungle about three miles from Muddur in Mysore. I have occasionally seen it in other parts of Mysore near Gundalupet, &c.

[961.—*Chaulelasmus streperus*, Lin. The Gadwall.

Is common in S. Mysore right to the bases of the Nilghiris, and I am almost sure it was reported to me from the Wynaad.—A. O. H.]

[962.—*Dafila acuta*, Lin. The Pintail.

Occurs both in the Wynaad where reported rare, and S.-W. Mysore.—A. O. H.]

964.—*Querquedula crecca*, Lin. The Common Teal.

In suitable places this Teal is not uncommon, and in some places as at the Gundalupet lake it is very numerous. I have also on many occasions seen small parties on the lake at Ootacamund, but they do not remain many days after their arrival, being either all killed, or frightened away. It is of course only a cold weather visitant.

[965.—*Querquedula circia*, Lin. The Garganey.

This has been sent from S.-W. Mysore, and occurs in the Wynaad.—A. O. H.]

975.—*Podiceps minor*, Gm. The Little Grebe, or Dabchick.

Common on the lake at Ootacamund, where it is a permanent resident. I have also found it in several places in the Wynaad and Mysore.

? 986.—*Sterna fluviatilis*, Naum. The Common Tern.

Jerdon notes having obtained this species on the lake at Ootacamund.* I have myself on several occasions in past years noticed a small Tern on this lake, but it would only remain a few days and then disappear. I never saw more than one at a time. It is the only place where I have noticed them.

* It is next to certain that Jerdon was mistaken. His specimen was probably either *tibetana* or *albigena*, vide S. F., VIII, 159.—ED., S. F.

[987.—*Sterna melanogastra*, *Tem.* The Black-bellied Tern.

S.-W. Mysore, certainly. The Wynaad I think.—A. O. H.]

1007.—*Phalacrocorax pygmæus*, *Pall.* The Little Cormorant.

I have seen this species on the lake at Gundalupet in Mysore, and I think, late one evening near Manantoddy, I saw a party of this same species flying high overhead.

1008.—*Plotus melanogaster*, *Penn.* The Indian Snake Bird.

I have obtained this species on the Pykarra river about nine miles from Ootacamund. I have also noticed it in Wynaad and on the lake at Gundalupet in Mysore.

Notes.

MR. W. N. CHILL has sent me another specimen of *Eristura leucocephala*, THE WHITE-FACED STIFF-TAIL DUCK, procured by him in the Gurgaon district on the 28th October 1882.

It will be remembered that the first time this species was obtained eastwards of Palestine and Asia Minor, in our latitudes (further north it was known to occur on the Caspian and in Western Turkestan) was when a pair of immature birds were shot near Khelat-i-Ghilzai, by Colonel Sir Oliver St. John on the 20th October 1879.

I then predicted that the species would turn up in the Punjab and Sindh.

Within a few months of this prediction Mr. F. Field shot an immature bird of this species close to the civil station of Loodhiana. This was on the 28th of October 1880. On the 21st of January 1882 Mr. Chill obtained an immature male of this species near the Najafgarh jheel, (say approximately Lat. 29° N., Long. 77° E.), and now again another near the same locality on the 28th October of the same year.

The bird cannot, therefore, be very rare, as five specimens have reached me in three years. It is, therefore, extremely strange that it should have remained unnoticed up to 1879. Many sportsmen well up in water birds, myself amongst the number, have during the last 20 years shot ducks all over the

Punjab, and yet none of us, so far as I can ascertain, ever met with any STIFF-TAILS. Now the peculiarity of the woodpecker-like tail is such that the bird could hardly have been overlooked if shot, and hence a suspicion arises that it has only been within the last few years that this species has extended its migrations so far eastwards. It is possible that just as PALLAS' SANDGROUSE (*Syrrhaptes paradoxus*) only occasionally at long intervals of time makes a far westerly migration, as a rule travelling little out of Asia, though during its abnormal migrations reaching as far west as Ireland, so too the White-faced Stiff-Tail may only at long intervals, for two or three successive years, migrate as far east as Delhi.

All the specimens yet obtained have been birds of the year. No adult male or female seems to have been met with thus far within our limits.

SINCE this was written Mr. Lean of the 5th Bengal Cavalry informs me that he has just shot a duck of this species in the Pilibheet district. In India therefore the bird gets at least as far east as the 80th degree E. Longitude, and later still Mr. Chill reports having obtained two more specimens near Farukhnaggar.

Letters to the Editor.

SIR,

I WRITE to inform you that a single egg of the Florican (*Sypheotides auritus*) was found by Mr. F. C. Constable on the Hubb plains on the 13th instant (August.) It is a very broad oval with scarcely any perceptible tendency to a point, of a dark olive or stone color, with reddish brown rather broad markings at the larger end and streaks about the middle.

JAMES A. MURRAY.

DEAR SIR,

IN your work, the "Game Birds of India," I notice your remark regarding the call of the Painted Partridge as being "quite distinct from that of the Common Francolin," or Black Partridge. Without venturing to contradict your assertion, I merely submit my own experiences in the matter, and should be much obliged if you could set me right.

I was sent down to Nowgong in Central India last year in February, and one day, while driving to a distant jheel, I heard, as I thought, several Black Partridges calling. I must premise that I had never seen a Painted Partridge, while Blacks were tolerably common to me, and I could recognise their call

List of a small collection of Birds made in the North Kanara Forests in May 1881 by MR. A. T. CRAWFORD, C.S.

No.	SPECIES.	No. of Specimens	REMARKS.
60	<i>Strix javanica, Gm.</i> ...	1	
115	<i>Harpactes fasciatus, Forst</i> ...	2	
119	<i>Merops swinhoii, Hume</i> ...	1	
123	<i>Cornacias indica, Lin.</i> ...	2	
141	<i>Hydrocissa coronata, Bodd</i> ...	1	
149	<i>Palæornis purpureus, Bodd</i> ...	1	
160	<i>Picus maharattensis, Lath</i> ...	1	Dark breasted West Coast race; similar in all respects to Ratnagiri specimens.
214	<i>Eudynamys honorata, Lin.</i> ...	2	
224	<i>Aracnothera longirostra, Lath</i>	1	This species has been obtained by Mr. Laird (teste Butler, <i>vide</i> S. F., IX., 389) in the forests west of Belgaum. Capt. Butler had not heard of its occurrence elsewhere within the limits treated of in his paper. A specimen (<i>vide</i> S. F., VII., 35) was got by Mr. Bourdillon in South Travancore.
257 <i>bis</i>	<i>Lanius caniceps Bly.</i> ...	1	The single specimen obtained appeared to belong to the southern form (<i>vide</i> S. F., IV., 243). The difference between this specimen and <i>L. erythronotus</i> , in the absence of rufous in the lower back and scapulars, was strongly marked. After a careful examination of the skin according to the key given at S. F., VII., 374, I have little doubt that it was correctly discriminated.
285	<i>Dissemurus paradiseus, Lin</i> ..	2	
286	<i>Chibia hottentota, Lin.</i> ...	6	
342	<i>Myiophonus horsfieldi, Vig.</i>	1	
345	<i>Pitta brachyura, Lin.</i> ...	1	
354	<i>Geocichla cyanotis, Jard. and Selb.</i>	1	
469	<i>Irena puella, Lath.</i> ...	1	
678	<i>Dendrociitta leucogastra, Gould.</i>	1	This species appears to be common in the Travancore Hills (<i>vide</i> S. F., IV., 402), and Jerdon states that it is found in some of the jungles of the Malabar Coast and in the Wynnad, and on the slopes of the Neilgherries, besides Coorg and Travancore. Mr. Fairbank does not appear to have met with it on the Palani hills.
775	<i>Osmotreron malabarica, Jerd.</i>	2	
781 <i>bis</i>	<i>Carpophaga cuprea, Jerd.</i> ...	4	This species also is said to be abundant in Travancore, <i>vide</i> S. F., IV., 403.
796	<i>Turtur risorius, Lin.</i> ...	1	
813	<i>Gallus sonnerati, Tem.</i> ...	1	
845	<i>Charadrius fulvus, Gm.</i> ...	6	
849	<i>Ægialitis dubia, Scop.</i> ...	2	
907	<i>Erythra phœnicura, Penn.</i> ...	1	

SIR,

IN the *Game Birds of India*, you say in your description of *Grus communis* or the Kullang that you have never seen it before the 3rd of October. I may tell you I saw a flock consisting of from eight to ten of the above birds pass over this station on the 25th September last. I may also add that yesterday, the 8th of October, I saw a pair of Gadwal on a small jhil about eight miles distant.

The Kullang were proceeding in a westerly direction, evidently towards the Sutlej river.

H. A. KINLOCH, *Lieut.*,
60th Rifles.

FEROZEPORE.

SIR,

I HAVE one addition and a few unimportant corrections to make to the "First List of the Birds of the South Konkan," published at pp. 1 to 96 of Vol. IX of STRAY FEATHERS. Since I left Ratnagiri my former shikari sent me a skin of the following species:—

902*—PORPHYRIO POLIOCEPHALUS, *Lath.*

The specimen was shot at Malvan in November 1880. I never saw or heard of it myself in the South Konkan, and its occurrence must be rare. The local vernacular name for the species is said to be Kambala fite. Capt. Butler says it is rare in the Deccan, and that he did not find it in the neighbourhood of Belgaum. I found a small colony of purple Coots last year in the reeds in the Patas tank in the Poona district.

This makes the total number of species recorded 286, instead of 284 as entered in the list, one species having previously escaped enumeration. Of these 269 have been verified by the Editor, not 266, as stated at page 3. The remaining 17 unverified species are as follows:—

4. *Gyps indicus*, (probably 4bis. *G. pallescens*.)
5. *Pseudogyps bengalensis*.
6. *Neophron ginginianus*.
63. *Syrnium indraneae*.
115. *Harpactes fasciatus*.
119. *Merops Swinhoii*.
145. *Tockus griseus*.
166. *Chrysocolaptes sultaneus*.
198. *Megalæma malabarica*.
767. *Alauda gulgula*.
796. *Turtur risorius*.
902. *Porphyrio poliocephalus* (newly added).
911. *Porzana fusca*.
952. *Dendrocygna javanica*.

957. *Spatula clypeata*.

961. *Chaulelasmus streperus*.

981. *Larus ridibundus*.

Asterisks, I may add, were wrongly prefixed to *Querquedula crecca*, 964, and *Querquedula circea*, 965.

Of the above unverified species the occurrence of *Chrysocolaptes sultaneus*, *Alauda gulgula*, and *Porzana fusca*, is somewhat doubtful. It is also not certain whether the long-billed brown Vulture appears in the form of *indicus* or *pallescens*. As to the remaining species there is no doubt.

G. VIDAL.

BROACH, October 23rd, 1882.

SIR,

At page 158 (*ante*) you recorded the capture of the immature Scaup (*Fuligula marila*) that I sent you in November 1881, but you omitted, I think, to notice the two other Scaups, both females, and both immature, that I sent you later.

The first was killed on the 13th January in the Indus river, about 14 miles above Attock. Of this I noted that the bill was greyish blue with black nail; iris deep yellow; legs and feet leaden, darker on the joints.

The second was killed on the 10th of March in the Jubbee river near Hasan Abdal. Length, 15.5; expanse, 24.0; wing, 7.9; tail, 2.7; tarsus, 1.2; bill from gape, 1.7; greatest width of bill, 0.87. Iris deep yellow; bill greyish blue with black nail; legs greyish blue, darker on joints.

I see from page 174 (*ante*) that Mr. Chill procured a fine adult female of this species near Gurgaon on the 25th of March, and a young female on the 14th of that month, but apparently up to date no one has procured a male adult or otherwise.

I have now to record shooting near Ghazi on the Indus a female Golden Eye (*Clangula glaucium*). I saw one drake and four ducks, but unfortunately only succeeded in getting one of the latter.

This measured: Length, 15.75; expanse, 26.5; tail, 3.66; bill from gape, 1.66; weight, 1 lb. 5 ozs.

The irides were a bright pale yellow; the feet bright yellowish orange, with dark blackish webs; bill black at base, and tip with a medial yellow band about 0.25 in width.

I noticed this latter particularly because at Vol. III., p. 288 of the "GAME BIRDS," you remark that though not noticed by any European writers, this yellow or orange band, spot or bar, does occur often in females, occasionally in young males, and

rarely in old ones, and certainly in this, the only female I have yet seen, it did occur.

In this specimen the brown of the head was much darker, the white of the neck purer, and the grey of the breast darker than in the female figured in the "GAME BIRDS."

You mention having received one specimen of an adult male procured near Lucknow by Dr. Bonavia, but I believe this is the first recorded instance of the female Golden Eye being procured (and preserved) within the limits of the British Asian Empire.

R. N. STOKER.

P.S.—Since this was written I have shot another Golden Eye, a bird of the year. It was much duller colored than the first (I send both so you can see for yourself). The feet were a dark blackish yellow with ashy webs; the bill had a yellow band, but a very dull one, and the nail was yellowish with black spots. The head was more ashy than in the first, and the irides were a paler yellow. A third bird, precisely like this second, was shot about the same time by an officer here; but hitherto the drake has evaded all our attempts to assassinate him.

I showed the first bird to a very intelligent native at Ghazi, and he assured me that they appear there every year regularly, and that three years ago he shot one. I am certain now that I shot a duck of this species here some three years ago. It puzzled me at the time, but now I have no doubt what it was.

R. N. S.

SIR,

SINCE I last wrote, I have succeeded in procuring a fine Drake Golden Eye, which I am sending you.

There were four of them together on a little stream opposite the village of Hasanpore.

The natives call them "*Burgee*," the "*bur*" pronounced as in "*burrow*." *Burgee* I believe only means patches of black and white.

Mr. Barlow informs me that these ducks come to Ghazi every winter.

This Drake measured: Length, 17.42; expanse, 30.5; tail, 4.42; wing, 9.0; tarsus, ; bill from gape, 2.08.

We all said what a heavy bird, but it only weighed 1 lb. 10 ozs., which is 6 ozs. less than the lightest weight given by you for an adult male.*

* I dare say my weights are wrong, as I mention in the text of the "GAME BIRDS" I have not recorded particulars of fresh birds; I merely copied the figures from others.

The irides were bright yellow; the bill black; the legs and feet orange yellow with black webs and nails. The stomach contained fish, weeds, and sand.

With this drake was procured a female, similar to those formerly sent. It was only wounded, and was put in a cage, and unfortunately was allowed to escape.

We may now set the Garrot or Golden Eye down as a regular winter visitant to the Punjab portion, at any rate of the Indus; and as Burnes procured it near the mouth of the Indus, it most probably occurs throughout the entire length of that river. But can it be confined to the Indus? Surely if properly looked for it will be discovered in the Chenab and other Punjab rivers. Is it purely a river duck with us? Or will it also occur in jheels? Other sportsmen in the Punjab must help us to settle these questions.

R. N. STOKER.

P.S.—My last Golden Eye is a young female. Weight, 1 lb. 3 ozs. Length, 15.25; expanse, 26.91; tail, 3.54; bill from gape, 1.66. Irides whitish yellow; feet dusky on the legs, dull yellow on the toes; webs blackish; bill greyish black. Shot at Hasanpore on the 15th instant. It was seen with a number of others on a little pool. There were no other ducks about. It is decidedly not the duck that escaped. When I have time I shall pack it, and send it to you with the drake.

R. N. S.

SIR,

WITH reference to the paragraphs in "STRAY FEATHERS," Vol. IX, pp. 109, 231, relating to *Accipiter stevensoni*, I may remark that I believe that the young of this species can only be distinguished from that of *A. virgatus* by the middle toe being about 1-10th of an inch shorter in the males of *A. stevensoni*, and about 1-5th of an inch in the females, than it is in the corresponding sexes of *A. virgatus*.

Most old males of *A. stevensoni* have the throat immaculate, but in some a few of the feathers of the throat have a very narrow dark shaft mark.

A Malacca skin, now before me, and another from China, both of which I believe to be young males of *A. stevensoni*, have a very narrow dark central gular stripe, and this also occurs in the birds which I suppose to be adult females of *A. stevensoni*.

It is to be hoped that a pair of *A. stevensoni* may, at some time, be found nesting, which would much help our knowledge of this species.

J. H. GURNEY.

SIR,

MESSRS. DAVIDSON AND WENDEN, in their Deccan List (S. F., VII., 68) say that Painted Sandgrouse are "abundant in several suitable localities;" and Captain Butler, in his Deccan and Southern Mahratta Catalogue (S. F., IX., p. 421) states that it is "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."

One would gather from this that the species must be frequently met with in the Deccan plains districts. I don't know what the experience of others may be in this respect; but, although I have shot and observed all kinds of birds for many years in the Sattara and Poona districts, I never until yesterday had the good luck to come across a single specimen of this Grouse. There are no doubt many suitable localities, but I can't believe that the bird is very common anywhere in these districts.

A few days ago I had heard from a friend of his having shot specimens at this place, and yesterday verified his statement by bagging a brace in the rocky scrub-clad slopes between the Commissariat Cattle Farm and the Bhima; but even here, although in the course of a whole day's shooting almost every likely place was beaten, my companion and I only flushed five birds, two pairs and a single. The large area of broken stony ground at Alegaon, covered with low scrub, chiefly babul, wild caper and jujube bushes, stretching from the river to the hills above, is, I should fancy, an especially favourable locality for this species; and if abundant anywhere, one would expect to find them here in large numbers.

ALEGAON, POONA DISTRICT.

G. VIDAL.

SIR,

ON the 27th December last, I sent you in a tin box an *Erismatura leucocephala*. Since that I have managed to purchase two more of this species—one a cat took away, and the other one I have got stuffed. To-day a man has brought me a rare Teal; it is very much like *Querquedula formosa*. I cannot stuff it until it gets back some of the wing feathers, which the bird-catcher has plucked out. I suppose I will have to keep it in captivity for about two months. On the 1st and 3rd of this month my man met flocks of two and five hundred Pin-tailed Sandgrouse. On the 1st he bagged eight, out of which I have had five stuffed. This is the first time I have seen this bird.

I have heard that the late Mr. Robert Blewitt shot some when he was in Garhi Harsaru.*

FARUKNAGAR, viâ DELHI,

W. N. CHILL.

8th February 1883.

* Yes, he did, and sent me the specimens.—ED: S. F.

SIR,

I send you a few notes I have made with reference to your "GAME BIRDS OF INDIA," for any use you may wish to make of them.

Wood Snipe.—I shot two in the jungles of Mysore, west of Shimoga, and heard of two others that were shot in the Manjerabad districts.

Mallard.—I shot one in Nimar near the Kundwa Railway Station, and one near Aurungabad; these are the only ones I have ever seen in the Deccan. Here in Sind it is one of the commonest Ducks found.

Painted Partridge.—Major Ward quotes me erroneously at page 21, Vol. II. I have frequently shot them in the grasslands along the edge of the jungle in North-Western Mysore, and also in the range of hills extending through the centre of the province from Chittaldroog to Tunkur, but nowhere in any numbers—about four brace the most I have shot in a day. It is curious their being found in this isolated range of hills; knowing all the country well I think I may certainly say there are none within 50 miles of the hills in any direction, and probably not within 100.

Snipe.—I believe Snipe breed in the marshes near the North-West Ghâts of Mysore. I have often seen them up to June when they were all in pairs. I was never in that part of the country later than June.

Demoiselle Crane.—In thousands on the Toongabudra near Hurrihur, but rarely south of that. I have occasionally seen small flocks as far south as Chittaldroog and the Sulikeri lake, never south of these points.

Florican.—I saw one specimen shot on the very edge of the Western Ghâts of Mysore. Its presence so far within the jungles must be very rare, as I never saw another there. I have shot them in different parts of Mysore in I may say every month of the year. They are numerous about Bangalore in the rains and cold weather, and I have shot a good many in the hot weather in the Shimoga districts to the north, at which time there are few or none left at Bangalore.

Chikor.—I think you are wrong in supposing them to be found in the plains of South Sind.* H. H. Aga Khan, I believe, turned out a few couple some years ago in the plains near Karachi, and in the Mulleer valley in the hills, but they disappeared immediately, and have never been seen since.

Rain Quail.—Arrive in South Sind towards end of July, and remain to breed, the young being fully grown by middle of October; they then all disappear. After commencement of

* I cannot remember having any where said that they were found in the plains of South Sind.—ED., S. F.

September I notice that few old cocks are shot, all being hens and young birds, so presume they leave first, leaving the hens and broods to follow. These birds, for the purpose of breeding, do not here appear to go inland more than twenty miles from the Coast, and the greater number not more than ten miles.

Grey Quail.—These are fewer in Mysore than in any part of India I have visited. About Tunkur and Chittaldroog occasionally they are in some numbers, but anything like a bag of Quail is rarely made in Mysore.

I forgot to mention that some Rain Quail remain all the year round in Mysore.

Sandgrouse.—I shot four brace of *Lichtenstein's* Sandgrouse in the hills near Karachi last October, and a few days ago shot several *Pterocles coronatus* in the western desert near the hills; they were in flocks of from six to twenty, and very tame; very different to the *P. arenarius* which I find to be one of the most difficult birds to approach I know.

J. M. ANDERSON, LT.-COL.,
Supt., Sind Survey.

SIR,

WHEN out shooting this past week on the Mala swamp and along the forest edge about three to four miles east of it, in the Philibhit district, we shot five brace of the Red Spur Fowl in the small detached thickets and brakes. One hen* we shot had no spur at all.

As I had not your "Game Birds" out with me, I did not know that the breed as a rule did not appear so far west as the Mala, or I should have kept a skin, especially of the spurless hen.

I heard of them east of the Mala, at Richowla, about six miles due east of Philibhit (city).

They were locally known as Lal tita, and Murghi 'en. Another name is *Chakoé, chakoé*, and others again call it the *Ko-kyah*, or bad Swamp Partridge.

Their habits are vile, as they won't break, and always fly back through the beaters, if there is another thicket within 20 or 30 yards, and if they are very hard pressed, we found they would sometimes make an effort to get away.

One pair I found in a tree after furious driving, and they had been put up several times.

Their note I heard three times, when they were a bit pressed. It sounded like coo, coo, coo, cooh very low.

W. C. PLOWDEN,
5th B.C.

17th March 1883.

* Hens often do not get the spurs till they are nearly two years old.—ED., S. F.

SIR,

YOU say in the "GAME BIRDS" that you do not know of the occurrence of the Comb Duck in the Punjab Trans-Sutlej.

Although it certainly is nowhere common in this region, I know of its having been shot on more than one occasion in the Lahore district, in the Goordaspur district, and again further south in the Baree Doab, but only during the rainy season and always in the immediate neighbourhood of the canals.

I heard of a nest being taken as far south as the Changa Manga Plantation, but I am not sure of the fact. I have never heard of or seen the bird west of the Ravee, but throughout the canal irrigated portion of the Baree Doab, the whole tract between the Beas and Sutlej and the Ravee, it certainly does occur, though very sparingly, during the rainy season.

G. TREVOR.

[The occurrence of this species in the Lahore district has already been pointed out by an anonymous writer in the *Asian*, whose remarks I reproduce: "I am surprised to find that in the third volume just published of the "Game Birds of India," all description, or even mention, of the spur on the wing of the Nukhta (*Sarcidiornis melanonotus*) is omitted. I see that Mr. Hume says about this duck, "I do not know of its occurrence in the Punjab Trans-Sutlej." I am happy to be able to state that it not only occurs, but that it breeds in the Punjab Trans-Sutlej. A friend of mine, an engineer on the Baree Doab Canal, sent me a female *Sarcidiornis* for identification from Bhambé in the Lahore district. On opening the bird, I found a perfectly formed egg ready to be laid, and from other investigations it seemed clear that a nest was in the vicinity. During the rains, the neighbourhood of Bhambé in one direction is fairly under water, and *canna* brakes are very common, with patches of water between, and dotted here and there with large trees, just the place for the Nukhta. It was at one such place that my friend saw the pair often, and on the day he shot the female, had fired one or two shots unsuccessfully at either her or the male, but was rather surprised at the way in which both returned wheeling round and round, without going away for any distance. As soon as the female was shot, the male went further off and did not afford another shot; but the whole circumstance goes far to prove that there must have been a nest close at hand. I have the egg at present in my collection. The date upon which the bird was shot was July 18th, 1874."]

Ornithological Nomenclature.*

(An Addendum to "The Ibis" for January, 1883.)

AFTER the lapse of more than three years,† I regret to find myself again forced into a controversy on Nomenclature—the most vexing and barren subject that can afflict the naturalist; but certain remarks in the last number of "The Ibis" leave me no choice. My friend Mr. Howard Saunders therein takes up more than two pages in trying to prove that a well-known species of Shrike should bear the name of *Lanius pomeranus* rather than *L. auriculatus*, of which latter designation he charges me with being, apparently, "the god-father." In what sense, if any, this word is used I know not. The name against which he protests was not given by me, but (as he himself admits) by P. L. S. Müller in 1776; and Mr. Cassin, in the "Proceedings" of the Philadelphia Academy for 1864, restored it, adding, what is unquestionably true, that it "has priority of all names, except that of Brisson, and is sufficiently described by Prof. Müller, and especially mentioned as 'Buffon's Pie-grieche rousse.' Brisson's name is generally adopted, but, in strict adherence to priority in the binomial method, this name has the right." Mr. Saunders disallows the use of "*auriculatus*," because of the insufficiency or inaccuracy of Müller's diagnosis; but any one versed in zoological literature must know that on the same grounds scores of names bestowed by the best naturalists, not only of the last century but even of the present day, would have to be set aside. Müller, in the preface to his "Anhang," expressly stated that the species he added to those enumerated by Linnæus are such as had been described by Buffon and other naturalists, which he then brought into the "Natarsystem," and named according to the Linnæan method. Nothing therefore was further needed to identify the species than to quote the name under which Buffon described it, and this Müller did. But strange to say Mr. Saunders is not contented herewith. Instead of turning to Buffon's unmis-

* I received a printed copy of this addendum just as this number was about to issue, and reproduce it at once, as it seems only fair that both sides of the question should be heard, and, one way and another, out here, we have heard a great deal during the last two years of Messrs. Seebohm and Saunders' views of Professor Newton's supposed delinquencies. Personally, so far as the principle of a rigid adherence to the rules is concerned, I wholly agree with my honored friend, Prof. Newton. Ed. S F

† See "Annals and Magazine of Natural History" for August and December 1879.

takeable description (*Hist. Nat. des Oiseaux*, i., pp. 301—303) of the "*Pie-grieche rousse*," he must look into another work, the "Planches Enluminees" of Daubenton, and then mystify himself and his readers because, though he allows that there "is a perfectly recognizable representation" of the male of this species, the female of another species is figured for that of the one under discussion—as if husbands and wives had not been over and over again wrongly assigned to one another by zoologists! It is useless to go into further details of this matter. From 1794, when Donndorff brought out his "Ornithologische Beytrage" (i., p. 197), till now, nobody, so far as I am aware, has intimated any doubt on the subject. Lastly, Mr. Saunders makes the astounding assertion (the italics are his own (that "the *earliest unimpeachable* description and figure of the Woodchat is that of *Lanius pomeranus*, Sparrman"—forgetful not only of this very description of Buffon's, but of those of Brisson, Klein and Willughby, as well as of this figure of Daubenton's, and those of Albin, Frisch, Pennant and the "*Storia degli Uccelli*."

Further on in "The Ibis" my old opponent, Mr. Seebohm, renews his notice of me, saying that he has done his "best to cure some of the confusion caused by the ill-judged attempts" of myself and some others to obey the laws which a majority of the best zoologists of the time laid down, and shews his kindly disposition towards my fellow-criminals and myself by "pointing out a few of the rocks ahead on which these gentlemen must rush if they persist in their present course." For myself I may say that I have no fear of the result. Where I have erred I have erred, and I am thankful to anyone who will shew me that I have done so; but they who have gone down to the sea in ships know that while there are many unsuspected dangers in waters that have been imperfectly surveyed, there are not a few "rocks" marked on charts which have no real existence, and such is the case with some of Mr. Seebohm's instances. Here is one. He says: "Another book has now been unearthed from obscurity, published by Gerini in 1767 (*Orn. Meth. Dig.*)*," and then proceeds to state that the Latin names found therein should have as much, or as little, authority as those of Boddart. It would be hard to excel the sentence I have quoted for its combination of inaccuracies. In the first place this work which "has now been unearthed" by the labour of Mr. Seebohm is the well-known '*Storia degli Uccelli*,' cited I cannot say how often by Latham, Temminck and many

* In a foot-note Mr. Seebohm adds the full Latin title of this work.

other ornithologists, who mostly contented themselves with merely referring to the plates or the Italian names it contains as occasion required. Next it was not "published by Gerini in 1767," for the very good reason that Gerini had died (as the book itself tells us) in 1751; while in regard to the ingenious argument which Mr. Seebohm founds upon it, I shall save trouble by simply saying that the work is in Italian and Latin—the latter (we may fairly infer) being a translation of the former; and, considering that Gerini was dead several years before the Linnæan method of binomial nomenclature was propounded, one does not easily see how he could be acquainted with or adopt it. It is the merest trifling with the most trifling subject to urge that these names have any value in scientific nomenclature, quite unlike those of Boddaert, who deliberately set himself to bestow names according to the Linnæan method on the species figured in Daubenton's work. That Boddaert's intention occasionally failed* is no fair reason for putting him aside.

* * * *

Mr. Seebohm seems to labour under two delusive impressions. First, that once upon a time ornithology wore an aspect of almost Arcadian simplicity, and next that this golden age was needlessly disturbed by certain wicked persons who incited the British Association to draw up rules for nomenclature. I cannot recommend him or any one else to waste his toil on such an object, but if he should continue his nomenclatural studies, I hope that he will at last come to the conclusion that there is now more accord in this matter than there ever was before, and that, so far as this accord has been attained, it has been reached by the adoption first of the Linnæan method, and next of the code of rules, against both of which he raises such an outcry. Furthermore I trust that in time he will discover that it is not I who played the resurrection-man in regard to Boddaert's, Müller's or other neglected names. Those who did that are beyond the reach of Mr. Seebohm's wrath. Whether they acted wisely is beside the present question, but one thing must be said of them: neither the late Mr. G. R. Gray nor the late Mr. Cassin had part or lot in the conspiracy which promulgated the code so odious to Mr. Seebohm.

Finally I would again state that little good comes from these lengthened disquisitions, and repeat that I have no wish to convert Mr. Seebohm or any other aberrant nomenclator; but I trust I may save some from being perverted to his

* One of the failures Mr. Seebohm cites is wrong. To the subject of Pl. Enl. 592, the name given is *Alcedo viridirufa*, not *viridis rufa*.

views, while I own I should like to be spared his invectives and the trouble of noticing them. Most naturalists at some time of their life have taken nomenclatural fever: but it usually supervenes at an early age, when, as with other diseases incidental to youth, the patient, aided by good advice, speedily recovers from the attack. Unfortunately this is not Mr. Seebohm's case, and he appears to be suffering from the malady in its severest form. What is worse is that Mr. Saunders seems to have caught the infection from him. However, if these gentlemen are bent upon harassing their peaceable brother-ornithologists, it would be well if they would inform themselves more fully on the subject of which they treat. I have heard nomenclature compared to heraldry, and there is a story told by Horace Walpole of the rebuke administered to a king-at-arms who was said not to know his own "silly business," which might convey a lesson to nomenclatural critics.

ALFRED NEWTON.

MAGDALENE COLLEGE, CAMBRIDGE.
22nd January 1883.

STRAY FEATHERS.

Vol. X.]

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[No. 6.

Notes supplementary to Major Butler's Catalogue of
Birds of the Deccan and South Mahratta Country.
(“*Stray Feathers*,” Vol. IX., p. 367.)

By J. MACGREGOR.

(N.B.—*These notes refer only to the Belgaum District.*)

The accompanying rough Supplement to Capt. Butler's paper is submitted for what it may be worth. I have only added three species— Nos. 164*bis*, 755 and 896—to the list, and I have prefixed a star to the number in each of these cases, so that they may readily catch the eye.

18.—*Cerchneis naumanni*, Fleisch.

I have obtained one specimen of this bird. It was *naumanni*, not *pekinensis*.

33.—*Nisaëtus fasciatus*, Vieill.

Is very common in Belgaum.

48.—*Butaster teesa*, Franklin.

Is very common in the forest tracts as well as in the open country.

54.—*Circus æruginosus*, Lin.

Is very common in the southern portion of the district.

55.—*Haliastur indus*, Bodd.

I should say this was a *very* common bird. It occurs wherever there are ponds or marshy land.

57.—*Pernis ptilorhynchus*, Tem.

Very common in the wooded parts, less so in the open country.

59.—Elanus cœruleus, Desf.

Very common "in the hills," and in well-wooded parts of the country, as well as in the open.

72.—Ketupa ceylonensis, Gm.

Is not uncommon in the open parts of the country in the south of the district.

76.—Carine brama, Tem.

Is also common in the thinly-wooded parts of the country away from the Ghâts.

107.—Caprimulgus indicus, Lath.

Occurs in the open country in *topes*. Commonest Nightjar of the Bidi forests.

111.—Caprimulgus atripennis, Jerd.

Occurs all along the Ghâts and in the adjacent forest tracts, but is rare.

114.—Caprimulgus monticolus, Frankl.

Extremely common in all jungles.

115.—Harpactes fasciatus, Forst.

This bird is common in the extreme south of the district in heavy jungle, and at the foot of the Ghâts. I have not observed it anywhere else.

122.—Nyctiornis athertoni, Jard. & Selb.

Occurs sparingly in the Ghâts. It is not so very rare.

127.—Pelargopsis gural, Pears.

Occurs only below the Ghâts on the Tillar nadi, where it is not rare.

140.—Dichoceros cavatus, Bodd.

Occurs as a straggler in the open parts of the country too.

145.—Tockus griseus, Lath.

Is very common in all jungles south and west of Belgaum.

153.—Loriculus vernalis, Sparrm.

In the hot and cold weather it is common only on the crest of the Ghâts, but during the rains it finds its way far inland to the east of Belgaum.

*164bis.—*Iyngipicus gymnothalamus*, *Bly.*

This species is not included in his list by Captain Butler, but it occurs sparingly in the Bidi jungles of the Belgaum District.

166.—*Chrysocolaptes strictus*, *Horsf.*

This is the commonest Woodpecker of the moist forest zone.

167.—*Chrysocolaptes festivus*, *Bodd.*

I have procured this bird in the extreme south of the district.

169.—*Thriponax hodgsoni*, *Jerd.*

I have procured this bird only in the extreme south in purely forest tracts. It is rather rare there.

171.—*Gecinus striolatus*, *Blyth.*

Obtained only in the extreme south.

194.—*Megalæma viridis*, *Bodd.*

Common all over the district. It is not confined to the purely forest tracts.

202.—*Cuculus sonnerati*, *Lath.*

I think this bird occurs only in the rains, as I have been unable to procure it at any other time.

203.—*Cuculus micropterus*, *Gould.*

This bird is decidedly rare. I have obtained it only once in the Ghâts.

208.—*Cacomantis passerinus*, *Vahl.*

Common at all times of the year in open forest tracts.

212.—*Coccytes jacobinus*, *Bodd.*

Very common at all times of the year, frequenting low thick jungle wherever it occurs north of the Malprabha river.

219.—*Taccocua leschenaulti*, *Less.*

Occurs in the scrub jungle east of Belgaum. Rare.

232.—*Cinnyris zeylanica*, *Lin.*

Is common everywhere, including the Ghât tract.

240.—Piprisoma agile, Tick.

Common everywhere.

253.—Dendrophila frontalis, Horsf.

Very common in the jungles of the south and in the Ghâts.

256.—Lanius lahtora, Sykes.

Very common in the open country east of Belgaum.

264.—Tephrodornis sylvicola, Jerd.

Common in the jungles of the south.

265.—Tephrodornis pondicerianus, Gm.

Common in all jungles lying east as well as west of Belgaum.

268.—Volvocivora sykesi, Strickl.

Very common in all jungle tracts.

270.—Graucalus macii, Less.

Common in the Ghâts, and very common in the Bidi jungles.

272.—Pericrocotus flammeus, Forst.

Common in the jungles and *topes* in the eastern portion of the district as well as in the western.

278.—Buchanga atra, Herm.

Common also in the Ghâts.

281.—Buchanga cœrulescens, Lin.

Very common in the Ghâts and in the adjacent jungles of Bidi.

292.—Leucocerca aureola, Vieill.

Very common in all forest tracts excepting the Ghâts.

293.—Leucocerca leucogaster, Cuv.

Occurs everywhere, including the open country.

436.—Argya malcolmi, Sykes.

Very common in the open and wooded country north and east of Belgaum.

442.—Schoenicola platyurus, Jerd.

I obtained this bird eight miles west of Belgaum.

446.—Hypsipetes ganeesa, Sykes.

Very common in and near the Ghâts.

455.—*Rubigula gularis*, *Gould*.

Occurs only at the foot of the Ghâts.

460*bis*.—*Otocompsa fuscicaudata*, *Gould*.

Occurs also in the eastern jungles away from the Ghâts.

476.—*Cercotrichas macrura*, *Gm.*

Occurs also in the jungles towards the east.

514.—*Cyanecula suecica*, *Lin.*

Very common all over the more open parts of the country.

553*bis*.—*Hypolais caligata*, *Licht.*

I have obtained the bird in the Belgaum district.

563.—*Reguloides occipitalis*, *Jerd.*

Procured in Belgaum.

581.—*Sylvia jerdoni*, *Blyth.*

Occurs in the jungles east of Belgaum.

595.—*Limonidromus indicus*, *Gm.*

Common in the ber forests of the extreme south. Occurs also along the Ghâts and in the adjacent jungles.

692.—*Eulabes religiosa*, *Lin.*

There is, I think, a mistake here. I have never seen or procured this bird in any part of the Belgaum district, forests or plains, and I doubt very much whether it occurs at all within that district.

699.—*Amadina punctulata*, *Lin.*

Tolerably common throughout the forest tracts, excepting the Ghâts.

703.—*Amadina malabarica*, *Lin.*

Common also in the jungles of Bidi.

738.—*Carpodacus erythrinus*, *Pall.*

Is, I think, a permanent resident.* Occurs also in the eastern jungles.

* This I must beg leave to doubt. It breeds up in Gilgit and other places in the Himalayas, but nowhere I think so far south or so low down as Belgaum.—Ed., S.F.

***755.—*Mirafra affinis*, Jerd.**

Although this species is not included by Captain Butler it is common in the jungles east of Belgaum.

756.—*Mirafra erythroptera*, Jerd.

Very common in the scrub jungles east of Belgaum.

758.—*Ammomanes phœnicura*, Frankl.

Occurs also in the forest tracts east of Belgaum.

760.—*Pyrrhulauda grisea*, Scop.

Occurs in the forest east of Belgaum.

786.—*Palumbus elphinstonii*, Sykes.

Occurs on the crest of the Ghâts. Rare.

788.—*Columba intermedia*, Strickl.

It does not necessarily follow cultivation. It is very common on the scarps of the Sahyadri far away from all cultivation.

793.—*Turtur meena*, Sykes.

Common in the more open forest tracts.

795.—*Turtur suratensis*, Gm.

Common everywhere.

796.—*Turtur risorius*, Lin.

Very common in all jungle tracts. It is absent during the rains in the part of the country west of the town of Belgaum.

798.—*Chalcophaps indicus*, Lin.

Occurs in the Bidi jungles. Rather rare.

819.—*Francolinus pictus*, Jard. & Selb.

It can scarcely be said that this bird avoids the forest tracts, as it occurs in fields surrounded by forest. As a rule, it avoids the Ghâts, the ground there not being suited to its habits.

822.—*Ortygornis pondicerianus*, Gm.

Very common in the low dense jungle and fields of the eastern talukas.

832.—**Turnix taigoor**, *Sykes*.

Is a permanent resident. I have procured it at all seasons.

834.—**Turnix joudera**, *Hodgs*.

I have procured this bird in the Belgaum district.

840.—**Cursorius coromandelicus**, *Gm.*

Is also common in the jungle tracts east of Belgaum.

859.—**Ædicnemus scolopax**, *S. G. Gm.*

Is also common in the Ghâts.

*896.—**Totanus fuscus**, *Lin.*

Captain Butler does not include this species in his list, but I obtained it at Belgaum.

900.—**Parra indica**, *Lath.*

Is very common in the Bidi jungle tracts.

902.—**Porphyrio poliocephalus**, *Lath.*

Common in the reedy tanks in the south of the district.

903.—**Fulica atra**, *Lin.*

Very common on all reedy tanks.

905.—**Gallinula chloropus**, *Lin.*

Is common on tanks overgrown with weeds and water-lilies in the Bidi taluka.

907.—**Erythra phœnicura**, *Penn.*

A permanent resident ; I have seen it at all seasons.

908.—**Porzana akool**, *Sykes*.

Though Captain Butler never met with this species I obtained it near Belgaum, so Mr. Hume's identification of Captain Butler's eggs was doubtless correct.

910.—**Porzana bailloni**, *Vieill.*

Very common all over the district.

920.—**Dissura episcopa**, *Bodd.*

Very common in the jungle tracts including the Ghâts.

924.—*Ardea purpurea*, *Lin.*

I have procured this bird in the Bidi taluka.

933.—*Ardetta cinnamomea*, *Gm.*

Is a permanent resident, not a mere seasonal visitant.

938.—*Tantalus leucocephalus*, *Forst.*

I have shot this bird on the Ghatprabha river at Konur.

942.—*Inocotis papillosus*, *Tem.*

Occurs in the cold weather throughout the district.

951.—*Nettopus coromandelianus*, *Gm.*

I have shot this bird in the Bidi taluka.

957.—*Spatula clypeata*, *Lin.*

This bird is sometimes very common in the cold weather in the Belgaum district.

959.—*Anas pœcilorhyncha*, *Forst.*

Is common, and probably a permanent resident.

**Catalogue of the Birds in the Provincial Museum,
A.-W. P. and Oudh, Lucknow.***

MR. GEORGE REID, one of the Committee of Management of the Lucknow Museum, and who is in honorary charge of the Natural History Department of that Institution, has done good service to ornithologists in compiling an accurate catalogue of the specimens of birds contained in that Museum on the 1st January, 1886.

The collection is but a small one, containing less than 3,000 specimens (representing rather less than 600 species), fully half of which were collected and presented by Mr. Reid himself. But great pains have been taken to ascertain and record the localities of almost every specimen; while of all species not included in Dr. Jerdon's work, descriptions taken from "Stray Feathers" or elsewhere are given in an Appendix. The names adopted are those in the "Tentative List," but so far

* Printed by order of the Museum Committee by the Calcutta Central Press Co., Ltd., 5, Council House Street, Calcutta, 1886.

as the ten published volumes permit of this, the names adopted in the British Museum Catalogue are also given, together with a reference to the page and volume of this work where the species is described.

The species included in the Catalogue are mostly common ; but I notice a specimen of the Knot (881—*TRINGA CANUTUS*, *Lin.*) said to have been obtained in Lucknow. Now in the first place I should like to know whether Mr. Reid is absolutely certain of his identification of the specimen. I do not think I have ever seen an Indian-killed specimen of this species—all hitherto sent me as such have been *T. crassirostris*. If the identification be correct still I cannot consider, seeing that this was one of the old Museum specimens, that there is any *certainty* that it really was procured at Lucknow or anywhere within Indian limits. If, however, Mr. Reid can, for any reason, be certain that the bird was really obtained at Lucknow and is a veritable Knot, then it is, I think, the gem of the collection, since, so far as I know, no other Indian-killed specimen of this species exists. Thus far I have hitherto considered that the Knot did not occur within our limits, and if Mr. Reid can show that it really has so occurred, it will be a matter of some interest.*

The Pink-footed Goose (946—*ANSER BRACHYRHYNCHUS*, *Baill.*), of which the Museum contains two specimens, is excessively rare, and these are, I believe, the only Indian-killed specimens of this species now in existence. But there is no doubt that it does occur in Northern India, as I myself once shot a pair.

The Bronze-capped Teal (966*bis*—*QUERQUEDULA FALCATA*, *Georg.*), of which also there are two specimens obtained near Lucknow, is likewise a rare species ; but I have obtained specimens of it in past years from Lucknow, Calcutta, Kurnal and Sultanpore, so that it is nothing like so rare as the Pink-footed Goose.

No other species entered in the Catalogue seems to call for notice ; but one correction occurs to me as necessary. Having entered correctly 27—*Aquila mogilnik*, Gmel. (The Imperial Eagle) and 27*bis*—*Aquila nipalensis*, Hodgs. (The Bifasciated Eagle) separately, Mr. Reid adds the note : “ In the B. M. C. this species” (the Bifasciated Eagle) “ is considered to be identical with *A. mogilnik*. It is generally, however, thought

* Since the above was written the specimen referred to was kindly sent me for identification. It turned out to be a Curlew Sandpiper in summer plumage. It appears always to have stood in the Museum as the Knot, and the plumage corresponding tolerably with Jerdon's description of that bird, and he having omitted a description of the summer plumage of the Curlew Sandpiper, the error, despite the great difference in the size and bills of the two species, was allowed, inadvertently, to be perpetuated in the New Catalogue.—A. O. H.

a different bird." This may mislead. No one doubts that the two species are distinct; the doubt is as to which of the two species should bear Gmelin's title; Mr. Sharpe assigned it to the Bifasciated Eagle, and called our 27—*A. heliaca*. I, on the other hand, considered that it was the Imperial Eagle that should take Gmelin's name and fell back upon Hodgson's name for the Bifasciated Eagle.

I rather think that it has since been shown that neither Mr. Sharpe nor myself were correct, and that neither bird should bear the names assigned by either. On this I offer no opinion. All I wish to make clear is that, though there may have been difficulties about the *names*, no one of late years has, I believe, doubted as to the two species being distinct. As I said the Catalogue is not a record of much that is "rich or rare," but its value consists in giving a large number of accurate localities for a considerable number of species, and neglecting those assigned to the 479 specimens taken over from the old Museum, the whole of the rest of the localities are, I believe, absolutely reliable and certain.

If all our other local Museums would prepare and publish equally careful Catalogues, boldly recording "unknown" against all those specimens of whose origin nothing *certain* is known, students would certainly be in a better position than now to work out those generalizations which are the primary objects of all sciences.

A. O. H.

Addenda to the Birds of the Lucknow Civil Division.

(*Ante pp. 1—88.*)

By GEO. REID.

SINCE my paper was published in STRAY FEATHERS, I have been able to add a few more species to the Birds of the Lucknow Civil Division, and these I propose now to enumerate. But before doing so I wish to offer a few remarks in continuation and correction of my original paper.

In my former paper I noticed that the drought of 1877 had ruined the division as a winter resort of wildfowl. The same disastrous result still obtains. From being one of the finest, it is now one of the worst districts for wildfowl shooting in the province. Few people now in Lucknow remember the fine shooting to be had almost at the City Gates, the market teeming with wildfowl from which not a

few rare and beautiful species were obtained (some now immortalised in the British Museum!), and the troops of fowlers who used to cater for the city and cantonments. The few whose memories carry them so far back must have noticed the mighty change. The market as a mart for wildfowl no longer exists. You may go there in the season, morning after morning, and find nothing—nobody. Sometimes a solitary hawker, as if risen from the dead, may appear at your door, and try to beguile you into purchasing some dead, attenuated teal, or perchance a Brahminy more foolish than his kind, or he would never have been caught; but of genuine snipe, duck and geese, one sees but little, and that little not very good. No! The fowlers' occupation is gone. So, too, are the days when one took a delight in examining his treasures, or perchance assisted in his nightly raids. His nets and decoys are laid aside, and he wars with the web-footed tribes no more.

With the average sportsman it is different. Usually one of the here-to-day-and-there-to-morrow type, he has no memories of the past to haunt him (except, perhaps, memories of another kind), and is content if he gets a shot now and again, and brings home a dozen birds composed of equal parts of teal and shovellers. Ye gods! What a falling off is there! I remember the time when bags of from 15 to 30 couple of the choicest ducks were the common lot of average shots, and I have myself killed as many as 32 brace in a day without the aid of a duck gun. This was at Ajaen in 1867. In the cold weather of 1885-86, in shooting over the same jhils, on three different occasions, my largest bag was four birds! In other localities the result of that season's experience was somewhat better, but still far from good. Snipe-shooting, too, within easy reach of Lucknow, has fallen off to the vanishing point, but it is still possible, in these days of railways, to get to places where snipe are fairly abundant, though, as we all know, it is quite another thing to bag them.

Now how is this falling off to be accounted for? Am I right in attributing it to the drought of 1877 (see remarks in my previous paper) or do wildfowl move about in cycles? I think not. I believe they came here, as usual, in 1877 and found the jhils dry, went away disgusted, and having spent the cold weather, comfortably, in some other locality, have ever since gone there in their winter migrations. The famine that followed the drought gave a great impetus to the cultivation of the singhara nut, and on lakes where it is now cultivated to any extent birds, as a rule, are not allowed much peace. This may partially account for the comparative absence of birds in certain localities, but I

have little hesitation in attributing the general falling off to the drought of 1877. The jhils, too, it must be remembered, have never been the same since that year. Though apparently as full of water as ever at the close of the monsoon, they are most of them dry long before the close of the cold weather. This used not to be, and is due to two causes: first, the great amount of water absorbed by their dry, parched beds on the recurrence of the monsoon, and, secondly, the greater amount of water required to irrigate the ever-increasing area of wheat under cultivation. The most familiar example I can think of is the jhil at Chinhut, just out of Lucknow. Before 1877 it contained water all the year round, was full of fish, had a boat or two on it, and was always good for a morning's wildfowl shooting in the season. Now, in the hot season of 1886, it is as dry as the season itself, and has been so, annually, since 1877. The change is not greater, methinks, than the falling off in our wildfowl.

But if the decrease is not local, and has been observed generally in other parts of the country, I may be attributing it to a wrong cause. This, other observers only can confirm or refute. For my part I have never even heard it whispered that wildfowl visit India in less numbers now than they did, say, ten years ago. If they do, may not their decrease be due to the advancing Russians? I'm not a Jingo, but I may as well have a shy (like my betters) at the enemies of India!

Untoward events, it would therefore appear, have often a deal to do with the distribution of species, even when climatic and other conditions are favorable.

The Crested Grebe, too, is another bird that has become exceeding rare in localities where formerly it was very abundant, but its scarcity now is due to another cause. Slaughtered wholesale and systematically for the sake of its beautiful skin, we now seldom see its silvery-white breast glistening in the sun. Slowly, but surely, too, our beautiful White Herons and Egrets are sharing a similar fate. A price has been put upon their feathery snow-white plumes, and man must needs debase his manhood by pandering to the insatiable vagaries or depravities of fashion. The worst of it is that the plumes, which are so much in request, are only to be had during the breeding season, and whole heronies, to my knowledge, have been wantonly destroyed to obtain them. The total annihilation of the parents means, of course, a still greater catastrophe in the loss of the young. This is wanted cruelty in its most aggravated form, and if it goes on unchecked these beautiful birds will soon cease to adorn the landscape and the lakes and rivers, of which they are now such familiar adjuncts. That peculiarly Indian scene—a newly-irrigated paddy field, its beautiful green sward studded

over with snow-white Egrets and Herons, with a village urchin or two thrown in, will soon—only too soon—be a memory of the past. That such wanton destruction should be tolerated by the powers that be seems to me inexplicable.* There is no occasion to enact game laws or close seasons and so add to the miseries and perplexities of the people. They are not the real offenders, while they have laws enough to observe in all conscience. A single stroke of the pen prohibiting the exportation of bird skins altogether, except such as are *bonâ fide* trophies or scientific specimens, or the infliction of a prohibitive export duty, would at once put a stop to the iniquities of which I and others have so long and fruitlessly complained. No half measures will do, but it is hopeless, I suppose, to expect anything else, if we get anything at all.

If I have written strongly it is because I feel strongly on a subject that requires immediate attention. The destruction not only of Grebe, Herons, Egrets, Pheasants, &c., but of beautiful small birds of every description, is going on apace, and while the depredators are reaping a rich harvest by pilfering the nation's property—its game birds and the beautiful songsters of its woods and fields—those who ought to protect them by holding aloof are simply participating in their destruction. This state of affairs can only lead to extermination, when, of course, every one will regret the result, but—who would have thought it? Echo then may well answer—who?

Returning to our birds, I may as well begin by modifying or attesting what I said of some of those included in my previous paper.

Subsequent observations confirm the opinion I previously expressed that the chestnut phase is the breeding plumage of the Paradise Flycatcher (*Muscipeta paradisi*). It is no use arguing to the contrary, because a few white birds may be seen during the breeding season. The Purple Honeysucker (*Cinnyris asiatica*), for instance, may be seen in his breeding plumage all the year round, yet no one ever questions its right to wear it out of season, or doubts that his winter livery is usually like that of his sombre lady-love. I have seen a Paradise Flycatcher early in May of a regular brown and white piebald appearance; later on the two long feathers of its tail were the only white about it, and still later on, when I took its nest and eggs, the bird had a short tail and had donned its entire chestnut livery. I think this is pretty conclusive.

This Flycatcher has no dread of water. The other day

* An Act has now been passed to put a stop to this wicked and wanton destruction.—
Ed., S. F.

when fishing on the lake at Bhimtal I saw it frequently alight on the surface of the water in pursuit of the aquatic insects it was feeding on.

The large Grey Babbler (*Argya malcolmi*) is by no means so rare as my previous paper would lead one to suppose. I have since met with it in many places and have both seen and heard it about Lucknow itself.

I have not been able to ascertain whether the Plaintive Cuckoo breeds about Lucknow. Mr. Adam indeed concludes—though he does not state it as a fact—that boys (I write from memory) brought him the eggs from the nests of *Drymæca inornata*. This I now think highly improbable, as, were the birds about in the rains, when *D. inornata* breeds, one would certainly either see or hear them.

The Plaintive Cuckoo is, however, a regular cold-weather visitor to the division.

The breeding of the Blue-throated Redbreast (*Cyornis rubeculoides*) in Lucknow is, however, noteworthy. On the 21st July, 1885, I found a nest and four rather hard-set eggs in the ruins of the Secundra Bagh. For some time previous I saw both birds almost every time I went to the Horticultural Gardens. Later on I saw only the male about, and made certain that the female was sitting, but though I searched every likely hole and corner of the ruined walls and gateways, I could not discover the nest. One day, however, when I had given up all hope of finding it, I happened to look into a little cell at the base of what was once evidently a staircase tower, and there, staring me in the face, was the little bird—the male—upon its nest, within two or three yards of a pathway frequented all day long by the garden work-people and others, and often by myself. The nest was placed quite openly in a small niche, such as natives use for their *chiraghs*. Externally it was loosely made up of old decomposed leaves—soft skeleton leaves in fact—interlaced and held together with slender grass stems and cobwebs; internally it was nicely lined with fine dark hair-like roots, the neat inside contrasting strongly with its rugged exterior.

Palæornis indoburmanicus, though included in my former list, is rather a doubtful species, but the fact that Mr. Hume identified a specimen—now in the Provincial Museum—as such deters me from rejecting it. The bird is none other, I think, than a possible variety of *P. nepalensis*. Indeed I very much question whether these large Paroquets are not all referable to one and the same species—*P. eupatria*, Lin. In a large series from all parts of India and Burma the differences relied on by separationists in support of their

respective species would probably be found to have connecting links in intermediate species, the slight variations in size and color being such as might reasonably be ascribed to climatic causes.

Falco babylonicus is another bird that ought not, perhaps, to have been included in my former list. In the days when Captain (now Colonel) Irby wrote there was—and still is—much diversity of opinion as to the changes which Falcons generally undergo in plumage, and the specimen which he got at Barabanki (it does not appear to have been preserved) may have been nothing more than the “Shahin” in a certain phase of plumage. At any rate I have tried in vain for a specimen that would satisfy me that it was the true *babylonicus*, though I have a specimen of what I consider to be an adult “Shahin” that might pass muster for Gurney’s Falcon so far as description goes. Another bird, one from Southern India, is so different in coloration as to lead to the belief that from youth to decrepit age the “Shahin” must undergo many changes in plumage, and that, in one or more of these changes, it may possibly resemble, if it is not, *babylonicus*.

The Shahin, it should be noted, is not quite so rare as my former paper would lead one to suppose. It is indeed about as common as the Peregrine during the cold weather, the two being often found together by the side of some favorite jhil. I know of one such favorite resort where eight or ten of these Falcons constantly reside in the cold weather. One day I took it into my head to “go for them.” The first I shot was a Peregrine, the second a “Shahin” (the adult above alluded to); the third and remainder are, I hope, living still, having given me a wide berth when they saw what I was up to. They had been living for the most part on the Rose-ringed Paroquets, the ground beneath the trees they frequented (each couple appeared to have their own special tree) being literally covered with the remains of these birds.

The occurrence of either the Common or Blue-winged Teal (I was unable to make out which) on the plains on the 2nd of May is worth recording. While travelling by train on that date I noticed a flock of at least 50 on a jhil just outside of Bareilly station.

The following is a list of the species—23 in number—that have now to be added to those included in my paper on the “Birds of the Lucknow Civil Division.” It is difficult to say how many more will have to be added before the list is absolutely complete; but I think we may safely assume that not more than 350 species occur in the division, of which 337 have now been accounted for—not hastily, but during and after many years of careful and persevering research.

As in my former list, the number prefixed to each name is that under which the species is included in Jerdon's "Birds of India" and Mr. Hume's list—*vide* S. F., Vol. VIII.

28bis.—Aquila fulvescens, Gray.

The Buff Eagle, as Mr. Hume took occasion to point out, should have been included in my former list. It is rather rare I fancy, though I may have often, in the field, confounded it with *vindhiana*, and so have passed it over. Mr. Sharpe indeed considers these Eagles to be identical, and rejects *fulvescens* as a good species with the remark, that it is doubtful whether *vindhiana* should be considered more than a small race of *A. rapax*.

30.—Aquila hastata, Less.

A Lucknow-killed specimen of the Long-legged Eagle is now in the Museum. It is by no means common, and I know nothing particular in regard to its habits.

31.—Hieraëtus pennatus, Gm.

The Dwarf Eagle, like the last, is by no means abundant, but I have met with it here and there all over the division during the cold weather only. Curiously enough it is sometimes captured by bird-catchers and brought in to Lucknow for sale.

44.—Buteo vulgaris, Leach.

It is open to question whether the Common Buzzard should be included in this list. A Lucknow-procured specimen, named, I believe, by the late Mr. Anderson, is now in the Museum; but I have my doubts as to whether it has been correctly identified. I have as yet had no time to examine it thoroughly, though I incline to the belief that it is *desertorum*.

If, on the other hand, it be retorted that neither *vulgaris* nor *desertorum* occur in India, all I can say is that a Buzzard very like either one or the other *does* occur; let those who doubt this prove the contrary.

45.—Buteo ferox, S. G. Gm.

The Long-legged Buzzard is fairly common. According to what I have seen of it, it frequents open country, usually perching on the top of some small solitary tree—babul for instance—in which it manages to fairly well conceal itself.

147ter.—Palæornis nepalensis, Hodgs.

The Nepal Paroquet is a regular monsoon visitor, appearing

usually about the 1st June and leaving about the 1st September. While it stays it frequents the gardens and topes about Lucknow in great numbers, and is the bird referred to (I think) under the name of *indoburmanicus* in my previous paper; or is it possible that both these so-called species visit the district? In a previous para. I have remarked on these large Paroquets, and will only repeat here that I believe them to be referable to one and the same species.

200.—*Cuculus striatus*, *Drap.*

The Himalayan Cuckoo visits the division during the cold weather. I have then frequently heard it in the suburbs of Lucknow, and it is an annual visitor to the Wingfield Park.

463.—*Phyllornis jerdoni*, *Bly.*

Jerdon's Green Bulbul I have never seen strictly within the limits of the division, but it must occur, sparingly, during the cold weather. I say *must* because I have notes of its occurrence at Sitapore, Fyzabad and Basti, and we may therefore assume with certainty that it does occur, at times, within our limits. But it can only be considered as a rare and unfrequent visitor, though it may not improbably visit the division regularly during the hot weather, when one is not so much about. This, however, is hardly likely.

485.—*Pratincola insignis*, *Hodgs.*

This is another bird that can only be considered as a rare visitor, and a cold-weather one of course. I have never myself come across it, but Col. Marshall (I write from memory) obtained a specimen in the Onao District in the khadir of the Ganges, while it has been obtained in the Bhotan Dooars, the Nepal Terai and the Gorakhpur, Basti and Gonda districts. See S. F., IX, 505.

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

The Grey Cap Field Wagtail is considered by Mr. Sharpe to be identical with *Motacilla borealis*, Sund. It is fairly common during the cold weather all over the division, particularly in moist tracts along river sides.

757.—*Mirafra cantillans*, *Jerd.*

The Singing Bush Lark is common, but only in certain localities. One may wander about for weeks without meeting with it and then suddenly come across quite a colony of these birds. Grass jungle about the edges of excavations and hollows, and generally any scrub-covered, grassy, undulating ground, are favorite haunts. This spring some four or five couple of these birds

took up their abode in my own garden. They frequented the orchard part, where from constant irrigation the grass was long and green, and I soon discovered that they were breeding. Two nests that I found, one on the 14th and another on the 18th April, were very well concealed, and probably would have remained undiscovered had the birds sat still instead of flying off their eggs on my approach. They were both domed nests, and were placed on the ground in situations where the lower trailing branches of the trees and grass intermingled. One contained two and the other three eggs.

762.—*Alaudula raytal*, *Bly.*

This is another Lark that is very locally distributed, and is, moreover, comparatively rare. I shot a specimen on sandy undulating ground near the Goomti, and have seen or imagined I saw it, on several occasions since in other parts of the division.

772.—*Crocopus phœnicopterus*, *Lath.*

The Bengal Green Pigeon is not common, at least I have never found it so. It appears, from what I have seen of it, to associate freely with *C. chlorigaster*; and it is only by shooting a large number of the latter that one can hope to get a specimen of the former.

832.—*Turnix taigoor*, *Sykes.*

I have never myself shot the Black-breasted Bustard Quail, nor have I ever seen it in the district; but the professional quail-catchers occasionally bring it into Lucknow. It may, therefore, safely be accepted as "rare," though whether as a seasonal or permanent resident is more than I can affirm from personal observation.

844.—*Squatarola helvetica*, *Lin.*

The Grey Plover is fairly common during the cold weather. It is seen most frequently in the vicinity of jhils.

845*bis.*—*Charadrius pluvialis*, *Lin.*

On re-examining my collection, now in the Provincial Museum, I find what I consider to be a specimen of this—the Western Golden Plover—shot in 1830. Beyond this I can give no other instance of its occurrence within our limits, nor any observations in regard to its habits, &c.

860.—*Strepsilas interpres*, *Lin.*

The Turn-stone I have never met with, but the Museum

contains four specimens—all purchased locally—so that we may conclude that it is a rare cold-weather visitor.*

899.—*Recurvirostra avocetta*, *Lin.*

The Avocet is a fairly common cold-weather visitor. It is usually met with singly or in pairs, and is equally good at either wading or swimming. It seems to prefer long narrow jhils to broad and deep ones; at any rate it is on the former that I most often notice it when in the field.

911.—*Porzana fusca*, *Lin.*

The Ruddy Rail is not common, and is only a cold-weather visitor. Only once have I seen it strictly within the limits of the division. On the occasion referred to I was snipe-shooting in the Unao District, when it rose out of the reeds almost at my feet, at a moment when my gun was empty. It flew across the jhil, and being unable to follow I did not get it. I am confident, however, that it was the Ruddy Rail, as I have frequently before both seen and shot the bird in Kumaon.

914.—*Rallus indicus*, *Bly.*

The Indian Water Rail, though not particularly abundant, may be found on almost all large rush or weed-covered jhils, but only, I think, in the cold weather; in this, however, I may be mistaken.

931.—*Butorides javanica*, *Horsf.*

The Little Green Heron is not very common, but may be met with here and there in suitable localities all over the division. Along the banks of the Goomti it is not uncommon, particularly where the river is margined with babul and other bushes. On the 1st July I took a nest and two eggs from a babul tree overhanging that river; the eggs were pale green, very much like those of *Ardeola grayi* in color, and measured 1·64 and 1·58 inches in length.

979.—*Larus ichthyaëtus*, *Pall.*

The Great Black-headed Gull is by no means common; but during the very coldest weather, and in localities where jhils are numerous, one or two may be met with, though it is a very difficult matter to get a shot at them, as they keep well to the centre of the jhil when flying or swimming. When the weather has been, for some days previous, cold and stormy, this species, like the Smew, generally makes its appearance.

* It is not a *visitor*—merely a through passer, in spring and autumn, on its way to and fro between the sea coast and its breeding haunts.—ED., S. F.

A Tentative List of the Birds of Manzeerabad, Mysore.

By C. J. W. TAYLOR.

HAVING now quitted Manzeerabad and Mysore for good, I have decided on putting together my notes and sending them for publication in STRAY FEATHERS. I am very little of an ornithologist, but no list of the birds of this part of Mysore has, so far as I know, yet been published, and it has, therefore, occurred to me that a list of those species, obtained by me at Manzeerabad and in its neighbourhood during a four years residence, might be useful by way of a beginning. The numbers prefixed to the species enumerated are those of the Tentative List, Vol. VIII, p. 73, *et seq.*

2.—*Otogyps calvus*, Scop.

Rare. I only once saw this species, and then three were feeding in company with *Gyps bengalensis* on the carcass of a donkey. I knocked two over with my stick, but found one was all I could take, as I was by myself and had still two miles for camp.

5.—*Gyps bengalensis*, Gm.

Very common at all times of the year.

6.—*Neophron ginginianus*, Lath.

Rare on the hill tracts and near the head of the Ghâts, but common on the plains.

11.—*Falco jugger*, J. E. Gr.

Fairly common in the plains. I have not seen any in the hills, being too generally wooded I fancy.

16.—*Falco chiquera*, Daud.

I have only seen some half dozen or so, one of which I shot in May 1882. I had just burnt a newly-felled jungle, and as is usual there were a number of *Coracias indica* flying in circles over the burning stumps, when I noticed a Red-headed Merlin give chase to one of the Rollers. I eventually succeeded in bagging both persuer and persued.

17.—*Cerchneis tinnunculus*, Lin.

Fairly common during the cold months, *viz.*, November to

January. I lost sight of them then, and did not notice them till the following cold weather.

23.—*Astur badius*, Gm.

Common; I did not, however, succeed in procuring a specimen; each time I went out with my gun to procure one, they seemed to make themselves scarce.

24.—*Accipiter nisus*, Lin.

This species, like No. 17, is a cold weather visitant. One paid me a visit, and in a very short space of time did away with a number of pigeons which I had. I did not give him the chance of leaving the country with his brethren.

38.—*Circaëtus gallicus*, Gm.

Common in the plains. I shot one specimen just as he had succeeded in capturing a field rat.

51.—*Circus macrurus*, S. G. Gm.

Rare; I have only seen two in the plains.

55.—*Haliastur indus*, Bodd.

Rare up in the hill tracts; very common in the plains.

56.—*Milvus govinda*, Sykes.

Most abundant everywhere.

60.—*Strix javanica*, Gm.

The only one I saw, I shot in April 1882, after a great deal of trouble, for he always kept just out of range of my gun.

63.—*Syrnium indranee*, Sykes.

Rare; I have not shot it myself, but a friend shot one fifteen miles south of where I was, and he sent me the skin.

65.—*Syrnium ocellatum*, Less.

I shot one of a pair seen in March, 1882.

70.—*Bubo coromandus*, Lath.

I shot a female off her nest, a mass of sticks, laid between two immense arms of a mango tree; the nest contained one hard-set egg. This was in April, 1882.

76.—*Carine brama*, Tem.

Very common. Breeding in April. Eggs taken on the 1st and 27th of April, 1883.

85.—*Hirundo erythropygia*, *Sykes*.

Fairly common in the hill tracts. I did not see any in the plains. Breeding in May.

100.—*Cypsellus affinis*, *J. E. Gr.*

Fairly common ; same as No. 85.

107.—*Caprimulgus indicus*, *Lath.*

Very common. Procured eggs on the 10th of April, 1882. Eggs deposited on the bare ground after the grass had been burnt.

108.—*Caprimulgus kelaarti*, *Bly.*

Rare. Only saw the one female that I shot off her eggs on the 2nd of May, 1883.

112.—*Caprimulgus asiaticus*, *Lath.*

Very common. I have repeatedly, while out nesting, found pairs of them sitting together, either on the ground or on trees, and on each occasion could have knocked them over with my stick; they seemed so scared at the sight of me. Eggs taken on the 11th April, 1882.

117.—*Merops viridis*, *Lin.*

Very common all over the district. I saw none during the monsoon months, *viz.*, from June to middle of September, when they came in, in hundreds, daily. Eggs taken on the 15th April, 1882, laid at rather an unusual depth at the bottom of an old rat hole, near 4 feet in depth.

119.—*Merops swinhoii*, *Hume.*

Not so common as last species.

123.—*Coracias indica*, *Lin.*

Common. After the burning of a jungle I noticed a single bird flying round and round a partially burnt tree. On approaching I noticed that the tree had a number of holes in it, so I got up, and at the top of an arm that had broken off short, I found the dead body of a female resting on two eggs. She must have either been too frightened at the immense volumes of fire and smoke that rolled round her to escape, or, perhaps, "faithful to that last" had voluntarily perished on her eggs.

129.—Halcyon smyrnensis, Lin.

Very abundant among the paddy flats and small streams in the hills, but I don't remember seeing any in the plains. Eggs taken 9th, 18th and 21st of April, and on 15th May, 1882. This last lot was laid from 4 to 5 feet deep in a bank; I dug it out myself from a bank near my seed nurseries.

134.—Alcedo bengalensis, Gm.

Most abundant everywhere and at all seasons.

136.—Ceryle rudis, Lin.

This here takes the place of *Halcyon smyrnensis* in the plains, where they are very common indeed, but they are rare at higher elevations.

147.—Palæornis eupatria, Lin.

The most common of all the Parakeets. Captain Marshall only mentions April as the breeding month; I have had the young brought to me in February and March. On one occasion I took a nest containing three young on the 3rd April, so I think I might safely say that they breed in February and March.

148.—Palæornis torquatus, Bodd.

Plentiful in the hill districts, doing great damage to the coffee crops. Fairly common in the plains. Breeding in February, March and April.

151.—Palæornis columboides, Vig.

Not so abundant as *torquatus*.

153.—Loriculus vernalis, Sparrm.

Rare. Up to within a short time of my leaving the district I had not met with this species, when happening to be on a visit at a neighbouring bungalow I noticed one on a *Casuarina* tree in front of the bungalow. My friend subsequently pointed out four of them, and said he had never seen more, and that those four had been there for about three months. Though I remained about a month after this in the district, I didn't come across any more of them. They must be *very* locally distributed indeed.

175.—Chrysophlegma chlorigaster, Jerd.

Rare and locally distributed.

180.—*Brachypternus aurantius*, *Lin.*

The most abundant of all Woodpeckers in the district. Very scarce in the plains; in fact I hardly remember seeing above one or two.

194.—*Megalæma viridis*, *Bodd*

Plentiful. In April, 1882, I found its nest in a decayed branch, so cut a hole four inches below, and to my disgust there were three young ones. A short time afterwards, happening to pass by and tap the tree, out flew the parent bird. I knew that the young must have flown some time, so got up and found three fresh eggs in the same old hole. Could these later occupants of the nest hole have been the parents of the young ones or were they other birds? Eggs procured in May also.

197.—*Xantholæma hæmacephala*, *P. L. S. Müll.*

Very locally distributed; more abundant in the plains than in the higher tracts.

214.—*Eudynamis honorata*, *Lin.*

None on the hills, strange to say, though common in the plains. Breeding in June and July.

217.—*Centrococcyx rufipennis*, *Ill.*

Plentiful in all parts of the district. Took nest containing three hard-set eggs on the 30th April, 1882.

218.—*Centrococcyx bengalensis*, *Gm.*

Rare; have only seen a few pairs. Shot male and snared female off nest containing three fresh eggs on the 17th April, 1882.

234.—*Cinnyris asiatica*, *Lath.*

Very common all over the district.

255.—*Upupa ceylonensis*, *Reich.*

Common in the plains, getting scarce as you get into the hills. Breeding in April.

257.—*Lanius erythronotus*, *Vig.*

Plentiful all over the district. Breeding in May; eggs taken on the 7th.

265.—Tephrodornis pondicerianus, Gm.

Fairly common. Eggs taken on the 1st of April.

272.—Pericrocotus flammeus, Forst.

Plentiful all over the district.

278.—Buchanga atra, Herm.

Very abundant everywhere. Eggs taken on the 15th of March and 19th April, 1883. The latter hard set.

280.—Buchanga longicaudata, Hay.

Plentiful in the well-wooded portions of the district.

287.—Artamus fuscus, Vieill.

Common, but very locally distributed. Breeding in April.

288.—Muscipeta paradisi, Lin.

Fairly common all over the district. Breeding in July.

290.—Muscipeta affinis, Hay.

Rare; I shot one of a pair that I saw in April, 1882. I never came across them again.

295.—Culicicapa ceylonensis, Swains.

Rare; I don't fancy this species remains up here during the rains, for I have only seen it during the cold weather months, in dense undergrowth.

345.—Pitta brachyura, Lin.

Fairly distributed all over the district; frequenting thick scrub.

359.—Merula nigropileus, Lafr.

Common all over the district. Eggs taken on the 25th of May.

360.—Merula simillima, Jerd.

Occasionally seen on the hills.

385.—Pyctoris sinensis, Gm.

Common throughout the district.

433.—Malacocercus griseus, Lath.

Very abundant throughout the district; in parties of six to

twelve. I have taken eggs in March, August and November. Captain Marshall in his "Birds Nesting in India" does not mention that they breed in these months.

434.—*Malacocercus malabaricus*, Jerd.

Not so plentiful as the last species. Eggs taken in July. Here again Captain Marshall does not give July as one of their breeding months.

445.—*Hypsipetes ganesa*, Sykes.

I have met with them in the higher ranges at an elevation of 5,000 feet, and procured nest with three fresh eggs on the 7th April, 1882.

460bis.—*Otocompsa fuscicaudata*, Gould.

Most abundant in the wooded district. Common everywhere. Eggs taken March and April. On the 5th of July 1883, I procured a nest with three pure white eggs of this species. I found it in a coffee bush the day before leaving, so snared parent bird to make sure it was *O. fuscicaudata*, or otherwise should have left a couple of the eggs to see if young would turn out true to parents.

This is another occasion in which Captain Marshall omits July as breeding month.

462.—*Molpastes hæmorrhous*, Gm.

Most abundant throughout district. The commonest bird we have. Breeding in April and May.

463.—*Phyllornis jerdoni*, Bly.

Common in the hilly-wooded parts of the district; not met with in the plains.

469.—*Irena puella*, Lath.

Rare; only two pairs seen in the district. Male of first pair shot a couple of years ago by a friend; and last year I shot the female of the second pair. On both occasions seen in the same patch of jungle.

470.—*Oriolus kundoo*, Sykes.

Abundant in the plains. Rare in the higher portions of the district. Breeding in June and July.

475.—*Copsychus saularis*, Lin.

Very abundant everywhere Breeding in April and May.

480.—*Thamnobia fulvicata*, *Lin.*

Plentiful everywhere. Breeding in April and May in the vicinity of villages.

481.—*Pratincola caprata*, *Lin.*

Very abundant everywhere. Like the last species, breeds in April and May.

534.—*Prinia socialis*, *Sykes.*

Rare; I only saw it on one occasion, and that was when I snared a female from off a nest containing two eggs on the 3rd May, 1882.

543 —*Drymœca inornata*, *Sykes.*

Fairly common throughout the district. Eggs taken on the 15th July, 1882.

589.—*Motacilla maderaspatensis*, *Gm.*

I have not met with this species in the hill tracts, but it is plentiful in the plains.

591^{bis}.—*Motacilla dukhunensis*, *Sykes.*

Same as last species.

595.—*Limonidromus indicus*, *Gm.*

Plentiful everywhere during the cold weather months.

648.—*Machlolophus aplonotus*, *Bly.*

Not uncommon anywhere.

660.—*Corvus macrorhynchus*, *Wagl.*

Very common throughout district. Eggs taken in July, 1883.

663.—*Corvus splendens*, *Vieill.*

Also very common indeed. Breeding June and July. In both these cases I seem to have found them laying during a month that is not recorded.

674.—*Dendrocitta rufa*, *Scop.*

Common. I did not notice any before the rains commenced, and then they were to be seen in numbers everywhere. I left before they did, so can't say when they leave the hills.

678.—Dendrocitta leucogastra, Gould.

Rare. The only specimen that I procured was one shot by a friend and sent to me.

684.—Acridotheres tristis, Lin.

Very abundant everywhere. The specimen I shot for my collection had a fully formed egg within; only the shell was soft, and I suppose when handling the bird I must have bruised the egg in some way, for the following morning, when I skinned the bird, I found the egg twisted into a most curious shape.

686.—Acridotheres fuscus, Wagl.

Very common everywhere. Breeding in April and May.

687.—Sturnia pagodarum, Gm.

Plentiful, not so common as the former species. Breeding in April and May.

688.—Sturnia malabarica, Gm.

Plentiful; especially so in the hill tracts.

689.—Sturnia blythi, Jerd.

Rare in the plains. None at all in the higher elevations.

690.—Pastor roseus, Lin.

Plentiful in the plains, feeding in flocks, sometimes hundreds together. Very rare in the hill tracts.

692.—Eulabes religiosa, Lin.

Common up in the wooded portions of the district. Breeding in April and May.

694.—Ploceus philippinus, Lin.

In November, 1882, a flock visited us and commenced to build on bamboo clumps overhanging paddy land and swamps. In a very short time there were some twenty half-completed nests. They went no further than that, and in February following they left, without a single pair laying, so I was disappointed and did not get any eggs.

697.—Amadina malacca, Lin.

Plentiful everywhere. To be seen in batches of 10 to 50 in number.

699.—*Amadina punctulata*, *Lin.*

Not so common as the last species, but to be met with in all parts of the district. Breeding in May.

704.—*Estrela amandava*, *Lin.*

Fairly common all over the district. Breeding in January and February and in July.

706.—*Passer domesticus*, *Lin.*

So common as to need no remark.

755.—*Mirafrā affinis*, *Jerd.*

Very abundant everywhere. Breeding in April.

756.—*Mirafrā erythroptera*, *Jerd.*

Plentiful all over the district. Breeding in April and early part of May.

757.—*Mirafrā cantillans*, *Jerd.*

Not quite so plentiful as last species. Breeding also in May.

760.—*Pyrrhulāda grisea*, *Scop.*

More plentiful in the plains than on the hills. Breeding in April.

765^{bis}.—*Spizalāda malabarica*, *Scop.?* *deva*, *Sykes.*

Very common indeed everywhere in the district. Birds of very short flight, indeed they rise at your feet only to alight again a few yards ahead.

767.—*Alauda gulgula*, *Frankl.?* *australis*, *Brooks.*

Very plentiful everywhere. Breeding in April and May.

773.—*Crocopus chlorigaster*, *Bly.*

Very abundant in the plains. Visiting the hills at the end of the rains; a few occasionally met with during the wet months, *viz.*, in July and August. They leave again in November and December. They were so plentiful when I was encamped out duck-shooting that I shot 46 in one evening, getting 11 and 7 respectively for my first and second barrels.

774.—*Osmotreron bicincta*, *Jerd.*

Not so abundant as the former, but visiting and leaving about the same time.

781.—Carpophaga insignis, Hodgs. ? cuprea, Jerd.

Rare. I only met with this Pigeon when I saw three together, one of which I shot. This was in May. I was assured by the natives that they leave this part of the district as soon as the S. W. monsoon commenced.

788.—Columba intermedia, Strickl.

Very plentiful. Some two miles away from my bungalow there are some high rocks where these Pigeons breed, and during the months of December and January two pairs joined my domestic pigeons and bred in the boxes hanging against the wall.

795.—Turtur suratensis, Gm.

Very common. Eggs taken on the 20th November and 3rd January. Captain Marshall does not mention these months in his "Birds Nesting in India."

796.—Turtur risorius, Lin.

Very plentiful ; eggs taken on the 25th November. This month also not recorded by Captain Marshall.

798.—Chalcophaps indica, Lin.

Common. Eggs taken on the 10th of January, and one young one brought to me on the 15th of February. Here again January and early part of February are not recorded.

803.—Pavo cristatus, Lin.

At one time I am informed they were very plentiful, but now scarce. Nearly every native carries a gun and consequently they are shot all the year round.

813.—Gallus sonnerati, Tem.

Common. In April, 1882, I came across four eggs, which I discovered afterwards by comparison to be eggs of the Grey Jungle Fowl ; they were lying on the edge of a swamp, half embedded in mud ; they must have been there for some length of time for the eggs were stained, the part exposed being of a much lighter shade.

814.—Galloperdix spadiceus, Gm.

Common. Eggs taken in April.

822.—*Ortygornis pondicerianus*, Gm.

Very abundant in the plains round villages, etc. A few met with occasionally on the hills. Eggs taken in May.

826.—*Perdicula asiatica*, Lath.

Common on the hills.

827.—*Perdicula argoonda*, Sykes.

Fairly common everywhere. Eggs taken on the 27th April.

829.—*Coturnix communis*, Bonn.

Abundant in the plains. I have not met with any in the hill tracts.

832.—*Turnix taigoor*, Sykes.

The only one I saw was one I snared off a nest containing seven hard-set eggs, none of which I succeeded in blowing.

855.—*Lobivanellus indicus*, Bodd.

Very common. Eggs taken on the 27th April.

856.—*Lobipluvia malabarica*, Bodd.

Very common. Eggs taken on the 17th May.

871.—*Gallinago cœlestis*, Frenzl.

Very common. There is a village on the outskirts of Manzeerabad, and in Coorg, where the common Snipe, the season before last (1881), were so plentiful that they rose by the dozen. I was not prepared for this, consequently only had a few cartridges with me, but perhaps it was just as well I was not, for I so completely lost my head at seeing them rise in such numbers and on every side of me, that instead of fixing my attention to a single bird, I fired more into the brown of them. It ended in my getting one bird for 13 shots!

872.—*Gallinago gallinula*, Lin.

I bagged a brace last season, 1882, the only ones I saw.

873.—*Rhynchæa capensis*, Lin.

In overlooking a friend's "bag" of 13½ brace I saw 2½ brace of "Painted Snipe."

891.—*Actitis glareola*, *Lin.*

Very common in the plains. An occasional one seen now and again during the cold season on the hills.

892.—*Actitis ochropus*, *Lin.*

As common as the last species in the plains.

893.—*Actitis hypoleucis*, *Lin.*

I have met with them singly along the banks of small streams in the cold weather.

897.—*Totanus calidris*, *Lin.*

Plentiful in the cold weather months.

898.—*Himantopus candidus*, *Bodd.*

Common in parts of the district in the cold season.

903.—*Fulica atra*, *Lin.*

Common in parts of the district.

907.—*Erythra phœnicura*, *Penn.*

Very common. Eggs taken 3rd July.

908.—*Porzana akool*, *Sykes.*

Very common in all parts of the district. Eggs taken 15th July and 7th August.

911.—*Porzana fusca*, *Lin.*

Common. Eggs taken on the 14th July and 11th August.

930.—*Ardeola grayi*, *Sykes.*

Very abundant in all parts of the district.

952.—*Dendrocygna javanica*, *Horsf.*

Very plentiful on the tanks in the plains.

959.—*Anas pœcilorhyncha*, *Forst.*

I have only seen three and they were in a tank, densely covered with tall reeds.

962.—*Dafila acuta*, *Lin.*

Very plentiful on some of the large tanks in the district.

964.—*Querquedula crecca*, *Lin.*

Very plentiful. I saw an immense flock on a tank by the roadside leading to Hassan. I should not like to make a guess as to their number, but might safely put it down as over 500.

965.—*Querquedula ciria*, *Lin.*

I have had an occasional one brought to me for sale. I have not been able to state when the above enumerated Duck and Teal come and go, for I have only been able to make short visits to the plains, my duties keeping me at the hills especially during the winter months.

975.—*Podiceps minor*, *Gm.*

Very common. Breeding in May. On the 23rd May I had three young ones alive brought to me.

[NOTE.—This paper, which only includes some 130 species, is of course far from exhaustive. I know at least fifty species for certain that are omitted, but have no time to refer to my notes and do not like entering them from memory. I believe the number of species occurring in this sub-district to be nearly 250. I have made a good number of alterations in names, changing, for instance, *N. percnopterus* to *N. ginginianus*, *H. daurica* to *H. erythropygia*, *Otocompsa jocosa* to *O. fuscicaudata*, *Thamnobia cambaiensis* to *fulicata*, and so on in cases in which I was sure which species occurred in Manzeerabad, but there are species in regard to which I am not certain which occurs, as in the cases of *Spizalauda deva* and *malabarica*, *Alauda gulgula* and *australis*, *Carpophaga insignis* and *cuprea*, and in such cases I have entered both names together with a note of interrogation.

Although imperfect. I think this paper may be useful, as a first list, for others to work upon.—ED., S. F.]

A few additional Notes on birds on the Pulney Hills.

By * * * (a).

MY notes are very few considering the country I was in and the majority of them are merely, I fear, a repetition of what appeared some time ago in Mr. Fairbank's list.

I did not go to the Pulneys for the purpose of collecting birds, but made one of a party after large game, consequently could not go letting off my gun all over the place whenever

(a) I regret to say that this paper has been lying so long in my portfolio that I have forgotten who sent it to me. No name is attached to it. If the author will communicate his name, it shall be duly acknowledged in the next number.—ED., S. F.

I saw a strange bird, much as I should have liked to do this. I am certain, however, that a very fine collection might be made in those hills. I saw very many birds I could not identify at times when I was unable to shoot them. I fancy, too, that many of the birds now registered as inhabiting these hills will eventually turn out to be nearly allied species, and not what they are now put down as, for example, *P. melanurus*. When I came to copy out my notes I was uncertain what to put down and what to leave out, so I thought it best to put down just what I had in my note book. I was on the hills for about three months, from the middle of March to the middle of June. The places I visited were: Kodikanal, Pulungi, Pittur and Kukal or Kookul with the country lying in between them. Kodikanal and Kukal are marked in Mr. Fairbank's map. The Goondar river rises somewhere near Pumbarray and flows in a northerly direction through the centre of the Pittur valley. Pulungi is on the east side of the Pittur valley underneath the Tinnavurray peak, and Pittur is to the north-west of Pulungi on the other side of the valley just to the south of Ullurrahkurray head. Tinnavurray and Ullurrahkurray are both marked in Mr. Fairbank's map.

I have added only 33 species to Mr. Fairbank's list (and to each of these to facilitate recognition I have prefixed an asterisk), and two of these *Merula kinnisi*, Kel., and *Alauda australis*, Brooks, cannot be said to have been properly identified, but I have little doubt that the Pulneys properly worked would yield at least 250 species, or nearly one hundred more than are embodied in both our lists put together.

LIST OF BIRDS OBSERVED.

2.—*Otogyys calvus*, Scop.

I used to see one, and very often a pair, almost every day in the neighbourhood of the camp at Pulungi.

4.—*Gyps indicus*, Scop.

Saw several at Kukal, collected round the remains of a Sambhur.

6.—*Neophron ginginianus*, Lath.

On the slopes and occasionally on the tops of the hills.

17.—*Cerchneis tinnunculus*, *Lin.*

Fairly common in all the higher elevations; seemed to be particularly fond of taking up its position on the tops of the poles that have been placed as marks on the top of many of the hills by the Survey Department.

55.—*Haliastur indus*, *Bodd.*

There were a pair at Kodikanal, generally hawking about over the lake.

56.—*Milvus govinda*, *Sykes.*

Rather scarce on the tops of the hills; never saw more than one, or two pairs at the most, in the same place.

61.—*Strix candida*, *Tick.

I flushed an Owl in the long grass on the side of a hill at Pulungi, which I think, there is no doubt, belonged to this species.

72.—*Ketupa ceylonensis*, *Gm.*

I used to hear a dismal kind of moaning every evening in the big shola at Kodikanal, but could never discover the bird that made it. I fancy this must be the noise referred to by Mr. Fairbank, and which he put down to this bird.

83.—*Hirundo javanica*, *Sparrrm.*

A fairly common bird, usually in the neighbourhood of water.

85.—*Hirundo erythropgia*, *Sykes.

Saw them in April at Pulungi.

91.—*Ptyonoprogne rupestris*, *Scop.

I saw a number of the above flying about some high cliffs near Pittur. They had much the appearance of *concolor*, but were lighter colored on the back and some whitish color on the throat. They kept on flying in and out from under a ledge on the face of the cliff, screaming and chattering at the time; but as the ledge was below me, could not see whether they had their nests there or not.

98.—*Cypsellus melba*, *Lin.

There were a large number on one of the cliffs near Pittur.

I think they had nests, but the place they frequented was too inaccessible to make certain.

100.—Cypsellus affinis, J. E. Gray.

These birds were not uncommon at Pittur and Kukal, but I did not see them anywhere else.

***103 —Collocalia unicolor, Jerd.**

I saw them in large numbers in March flying about over the lake at Kodikanal and got a couple, a male and female. I found them breeding in a cave near the pillar rocks in June, but could not get at any of the nests.

104.—Dendrochelidon coronata, Tick.

I found this bird pretty common on the slopes and at Pulungi, where I obtained a male and a female. I found a nest in the Pittur valley on the 7th April. My attention was first directed to it by seeing the male sitting on what appeared to be simply a small branch; but on looking at it with my glasses could just make out the nest. It did not look any larger than a five-shilling piece. The bird was sitting across it at right angles to the branch, which helped to hide it. I got it down with much difficulty by cutting the branch. It contained one egg of a glossless white, an elongated oval, the same at both ends and not at all like a Swift's egg. It was much incubated. The nest was of a few bits of bark and feathers gummed on to the branch, and a sort of gum from the tree itself had been used. There were several more birds about in some high trees, but I could see no more nests.

***108.—Caprimulgus kelaarti, Bly.**

A common bird, especially at Pulungi and Pittur. At the latter place they were a perfect nuisance, several collecting round the camp every evening directly it got dusk, and keeping up their monotonous cry more or less till the morning. Two eggs of a *very* pale salmon color, spotted all over, were taken off a bare slab of rock below Pulungi, which I think must have been this bird's, as I never saw any other species there, but of course it is impossible to tell.

117.—Merops viridis, Lin.

119.—Merops swinhoii, Hume.

Saw several of these birds in the Pittur valley.

123.—*Coracias indica*, *Lin.*

I met with this bird on one or two occasions in the Pittur valley.

129.—*Halcyon smyrnensis*, *Lin.*

One seen near the Goondar stream in the Pittur valley.

134.—*Alcedo bengalensis*, *Gm.

Saw a pair near the same place as the last.

140.—*Dichoceros cavatus*, *Shaw.

Met with one in the Pittur valley.

148.—*Palæornis torquatus*, *Bodd.*

On the slopes below Pulungi and in the Pittur valley.

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

A common bird at Pulungi. I used constantly to see it there feeding on the peaches.

151.—*Palæornis columboides*, *Vig.*

On the slopes below Pulungi.

153.—*Loriculus vernalis*, *Sparrm.*

Saw several in the Pittur valley feeding on the fruit of the banyan (*F. indica*) in company with some Paroquets and Bulbuls.

166bis.—*Chrysocolaptes strictus*, *Horsf.*

Pittur valley, but does not seem to be common there.

171.—*Gecinus striolatus*, *Bly.*

I met with this bird two or three times at Pulungi, and very frequently at Pittur. I cut out a hole at the latter place the beginning of May, but there were no eggs.

194.—*Megalæma viridis*, *Bodd.*

Fairly common at Pittur; found a new nest the beginning of May, but no eggs.

217.—*Centrococcyx rufipennis*, *Ill.*

Saw it rarely at Pittur; more common in the valley below.

234.—Cinnyris asiatica, Lath.

Pittur valley, but I should think rare there.

239.—Dicæum concolor, Jerd.

Kodikanal. Frequents the black Acacia trees largely.

253.—Dendrophila frontalis, Horsf.

A common bird near the large sholas; frequently saw small flocks of four or five.

255.—Upupa ceylonensis, Reich.

Saw it everywhere in small numbers.

257bis.—Lanius caniceps, Bly.

A most common bird, to be found everywhere, and breeding freely. I obtained about forty eggs. I found but little variation in the nests, but the eggs, though always much the same as to shape and color, differed a good deal in size and marking. Some I have are so much larger than others that were I to put the two extremes together without the intervening sizes one could hardly believe them to belong to the same species; some are marked only at the top, others all over, and one has all its spots nearly all at the small end.

267.—Hemipus picatus, Sykes.

Pittur valley. I had a nest brought me, which, from the description of the bird, must, I think, have belonged to this species. Nest, rather a shallow cup, placed in a thorny tree about ten feet from the ground, neatly made of grass and moss, lined with fine grass and a few feathers, covered a great deal on the outside with dusky-colored cobwebs 2·5 inches across and 1·5 inch deep inside and 3·25 inches to 3·5 inches across and 2·25 inches deep outside; contained five very much incubated eggs. Shape and marking exactly like *L. caniceps*, having a well defined zone round the larger end; size about the same or rather smaller than *P. bicolor*.

270.—Graucalus macii, Less.

Pittur valley. A rare bird.

272.—Pericrocotus flammeus.

Not uncommon in the Pittur valley and on the slopes below Pittur.

276.—Pericrocotus peregrinus, Lin.

Same as the last, but I found it a much rarer bird.

278.—Buchanga atra, Herm.**281.—Buchanga cœrulescens, Lin.**

Common on the slopes and in the Pittur valley.

288.—Muscipeta paradisi, Lin.

Pulungi. Only met with it once.

***293.—Leucocerca leucogaster, Cuv.**

Pittur valley. Far from common.

295.—Culicicapa ceylonensis, Sw.

Common in all the sholas.

297.—Alseonax latirostris, Raffl.

Met with one far down the slopes.

300.—Ochromela nigrorufa, Jerd.

Saw it several times in the sholas round Kodikanal; obtained one specimen.

302.—Stoporala albicaudata.

Kodikanal, Pulungi and Kukal; got a nest at Kodikanal in June with two hard-set eggs.

306.—Cyornis tickelli.

I found this bird in the Pittur valley, and obtained a nest of dry fine grass far down the slopes in a hole in a bank the middle of June.

339bis.—Callene albiventris.

Met with it a few times in the big shola at Kodikanal and got two nests, each with two fresh eggs: the first on the 7th June in a hole in a tree between four and five feet from the ground, a deep cup of green moss; the other, in a hole in the bank of a path running through the shola, was of green moss and a few fine fern roots. Inside 1.75 inch deep and 2.50 inches across; outside a shapeless mass of moss filling up the hole it was built in. The nest was very conspicuous to any one passing by.

342.—*Myiophoneus horsfieldi*, Vig.

To be found in most of the sholas with streams running through them.

***357.—*Turdulus wardi*, Jerd.**

I obtained a female on March 1st and a male on the 3rd at Pulungi, from thick sholas, about a mile apart.

***359.—*Merula nigropilea*, Lafr.**

I found this bird at Pulungi, Pittur and Kukal. At the latter place it was quite common. I am sure it was breeding at the time I was there, May, but I was unable to find a nest, and owing to the sholas there being so full of leeches I could get no help from the villagers.

360.—*Merula simillima*, Jerd.

Very common everywhere in the sholas on the top. They commence breeding in the middle of March, and were still breeding when I left in the middle of June.

360bis.—*Merula kinnisi*? Kel.

I shot a female at Kukal from the nest, on May 18th. Length, 9 inches; expanse, 12 inches; tail, 3.5 inches. The nest which was placed in the fork of a tree about fifteen feet from the ground was just like that of *M. simillima*, the body of mud lined with fine grass and outside with some coarse grass and roots wound round it, and covered all over with green moss, a strongly built, rather shallow cup, 3.5 inches across and 2 inches deep inside, 5 inches across and 4 inches deep outside. Contained one very slightly incubated egg, just like *M. simillima*.

On the 3rd June I obtained another nest with the male bird at Kodikanal with two fresh eggs.

***373.—*Oreocincla nilghiriensis*, Bly.**

A female bird, which is either of this species or of a representative local race, was shot from the nest at Kodikanal, June 7th; nest made entirely of green moss lined with fine roots of grass, and fern roots mixed up in the foundation, placed in the fork of a tree about fifteen feet from the ground. A large shallow cup compactly put together 3.75 inches across and 1.75 inches deep inside, 6 inches across and 3 inches deep outside.

404.—*Pomatorhinus horsfieldi*, Jerd.

I got a nest of this bird at Pulungi on March 30th with three very hard set, and one fresh egg in a shola on the ground under

a tussock of grass, made of leaves, fern and soft roots, very loosely put together, which soon fell all to pieces. I foolishly did not shoot the bird, as I thought I had identified it all right, but I am doubtful if it may not have belonged to the next species. This nest, however, was like the ordinary *P. horsfieldi*, and the other differed a good deal.

***404bis.—*Pomatorhinus melanurus*, Bly.**

I shot a female, which I thus identify, from the nest on April 4th. The nest was placed in a coffee bush about three feet from the ground, and was made of coarse grass and reeds with a few leaves in the foundation. In shape it was a sort of rough, flat platform with the reeds brought up the sides and arched over the top, leaving a large hole at the side with the platform extending beyond it forming a ledge outside the entrance. It contained three incubated eggs which were in a very dirty state, having the appearance of eggs that have been on the ground in heavy rain. I unfortunately only kept one egg as I at first took them for *P. horsfieldi*.

423bis.—*Trochalopterum fairbanki*, Blanf.

Very common in the sholas at high elevations. The nests were hard to find, and I was disappointed in only being able to get a few of them. I got one on May 20th with two fresh eggs placed in the fork of a tree about six feet from the ground at Kukal. Another on the 30th at Kodikanal, also with two fresh eggs, in the fork of a tree about ten feet from the ground, a well-made cup inside with the outside somewhat straggling, of coarse grass and moss, lined with fine grass 2" deep and 3" across inside, 3.5" deep and 5.5" across outside. On the 6th June I found a nest with one very hard set egg, and on the 8th one with two young birds about a week old.

434.—*Malacocercus malabaricus*, Jerd.

Rather rare at Pulungi, but very common lower down on the slopes and in the Pittur valley. I got a nest on April 5th at Pulungi, with three incubated eggs, and on the 6th one with two incubated eggs in the Pittur valley. This last was built in a hollow in the top of a stump of a tree that had been broken off some ten feet from the ground. I afterwards obtained two nests in the same valley with three and four fresh eggs.

***436.—*Argya malcolmi*, Sykes.**

I met with this bird on one occasion far down the slopes in the direction of the village of Pulney.

446.—*Hypsipetes ganesa*, Sykes.

I saw this bird on two or three occasions at Pulungi, but did not meet with it anywhere else.

460bis.—*Otocompsa fuscicaudata*, Gould.

A most common bird, found everywhere where there are bushes. In the small bushes along the banks of the streams is a very favorite place. I found several nests with usually two, but sometimes three, eggs.

462.—*Molpastes hæmorrhous*, Gm.

On the top of the hills this is a rare bird compared with the last, but gets more common lower down the slopes.

473.—*Oriolus ceylonensis*, Bp.

Rather a common bird in the Pittur valley. I once saw as many as four in one tree.

475.—*Copsychus saularis*, Lin.

I only saw this bird far down the slopes. I do not think it ascends to any height.

482.—*Pratincola bicolor*, Sykes.

One of the most common birds on the hills. Wherever there was a suitable bank or heap of stones there was sure to be a pair of them; the cock bird perched on the very top of a bush or tall tuft of grass doing his utmost to call your attention to the fact that his nest was close by. I found several nests, usually with three or four eggs.

***516.—*Acrocephalus dumetorum*, Bly.**

I shot a male at Pittur on 26th June. I afterwards shot one of a pair at Kukal, but lost it in the long grass.

534.—*Prinia socialis*, Sykes.

Not uncommon on the slopes in the long grass near Pulungi and Pittur.

540.—*Cisticola erythrocephala*, Jerd.

I found this bird very common at Kukal and near Kodikanal, and think it must be so all over the hills. It is a bird that might easily be overlooked though, as it only frequents certain places, viz., in the small valley heads or sheltered

places where the grass and fern are very long. You might go close to one of these places where there were several birds without seeing one, as till disturbed they are very quiet and are generally underneath the fern, but when once they are aroused they perch themselves on the topmost spray of grass and give forth that plaintive sort of whistle in a most persistent manner. They are shy little birds and rather hard to get near, and will take wonderfully long flights for so small a bird. One thing I noticed about their note was that at first it was almost impossible to tell which direction it came from, and sometimes one would eventually discover that it was in the air, high up above one's head. I could only get a few specimens. I found an ordinary gun knocked them about too much, and it was not easy to get sufficiently close to kill them with a .450 gun, which I generally use for small birds. Then again I was very unlucky in losing several that I had shot in the long fern; in fact, I think, I lost more than half the number I shot in that way. I cannot tell whether there are two varieties of this bird or not. At first I thought they were male and female till I shot a male with the brown instead of the rufous head. The former too is a larger bird.

543bis.—*Drymœca fusca* ? *Hodgs.

I am not quite certain whether this bird is *fusca* or not. I suppose it is impossible to tell without others to compare with it. I found it common everywhere where there was long grass or fern.

561.—*Phylloscopus affinis* ? *Tick.

Rather a common bird at Pulungi. Always saw several together.

589.—*Motacilla maderaspatana*, *Gm.

Saw one in the end of May by the side of a stream at Pumbarrah.

592.—*Calobates melanope*, *Pall.

Common round the lake at Kodikanal and small streams till the beginning of May.

596.—*Anthus maculatus*, *Hodgs.

Saw this bird frequently in March at Kodikanal, feeding with *C. rufula*.

598.—*Anthus montanus*, *Jerd.*

Very common on the tops of all the hills, was breeding

everywhere, but nests hard to find; obtained one at Pittur, May 5th, with three eggs.

600.—Corydalla rufula, Vieill.

A common bird, but not quite so common as the last. I got a nest at Pittur beginning of May with three eggs.

631.—Zosterops palpebrosa, Tem.

Found everywhere. I found a nest at Kukal with young birds the end of May.

***645.—Parus nipalensis, Hodgs.**

I found this bird in the Pittur valley.

648.—Machlolophus aplonotus, Bly.

Pulungi and Kukal, generally in small parties of two or three flitting from tree to tree along the banks of a stream.

***686.—Acridotheres fuscus.**

I am doubtful whether this bird should stand as *fuscus* or *mahrattensis*.* Common round most of the villages. I obtained two or three nests in April from holes in trees.

692.—Eulabes religiosa, Lin.

Plentiful in the Pittur valley. I tried hard to obtain a nest but was unsuccessful.

***697.—Amadina malacca, Lin.**

Fairly common. I found a new nest at Pittur in April, but got no eggs.

***700.—Amadina pectoralis, Jerd.**

Shot one of a pair at Kodikanal in March.

***701.—Amadina striata, Lin.**

Shot one out of a flock of eight or ten in the Pittur valley.

***704.—Estrela amandava, Lin.**

Shot two or three out of a large flock at Pulungi in April.

***767.—Alauda gulgula, Frankl.**

Common on the tops of bare rocky hills. Got a nest at Pulungi and another at Pittur in April.

* I should say unquestionably the latter —ED., S. F.

***768.—*Alauda australis*, Brooks.**

Watched what I think must have been this bird for some time with my glasses on the top of a hill near Kukal. Had no gun with me so could not shoot it.

773.—*Crocopus chlorigaster*, Bly.

Took a nest with one fresh egg on the 7th April in the Pittur valley. Did not meet with the bird higher up.

786.—*Palumbus elphinstonii*, Sykes.

Common in most of the big sholas. Obtained a nest with one egg at Kukal on the 17th May.

788.—*Columba intermedia*, Strickl.

A large colony on the cliffs near Pittur.

794.—*Turtur senegalensis*, Lin.

Slopes below Pulungi, and the Pittur valley. Not common.

795.—*Turtur suratensis*, Gm.

A very common bird everywhere, especially near villages. Got a nest with two eggs at Pittur the end of April.

796.—*Turtur risorius*, Lin.

Pittur valley; not common.

790.—*Chalcophaps indica*, Lin.

Got one specimen at Pulungi.

813.—*Gallus sonnerati*, Tem.

A few in the large sholas, but more common in the thick scrub jungle on the lower slopes and valleys.

814.—*Galloperdix spadiceus*, Gm.

Common at Pittur; shot several there; found a nest which had just hatched out, and saw the old birds and the chicks. One egg was left in it which I kept.

828.—*Microperdix erythrorhynchus*, Sykes.

Fairly common in places, but never enough to make a decent bag.

***834.—*Turnix joudera*, Hodgs.**

One shot at Pulungi. I meant to have kept it, but through some mistake it found its way into the cooking pot.

841.—Gallinago cœlestis, Frenzl.

There were a few fantails to be picked up here and there in the swamps, but never more than one or two couple in the same place. They were always very fine birds. Four shot on the 3rd April weighed twenty ounces. The last one I saw was on May 4th.

***853.—Lobivanellus indicus, Bodd.**

Heard this bird calling overhead at night at Pittur, but never saw it.

***892.—Totanus ochropus, Lin.**

One shot May 4th with the snipe in the Pittur valley.

913.—Hypotænidia striata, Lin.

Got a female on the 4th April at Pulungi, when looking for snipe.

975.—Podiceps minor, Gm.

Several in the lake at Kodikanal.

(Ex "Ibis.")

On *Falco babylonicus* and *Falco barbarus*.

By JOHN HENRY GURNEY.

IN "The Ibis" for 1882, p. 439, I wrote respecting *Falco babylonicus* that it seemed chiefly to differ from *F. barbarus* by its larger dimensions, and I added that, at that time, I believed I had never seen an adult male of *F. babylonicus*. Since then the British Museum has acquired—partly through the liberality of Mr. Hume and partly through that of other donors—a very fine series of *Falco babylonicus*, which I have recently had an opportunity of examining, arriving, as the result, at the conclusion that, whilst the females of *F. babylonicus* are decidedly larger than those of *F. barbarus*, the males of *F. babylonicus* differ but little, either in size or colour, from *F. barbarus*, in which latter species the proportionate distinction of size between the sexes is less than in *F. babylonicus*. I observe, however, that the adult males of *F. babylonicus*, when compared with the few African adults

which I have examined of *F. barbarus*, exhibit, in most instances, a somewhat paler grey on the lower part of the back, upper tail-coverts, and basal portion of the tail; that most of them have a larger extent, and sometimes a brighter tint, of rufous on the nape and sides of the neck, and also more decidedly rufous foreheads.

Generally speaking, the adult females of *F. babylonicus* exhibit a slightly darker tint of grey on the upper surface than the males, and some adult females are more rufous on the under surface than any of the males that I have examined. Such a female is well represented in the plate of this Falcon given in Gould's "Birds of Asia." The adult females of this species are also more cross-banded with dark lines on the under tail-coverts than is the case with the adult males.

The less rufous adult females of *F. babylonicus* greatly resemble in coloring the most rufous adult females of *F. punicus*, but the males of these two species resemble each other much less closely than do the females.*

I may here remark that, when *F. babylonicus* first assumes the adult plumage, the interscapular feathers, especially in the males, are edged with a rather dull rufous brown, which disappears as the bird advances in age; also that the transverse bars on the basal portion of the tail, which are usually somewhat strongly marked when the bird first attains the adult dress, gradually become obsolete and disappear more or less completely in the course of subsequent years.

In the P. Z. S. for 1876, pl. xxiii, a figure is given of a male Falcon which was shot in the Etawah district of Northern India by the late Mr. Andrew Anderson, who referred it to *F. babylonicus*, with which identification I concurred; but Mr. Hume, in "Stray Feathers" for 1877, p. 140, expressed his opinion that the bird was too small for *F. babylonicus*, and that it should have been referred to *F. barbarus*. In deference to this opinion, and considering that Mr. Hume had enjoyed superior opportunities to either of ourselves for examining specimens of *F. babylonicus*, we acceded to his view, and expressed our concurrence with it in the P. Z. S., 1878, p. 2; but after examining with some care the series of these Falcons now preserved in the British Museum, I have reverted to my original opinion, and believe that Mr. Anderson's Falcon, now in the Norwich Museum, and several other Indian Falcons which Mr. Hume referred to *F. barbarus* (in which I followed him in "The Ibis," 1882, pp. 311, 312) are, in fact, males of *F. babylonicus*, my present impression

* For a detailed description of several adult males and females of *Falco punicus*, see "The Ibis" for 1882, pp. 313 to 321.

being that the true *F. barbarus* does not extend its range so far eastward as India.

Falco babylonicus, on the contrary, appears to be a regular winter visitor to Northern India, and especially to the north-western portions of that country.

Of the Indian examples of this Falcon that I have examined five are recorded as having been obtained in November, six in December, eight in January, two in February, and two in March, of which last-named specimens one was an immature male, shot by Col. E. A. Butler at Hyderabad, in Sind, on 9th March, 1878, and the other an immature female, obtained at Peshawur on 31st March, 1869. The earliest autumnal example in the series is an adult male shot by Mr. Doig at Ahmedabad, Guzerat, on 5th November, 1885.

The following dates are recorded of specimens of *Falco babylonicus* collected beyond the Indian frontier and now preserved in the British Museum: An adult female killed near Kelat in October, 1876; an adult female obtained by Sir O. St. John at Kandahar, 14th February, 1871; an adult female obtained at Samarcand, 5th March; an adult female purchased by Dr. Scully at Yarkand, 6th March, 1875; an immature male obtained by Dr. Scully at Gulgun Shah, Eastern Turkestan, 27th August, 1875. The last and two young females (one from Kashgar, marked 13th December, 1874, and the other from Yarkand, marked 26th February, 1875) were apparently procured alive by Dr. Scully, probably having been brought up from the nest; and Dr. Scully, referring to these specimens in "Stray Feathers" for 1876, p. 118 (under the name of *F. barbarus*), remarks: "This Falcon is said to inhabit the hills of Kizil-tagh and Kugiar, and to breed there in summer."

The most western Asiatic specimen of *F. babylonicus* that I have seen is the female in change from immature to adult dress, which was procured long ago in Babylonia by Commander Jones, and which suggested the specific name that I subsequently proposed for this Falcon; but it is probable that *Falco babylonicus* is also sometimes found, though very rarely, so far west as North-eastern Africa. The Norwich Museum contains an adult female purchased from M. Parzudaki, of Paris, who asserted that it was obtained in Abyssinia; and I am also now disposed to think that the Nubian Falcon in the British Museum, which I referred (P. Z. S., 1878, p. 2) to *F. barbarus*, is in reality a male in the second year's plumage of *F. babylonicus*. *

* This specimen measures as under: Wing, 11·15 inches; tail, 5·40; tarsus, 1·65; middle toe s. u., 1·80.

With regard to the western range of *F. babylonicus*, I may also refer to the translation by Mr. Dresser in "The Ibis," 1875, pp. 106, 107, of some valuable notes by the late Prof. Severtzoff as to the breeding of this species in Turkestan; but the supposed "young male" from Chimkent there mentioned would seem, by its wing-measurement, either to have been incorrectly sexed, or to be an immature example of some allied species. In the same article Severtzoff records a specimen taken in Persia and two "taken from the nest on an island in the Volga."

The following measurements have been taken by myself from Falcons which I believe to be referable to *F. babylonicus*, and which have been marked as males by the collectors; they are all adult birds, and all preserved in the British Museum at South Kensington, except where I have mentioned the contrary:—

	Wing. in.	Tail. in.	Tarsus. in.	Middle toe, s. et. in.
From Eastern Nara, Sind, collected by Mr. Doig (immature in change)	10.85	5.75	1.75	1.85
From Hyderabad, Sind, collected by Col. Butler	10.95	5.50	1.75	1.80
From Eastern Narra, Sind, collected by Mr. Doig	11.00	5.40	1.70	1.70
From Cutch, collected by Dr. Stoliczka	11.15	5.50	1.70	1.70
From Eastern Narra, Sind, collected by Mr. Doig	11.25	5.25	1.70	1.75
From Hyderabad, Sind, collected by Col. Butler	11.25	5.50	1.70	1.90
From Hyderabad, Sind, collected by Col. Butler (immature in change)	11.25	5.75	1.70	1.80
From Gulgun Shah, Eastern Turkestan, collected by Dr. Scully (immature)	11.25	5.70	1.80	1.80
From Eastern Narra, Sind, collected by Mr. Doig	11.50	5.45	1.75	1.70
From Etawah, collected by Mr. Anderson (Norwich Museum)*	11.50	6.00	1.70	1.90
From Ahmedabad, Guzerat, collected by Mr. Doig, and presented by him to the Norwich Museum	11.50	5.90	1.80	1.90

The subjoined measurements I have taken from specimens in the British Museum, which I believe to be males of *F. babylonicus*, but of which the sex was not recorded by the collectors:—

* As to some discrepancy between Mr. Anderson's measurements of his specimen and my own, see "The Ibis," 1882, p. 311 (note).

	Wing. in.	Tail. in.	Tarsus. in.	Middle toe, s. * in.
From Kurrachi, collected by Col. Butler (immature in change) ...	10·90	5·85	1·80	1·80
From Arung, near Raipur, Central Provinces, collected by Mr. Blewitt (immature in change) ...	11·05	5·70	1·75	1·70
From Delhi, collected by Mr. Hume (immature in change) ...	11·15	5·55	1·70	1·70
From Delhi, collected by Mr. Hume (immature in change) ...	11·20	5·65	1·70	1·75
From Eastern Nara, Sind, collected by Mr. Doig (adult) ...	11·25	5·40	1·70	1·70
From Guzerat, Sind, collected by Mr. Doig (adult) ...	11·35	5·50	1·70	1·70

I must also refer to a specimen which has much perplexed me, and which is contained in the collection presented by Mr. Hume to the British Museum. This Falcon was considered by Mr. Hume to be a female of *F. barbarus*; it was obtained by Mr. F. R. Blewitt in the Nursingpoor district of the Indian Central Provinces on 16th December, 1869, and agrees in coloration with the most fully adult males (as I conceive them to be) of *F. babylonicus*, but is a slightly larger bird.

Elaborate measurements of this specimen, taken from it whilst in the flesh, are quoted by Mr. Hume in "Stray Feathers," Vol. I, p. 21, and from these I extract the following for comparison with others above recorded, *viz.*: Wing, 11·40 inches; tail, 6·40; tarsus, 1·80; middle toe *s. u.*, 1·80. My own measurements, taken from this specimen in the skin, give a slightly different result, *viz.*: Wing, 11·70; tail, 5·60; tarsus, 2; middle toe *s. u.*, 1·90.

Mr. Hume, writing (*loc. cit.*) of this Falcon, and of the male obtained by Dr. Stoliczka in Cutch, of which I have already given my measurements, states that he at first referred both of them to *F. babylonicus*, but subsequently became convinced that they were a male and female of *F. barbarus*, and adds "in both specimens the sexes were ascertained and recorded by, I need not say, careful observers."

Notwithstanding the strong evidence of Mr. Hume's statement, I cannot but suspect that some accidental error may have occurred in determining the sex of the supposed female specimen, and that in reality it is not a female of *F. barbarus*, but an unusually large and very adult male of *F. babylonicus*, and I conceive that some confirmation of this suspicion arises from the circumstance that on the ticket attached to this specimen, presumably by the collector, a blank space was left for the sex, which has been filled with the word "female"

in a different handwriting from the rest of the ticket, and with a different ink, red instead of black.*

The following are measurements which I have taken from specimens of *F. babylonicus* which were marked as females either by the collector or the taxidermist employed; except where otherwise described, the birds are all adult, and all preserved in the British Museum:—

	Wing. in.	Tail. in.	Tarsus. in.	Middle. toe, <i>s. u.</i> in.
Purchased at Kashan by Dr. Scully (immature) ...	Imp.	Imp.	1·70	1·90
Kandahar, collected by Sir O. St. John (immature in change) ...	Imp.	6·75	2·00	2·05
Kashgar, collected by Dr. Scully (immature, wings slightly imperfect) ...	11·80	6·10	1·90	1·95
Himalayas, collected by Dr. Jerdon, in possession of Canon Tristram (immature) ...	12 20	5·65	1 85	1·90
Punjab, collected by Dr. Jerdon, in possession of Major Wardlaw Ramsay (immature) ...	12 30	.....	.....	2·60
East Narra, Sind, collected by Mr. Doig (immature in change) ...	12·35	6·50	1·90	2·10
Kandahar, collected by Sir O. St. John (immature in change) ...	12·40	6·55	1·90	2·00
Peshawar, collected by Mr. Hume (immature in change) ...	12·45	6·80	2·00	2 05
Dado, Sind, collected by Mr. Doig (immature in change) ...	12·50	6 65	1·85	2 10
Babylonia, collected by Commander Jones (immature in change) ...	12·70	6·65	2·00	2·05
India, collected by Col Delme Radcliffe, in possession of Lord Lilford	12·70	6·50	2·00	2 10
Samarcand, presented to Brit. Mus. by Mr. Seebohm ...	12·70	6·30	2·10	1·90
Etawah District, collected by Mr. Brooks ...	12·70	6·50	1·90	2·00
Eastern Narra, Sind, collected by Mr. Doig ...	12·90	6·65	1·80	2·10
Allygurb, N. W. India, collected by Mr. Brooks ...	13·00	6 50	1 90	1·95
Umballa, India, collected by Dr. Scott, in possession of Major Wardlaw Ramsay ...	13·10	.....	2·00	2·05
Yarkand, collected by Dr. Scully ...	13·15	6·80	2·15	2·00
Tempeer, Lower Sind, collected by Mr. Hume ...	13·15	6·90	2·00	2·10
Attock, India, collected by Mr. Hume (immature) ...	13 15	7·30	1·90	2·10
Hyderabad, Sind, collected by Col. Butler (immature in change) ...	13·20	6·80	2·00	2·20

The following are measurements which I have taken from presumed females of *F. babylonicus*, the sex of which has not

* Blewitt habitually thus added in the sex in red ink, with his own hand, after the bird had been skinned and he had himself dissected the body.—A. O. H.

been recorded; these specimens (except where the reverse is mentioned) are all adult and preserved in the British Museum:—

	Wing. in.	Tail. in.	Tarsus. in.	Middle. toe, s. u. in.
Etawah District, collected by Mr. Hume (immature in change) ...	12·20	6·60	2·00	2·10
Khelat, collected by Mr. Hume ...	12 40	6·40	1·90	2 10
Delhi, collected by Mr. Hume (immature) ...	12·60	6·55	2·00	2·00
Umritsar, the Punjab, in the possession of Major Wardlaw Ramsay ...	12 65	.....	2·00	2·10
Oudh, collected by Col. L'Estrange, in the possession of Lord Lilford ...	12·80	6 70	2·00	2 05
Locality unknown, preserved in Norwich Museum ...	12·90	6·50	2·00	2·05
Guzerat, collected by Mr. Doig ...	12·90	6·90	2·10	2·10
Eastern Narra, Sind, collected by Mr. Doig ...	12·95	6·30	1·90	2·10
Oudh, (type specimen) collected by Col. Irby and preserved in Norwich Museum ...	13·20	7·00	1·95	1·95
Said to be from Abyssinia, preserved in Norwich Museum ...	13·30	6·50	2·00	1·95
Punjab, collected by Mr. Hume ...	13·30	7·10	2 10	2·00
Nepal, collected by Mr. Hodgson ...	13·35	7·00	1·90	1·90

I add for comparison the following measurements of adult, or nearly adult, specimens of *Falco barbarus*, the sex of which has been recorded by the collectors.

These measurements have been taken by myself from the specimens in question, which have all been obtained in Northern Africa; but additional carefully sexed African examples of *F. barbarus* are much to be desired, for the sake of supplying a larger series for comparison than exists at present.

Males.

	Wing. in.	Tail. in.	Tarsus. in.	Middle. toe, s. u. in.
Tangier (Favier), in Norwich Museum	10·95	5·55	1·70	1·90
Sakkara, Egypt, in Norwich Museum	11·00	5·50	1·70	1·80
El Kab, Egypt, shot by and in the collection of Capt. Shelley ...	11·20	5·45	1·70	1·80

Females.

Kef, Boudjato, Eastern Atlas (<i>vide</i> 'The Ibis,' 1859, p. 187), in Norwich Museum ...	11·20	5·60	1·60	1 80
Egypt, obtained by Mr. W. C. B. Medlycott, in Norwich Museum ...	11·15	5·60	1·70	1·70

In conclusion, I may mention two adult Falcons from Nepal, which were presented by Mr. Hodgson to the British Museum, and which notwithstanding the very eastern locality where they were obtained, I can only refer to *Falco punicus*. The smaller of these specimens, which I believe to be a male, is

entered at p. 387 of the Museum Catalogue under the head of *Falco barbarus*, and the larger, which is presumably a female, is one of the two specimens entered at p. 389 under the title of *Falco babylonicus*, to which species the other specimen from Nepal, also thus entered, does appear to me really to belong. The following are my measurements of these Falcons:—

			Wing.	Tail.	Tarsus.	Middle toe, s. u.
			in.	in.	in.	in.
Presumed ♂ ...	...	...	11·50	5·80	1·70	1·85
Presumed ♀	...	...	13·30	6·00	1·70	2·04

Our Indian Pelicans.*

MUCH confusion and difference of opinion has prevailed as to the nomenclature and identity of the species of Pelicans which occur in India. This genus is one in which I have long taken a peculiar interest, and which, considering the difficulties which attend the preservation and stowage of such huge birds, is now tolerably well represented (by thirty-one specimens) in my museum.†

Altogether nine or ten species of this genus are at present admitted, of which *P. australis*, Stephen; *P. conspicillatus*, Tem. from Australia; *P. erythrorhynchus*, Latham, from N. America; *P. molinæ*, G. R. Gray of S. America and *P. fuscus*, Lin., from the Gulf of Mexico and California, cannot in any way concern us; there remain five species which occur, or are supposed, or have been asserted to occur, within our limits.

These readily divide themselves into two natural groups. In the former of these the frontal feathers extend forwards in a point to the culmen of the bill. In the second this point is truncated, and the feathers of the forehead terminate more or less squarely in a line at right angles and more or less concave to the base of the culmen. According to Mr. D. G. Elliot, whose monograph of the genus (P. Z. S., 1869, p. 571) is by far the most complete synopsis which has yet appeared, we should include (of birds that may concern us)—

* [NOTE.—This paper, written in 1873, but put aside because I hoped for better materials than I then possessed, is printed now without alterations, because it puts on record facts that may be useful to other enquirers, and my materials, having now been transferred to the British Museum, I shall never now have an opportunity, if I even had the time, to revise it.—A. O. H.]

† I think when my collection was made over to the British Museum that it must have contained nearly one hundred specimens.

Under the first group—

P. onocrotalus, Linn.

P. minor, Rüpp. = *P. mitratus*, Licht.

P. javanicus, Horsf.

And under the second group—

P. crispus, Bruch, a species in regard to which no doubts can exist, and to which I need not therefore refer further.

P. rufescens, Gmel. = *P. philippensis*, Gmel., Briss., &c.

Professor Schlegel unites all the three former species under *onocrotalus*.

The following are the more important of Mr. Elliott's remarks in regard to these several species:—

“*Pelecanus onocrotalus*, Lin.

“Occiput with a rather elongated crest during the breeding season; bare space around the eye diamond-shape behind and reaching to the base of the upper mandible; gular pouch extending for about six inches down the throat; feathers of the head form a distinct point upon the forehead; upper mandible reddish at the base, becoming yellowish at the tip, with a line of crimson along the culmen; under mandible pale red; pouch and bare space about the eye flesh colour; primaries and spurious wing black; occipital crest* and the elongated feathers at the lower part of the neck in front light yellow; rest of plumage white, tinged with rose-colour; tarsi flesh-colour; tail of eighteen feathers. Length, about 5 feet; wing, 26 inches; tarsus, 4½ inches; upper mandible, 16 inches.

“*Habitat*.—Europe and northern part of Africa. Common in Hungary, Crimea, Egypt, and Ionian Islands. Accidental in France and Algeria. In West Africa, at Senegambia, and Mozambique,† also in Abyssinia.

“The young during the first year are uniform greyish brown, the lanceolate feathers of the breast being entirely wanting. The perfect plumage is not acquired for some years; and the depth of the rosy tint is increased in the breeding season.

* * * * *

“Very great confusion exists in the synonymy of this species, the difficulty in the majority of instances arising from the uncertainty as to whether there are two species, one with a lengthened occipital pendent crest, which would appear to be a smaller bird, and the other without any crest properly

* This is I fancy a mistake—probably a misprint. I cannot learn that any of this group of Pelicans has a light yellow crest.

† Ornithologie Westafrikas, p. 259. (*Hartl.*)

so called, the feathers of the occiput merely curling slightly upward.

“During the breeding-season, however, the present bird, the true *P. onocrotalus* of Lin., has a somewhat lengthened occipital crest, and at such times in this respect it does not differ materially from its smaller ally, this crest at other periods of the year being inconspicuous. But there is a slight difference in the width and extent of the line made by the feathers, which come down upon the forehead. In the present species it ends abruptly, with little lessening of the width, while in the smaller bird it is long and narrow, ending in almost a sharp point.”

“*Pelecanus minor*, Rüpp.

“Occipital crest long and pendent, formed of narrow feathers; frontal feathers fully as prolonged as in *P. onocrotalus*, forming a narrow line; general color pure white; occipital crest and patch on the breast yellowish; spurions wing and primaries black; the gular pouch and bare space about the eye is almost precisely similar in shape to that of the preceding species, extending about the same distance down the throat; the bill is yellowish; nail red; orbits and pouch flesh color; irides reddish. Length, about 55 inches; wing from carpal joint, 24 inches; tail, 7 inches; bill, 12 inches; tarsus, 5 inches.

“*Hab.*—Sicily and Greece, Egypt, Abyssinia, west coast of Africa and India.

“I have given to this bird, if it really must be considered distinct from the common species. Rüppell’s name of *minor*, as his diagnosis appear to agree very accurately with specimens of *mitratus* before me, and his name antedates that of Lichtenstein. As I have already stated in my article on *P. onocrotalus* the only difference between them is the smaller size, occipital crest, and rather narrower point of the frontal feathers of the present bird.”

“*Pelecanus javanicus*, Horsf.

* * * * *

“It is distinguished from *P. onocrotalus*, according to its describer, by having the margins of the tertiaries black, and by never having any pendent occipital feathers; instead it has a few recurved feathers upon the nape. According to Blyth, as quoted from “The Ibis,” the forehead is never tumid, the bare skin of the cheeks is deep purplish or livid carneous, and the pouch intense bright yellow.

“Length, as given by Blyth, 5 feet 6 inches; alar extent, 8 feet 10 inches; wing from carpal joint, 26 inches; tail, 8 inches; bill

along culmen, 14.5 inches; tarsus, 5.5 inches; another had the bill 15.5 inches; wing, 27 inches; in a third the bill was 16 inches in length."

"Pelecanus rufescens, Gmel.

"*Adult.*—Head with a long, full pendent crest, some of the feathers five inches in length; feathers of the neck and head short, soft, rather furry to the touch; those of the body and wing-coverts long, and narrow lanceolate in form; feathers of the forehead coming down to the bill, forming a concave line upon the culmen; gular sac, starting from the base of the lower mandible, descending in a gently curved line for about six inches upon the neck; bare skin around the eye contracted, of small dimensions, extending no distance behind the eye, reaching to the base of the upper mandible in front; head and neck soiled white; crest dark grey, tinged with rose, each feather tipped with white; back and upper tail-coverts deep rich rose color; feathers on the crop stiffened yellowish; wings yellowish white; secondaries silver grey; primaries black with black shafts, white at the base, with the shafts brownish at the tips; tail silver-grey; shafts of greater and lesser coverts, secondaries and tail feathers black; bill yellowish, without any spots on the upper mandible; bare ocular space flesh-color, with a black conspicuous spot near the upper mandible; gular pouch yellowish, streaked with reddish lines; tarsi flesh-colored. Length about 60 inches; wings from carpal joint to end of primaries, 20 to 24 inches; tail, 8 inches; bill along culmen, 15 inches; tarsus, 3 $\frac{3}{4}$ inches; middle toe, 4 $\frac{1}{4}$ inches.

"A second specimen is somewhat younger, probably assuming for the first time the adult livery, and not in as perfect plumage as the first. It is devoid of crest; the feathers of the head and neck are short, brown, tipped with white, giving to this part a mottled appearance. The remainder of the plumage is dark grey, centre of the feathers brown, secondaries tipped with light brown; there is more of the rose colour however present; this hue extending somewhat upon the flanks and also covering the vent and entire tail-coverts. The measurements are: Wing, 24 inches; tail, 8 inches; bill along culmen, 13 $\frac{1}{2}$ inches; tarsus, 3 $\frac{3}{4}$ inches; middle toe, 4 inches.

"A third specimen, still younger, has the head and neck covered with a whitish down, a few short feathers standing out from the occiput; the feathers of the body rounded, none of the lanceolate shape (so conspicuous a feature in the adult) yet present; upper parts and wings light brown, each feather with a broad margin of white; secondaries dark brown in the

centre, fading out gradually to a brownish-grey on the edges; primaries brownish black; back and upper tail-coverts pure white, with none of the roseate tinge so prevalent in the more matured individuals; tail silvery white; shafts of the feathers of the tertials, secondaries, primaries, and tail black, white at their bases; bill clear yellow; the upper mandible with two rows of impressed black spots; bare skin round the eye yellow (entire underparts pure white, the feathers soft and downy), the colors present in life having all disappeared. Wing from carpal joint, 22 inches; tail, 8 inches; bill along culmen, $12\frac{1}{4}$ inches; tarsus, $3\frac{3}{4}$ inches; middle toe, 4 inches.

“*Habitat.*—Nubia, Abyssinia, Senegal, Madagascar, India, Cochin-China, Malacca, Philippines, Java, &c.

“The synonymy of this species appears to be in a sad state of confusion, arising chiefly from the doubts existing whether this bird, and *P. philippensis*, are distinct—a circumstance which may indeed be very seriously questioned, as the differences that are claimed as sufficient to separate them are very slight, and may only be the result of age * * *

“The *Pelecanus cristatus* of Lesson appears to be a bird of this species. The long lanceolate feathers of the crest and back delicately tinted with yellowish, together with the square shape of the frontal feathers, would seem to point out the present bird. The pure white of the plumage (“plumage *blanc pur*”) cannot be taken as referring to the entire bird, as further on the description says: “Plumes du con et du dos minces, effilees, *legerement soufrees*,” which is observed also in specimens of *rufescens*. The absence of all mention of rose color on the back arises probably from the fact of Lesson’s specimen not being in the dress of the fully matured bird, which we may suppose alone possess this beautiful hue. * * *

“The *P. philippensis* of Jerdon is undoubtedly the immature bird of *P. rufescens*; and the young, as described by him, is a bird of this species in its first stage of plumage. * * * A specimen of this bird in the British Museum, from Nepal, Hodgson’s collection, is very interesting, as it is just changing to the adult plumage, and exhibits very distinctly the reddish color of the back and rump, while still retaining the black marks on the upper mandible, thus combining the characteristics of *rufescens* and *philippensis*, and showing that the latter supposed species is but the young of the former.

“It is very difficult to decide what species Jerdon intends by his *P. javanicus*, as he seems to confound three in one, *viz.*, *P. javanicus*, *P. minor*, and *P. rufescens*. He describes his bird as having broad black margins on each side of the tertiaries, which is truly a character of *javanicus*; but then

he speaks of an occipital crest, and golden yellow breast, which, with the dimensions given, would seem to refer his specimen to *minor*; while at the conclusion of the article, he says, "forehead with the frontal plumes not narrowed in front, but truncated, and emarginate; bill with a double series of impressed dark spots." Now the form of the frontal feathers here described renders it impossible that the bird he had in view could belong to any species of the *onocrotalus* style, and therefore both *javanicus* and *minor* are excluded from all further consideration; while the truncate and emarginate frontal plumes, with dark spots upon the bill, are characteristics of young *rufescens*; therefore I have referred Jerdon's birds to the present species."

Now before going further it is necessary to point out that Dr. Jerdon never meant the words "forehead with frontal plumes, &c." to refer to *javanicus*, at the end of the notice of which they appear, but to the next bird, immediately following these words, *viz.*, *P. philippensis*. This is his invariable habit, and the subsequent short sentence "can Rüppell's bird be the female of *P. mitratus*," a mere afterthought, in no way interferes with the arrangement. This is quite certain. Jerdon only describes four species of Pelicans, and on page 854 he distinctly says that "the first three, *viz.*, *onocrotalus*, *mitratus* and *javanicus* all belong to the frontal point-feathered section. This difficulty, therefore, which seems so insuperable to Mr. Elliott, is one of his own creation, and not, as he fancies, a blunder of poor Jerdon's, whose description of his *javanicus* is, as I shall show presently, an accurate picture of one stage of our Pelicans.

Before proceeding to speak in detail of the species which, in my opinion, we actually have, I may remark that Dr. Sclater, P. Z. S., 1868, p. 266, refers to specimens received from Calcutta, to *P. mitratus*, Leicht.; and adds: "I have also little doubt that this species is the true *P. minor* of Rüppell, it belongs to the same group as *P. onocrotalus*, but no one who has seen the two species alive together would deny their specific distinctness. *P. mitratus* is at once distinguished by its smaller size, by the purer white of the whole plumage, and the long pendent crest."

In regard to the pure white, I must notice that Rüppell in his "Vögel nord-ost Afrikas" figures *P. minor* as throughout tinted with a delicate rose color.

In regard to *rufescens* and *philippensis* Mr. Sclater says: "*P. philippensis* is, as admitted by all authors, a close ally of *P. rufescens*, but I agree with Prince Bonaparte (C. R., xliii., p. 574 et Conép. ii, p. 162), in considering it distinct, *rostri maculis impressis seriatim despositis*. Several skins of it are in Captain

Beavan's collection, and appear undoubtedly different from our living *P. rufescens*."

Mr. Blyth says also that no one acquainted with the living birds could accede to Prof. Schlegel's amalgamation of the three species.

"First there is the *P. mitratus*, Lichtenstein (as adopted by Dr. Jerdon, and also by Mr. G. R. Gray in the British Museum). This, as Dr. Jerdon remarks, is the *P. onocrotalus* of Bonaparte and Bree, and it is identical with the species so labelled in the Zoological Gardens. It has a pendent occipital crest of straight and narrow feathers, and in the breeding season the forehead becomes much inflated; the naked skin of the cheeks is pale carneous, and that of the pouch very pale yellow. This race is not common in Bengal, according to my experience. I obtained one specimen, killed near Dacca, and saw one fine living adult in the menagerie of the Maharaja of Burdwan, when it was accompanied by equally fine examples of the next race, all in thoroughly mature plumage; and I afterwards saw another adult in Calcutta, with Babu Rajendro Mullick.

"The ordinary Bengal Pelican (*P. onocrotalus*, apud Jerdon, and also of the British Museum) has never any pendent occipital feathers, but the crest is formed of loose and open texture, not much elongated, and curling upwards. The forehead is never tumid, as in the preceding race; the bare skin of the cheeks is deep purplish or livid carneous, and that of the pouch intense bright yellow. Moreover, the feathers of the lower parts are conspicuously shorter, and more uniform, not so distinct and lanceolate as in the other. A mature female measured 5 ft. 6 in. in extreme length, and 8 ft. 10 in. in extent of wings; wing from wrist, 2 ft. 2 in.; tail, 8 in.; bill to forehead, 14.5 in.; tarsi, 5.5 in. Another specimen had the bill to forehead 15.5 in., and the wing 27 in. In another the bill measured 16 inches.

"A third race is the true *P. javanicus*, Horsfield, as correctly assigned by Dr. Jerdon, and as now identified from the type specimen in the Indian Museum, distinguished from the last by its inferior size. A male in very fine adult plumage measured 4 ft. 8 in. in extreme length, and 7 ft. 10 in. in extent of wings; wing from wrist, 1 ft. 11 in.; tail, 7 in.; bill to forehead, 11 in.; tarsi, 5 in. In this individual the usual patch upon the breast characteristic of the breeding-season was deep and dark ferruginous, quite sufficiently like a blood stain to have given rise to the old supposition of the Pelican feeding its young from its own breast! Dr. Jerdon considers this to be the most abundant of the white Pelicans that visit India.

"A fourth race is a similar diminutive of *P. mitratus*, which I take to be the *Onocrotalus minor* of Rüppell. A specimen

lately sent to the Zoological Society by Capt. Beavan, from Burma, has a remarkably full pendent occipital crest, the longest feathers of which measure 3·5 in. ; bill to forehead, 11 inches. This bird is very distinct from several examples of *P. onocrotalus*, apud Jerdon, which were forwarded together with it."

Now I may say at once that I have never yet seen or obtained one single specimen of either of Blyth's two smaller races, in which, according to him, the adult male measures only 56 inches in length and has a bill at forehead of only 11 inches ; the bills in the males are always much larger than in the females, and 12·5 inches is the smallest bill of any female that I possess. Jerdon, however, it is to be noticed, gives the bill at 12 inches to 13 inches, which length, coupled with the size of the wing and the coloration of the bill, would make his *javanicus* answer very well to the female of the common Indian species, at one stage of its plumage, while Horsfield's original description, "white with a short crest, the primaries black, the secondaries and feathers of the back margined with black, and the shafts white," would again agree with our bird at an earlier period of the year. Horsfield, it is true, gives the length at only 4 feet ; but this and Blyth's measurements of 4 feet 8 inches were doubtless made from the dry skin. As for Mr. Blyth's putting down his bird as a male, he did not dissect it himself, and I know from sad experience how little reliance can be placed on the sexes recorded upon tickets of most birds collected in India.

Of *P. minor*, Rüppell gives the length as 57 inches, the bill as 13·33 inches, the wing as 25·75 inches ; and this again would answer for our female. It is true that Rüppell says that the full-plumaged male is throughout pure white, but the figure by Wolf shows it as tinted with rosy throughout, and in the diagnosis Rüppell himself says that his new species is *colore persimilis* to *onocrotalus*, which is only pure white at one season of the year.

My own present conviction is that we have probably only one, and certainly not more than two, species of Pelicans belonging to this sub-group in India, and that all the three species described in Jerdon as *onocrotalus*, *mitratus* and *javanicus*, are nothing but different sexes, at different ages and in different stages of plumage, of one and the same species.

This last year when in Sindh, where *Pelecanus crispus* is extraordinarily common, I on the 18th of January, in a huge broad at Madho near Mehur, caught sight in the far distance of a huge rosy white island dimly seen through and over many succeeding bands of rushes and reeds. I at first took them for Flamingoes, but on examination with a glass they proved to be Pelicans. In a small native boat we threaded our

way through the rush clumps, till we were within about 120 yards. By this time cautiously as we had been stealing along they had observed us, and had all risen on their feet, standing as we then found on a low grassy island only a few inches above the level of the water. One or two rose heavily; a moment afterwards the whole vast flock, the largest I have ever seen in my life, rose as one mass. I had in my hand a heavy double-barrelled gun with two 2oz. green S. G. wire cartridges, and $4\frac{1}{2}$ drs. of powder. I fired both barrels instantly into the thick. At the moment I fired we were as nearly as I could afterwards make out distant 100 yards from the nearest birds, but I dropped seven, aggregating at least 120lbs. in weight, the heaviest bag of birds I ever yet made with shot in one right and left. Two were quite dead; two shortly afterwards gave up the ghost; three were only winged, and before we had picked up and attended to the four dead ones, had swum out of sight behind the innumerable bands and clumps of high reeds, with which the whole surface of the lake is thickly studded. Sending home the four dead birds in the heavy luncheon boat which had come up, we started again in the little boat, and soon caught sight of one of the winged birds, but the wind had now come on to blow; the boat was not a fleet 8-oar, but a clumsy, though small, square-ended fishing punt, and the Pelican swam like a steamer. All that could be done was to fire long shots at him (I had no rifle with me as it happened) with a long single-barrelled duck gun and S. G. cartridge, in the hope, in nautical phrase, of carrying away some of his spars; but it was all in vain. The chase drew steadily away, and in less than two hours we were nowhere; the evening was drawing on, and we turned homewards, having a couple of miles through reed and water to reach the landing place. When about half way, and close to where the first shot was fired, another of the wounded Pelicans suddenly hove in sight, sailing out from behind a clump or reed not twenty yards in front of us, and he was instantly knocked over. Next day early I returned to the lake, and with a better boat found hunted down, and saved, as the Americans would phrase it, the remaining two birds.

Now the curious thing was this: the seven birds consisted of one quite young *onocrotalus*, one *onocrotalus* exactly as described by Jerdon, one bird very like his *mitratus*, but rather larger in actual length than the dimensions he assigns to that species (but his linear dimensions were avowedly taken from a dried skin), and four birds exactly answering to his *javanicus*, except a slight excess in total length (due again probably from his measurements being taken from a dried skin).

Now no one could examine these seven birds in the flesh carefully without being convinced that one and all belonged to one and the same species; and, accordingly, when we dissected them, we found the three first to be males, the four latter to be the females. The males were in different stages of plumage, and so also were the females; but these differences were not so great as to prevent our readily connecting the specimens one with the other. I took most careful measurements and description of the color of the soft parts, legs, and feet of these as I had previously done of specimens obtained elsewhere; and though I am by no means prepared to explain all the changes that take place, I think I now understand some of them at any rate.

I will first deal with the females, which I take to be the birds described as *javanicus* by Horsfield, *minor* by Rüppell, and probably *mitratus* by Lichtenstein. The following are the dimensions in the flesh taken of several specimens obtained in Etawah and in Sindh:—

Length, 57 to 61; expanse, 104 to 110; tail from vent, 8 to 8·5; wing, 24 to 25·5; tarsus, 4·9 to 5·5; bill at front, including nail, 12·5 to 13; greatest width of upper mandible about one-third from the point, 1·6 to 1·8; mid toe and claw, 5·5 to 5·7; weight, 16 to 18lbs.

In specimens killed in the middle of January the legs and feet were creamy yellow or creamy fleshy; the tarsal joints and webs pale or buffy yellow; the claws orange, with a black patch at the base of each; the pouch in some bright-yellow, in some a pale turmeric yellow; the face and cheeks are purplish-pink, or in others pinkish-purple; the irides bright or deep red; the culmen, the basal one-fourth of the sides of the upper mandible and basal one half of sides of lower mandible, lavender; the nail and the edges of both mandibles bright red; the rest of upper and lower mandible yellow, pale yellow, or orange yellow, as the case may be, with a more or less distinct row of ill-defined crimson blotches on the terminal half of the upper mandible, more or less connected with its red margin. In a somewhat earlier stage the colors are duller, and the portions of the upper mandible lying between the culmen and the margins exhibit here and there a horny greenish shade; the upper mandible is often rough and scaly, as if of multitudinous laminae, which were everywhere peeling off in small pieces, and when this is the case, which it chiefly is in the mid-winter birds, whitish patches, due to refraction from the separating laminae, greatly obscure and deaden the tints, and the terminal portions of the upper mandibles on either side of the culmen are not unfrequently a strange medley of red, pink, greenish-brown and white. At a later season

again, say in March, when the birds begin to leave us, the bills of the adults are brighter colored than I have above described; the pouch, too, varies even in specimens killed the same day (showing that these changes are not exactly synchronous in all individuals) from pale and dingy to very bright yellow.

Throughout, however, all these variations in tint, the type of colouring is the same, and the dimensions for such large birds are singularly consistent. There can be no doubt of the unity of the species. The changes of plumage amongst females that I have observed are these: A November bird is all over white, with only a very faint rosy tint; the scapulars and tertiaries also are almost without exception white; one or two scapulars may show a black marginal line along the inner web to the point, and on the basal half of the outer web; the base of the neck is unicolorous with the breast; there is nothing to call a crest, only a few of the feathers of the occiput are slightly longer, and with those succeeding them form a sort of mane; in birds killed in the latter half of January a distinct rosy hue pervades the whole plumage. At the base of the neck a broad yellowish patch of yellow elongated feathers are seen, which vary from yellowish pink to a decided pale yellow. In most specimens the secondaries are distinctly margined with a black line on the outer web, and some of the tertiaries, at any rate, on both webs. Of the four females killed on the same day and at the same place, two show these black margins very distinctly, one has lost a good many of them and one has lost them all, except on two of the secondaries and one of the tertiaries. The longer scapularies in some of the specimens are similarly margined. Some show only traces of them, and in one they have apparently almost entirely disappeared. There is no uniformity of process about this, because the bird that has entirely lost the black margins on the secondaries and tertiaries is found, on lifting the feathers, to retain them, conspicuously on lower scapulars, while one bird that still retains them well marked on secondaries and tertiaries have apparently no trace of them on the scapulars.

Then as to the crest in the birds killed the same day one has the crest just incipient, two inches in length, two others have them three inches, and the fourth has the crest $4\frac{1}{2}$ inches, bright rosy at the base in this latter, whitish towards the tips. When we take the March bird every trace of dark margins have disappeared from the scapulars and tertiaries, and as a rule to a great extent from the secondaries, though sometimes these latter still show narrow black margins quite to the tips. The crest is now, measured from the base of the

first feather to the tip of the longest feather, nearly six inches in length; the breast patch is more extended, of a duller but deeper straw yellow, inclining slightly to ferruginous, and the rosy tint is, if anything, stronger than in the January birds above described.

Turning now to the males they measure as follows: Length, 70 to 72; expanse, 115 to 120; tail from vent, 8 to 9.2; wing, from 26 to 28.25; tarsus, 5.5 to 5.8; bill at front, 16.5 to 17.5; width of upper mandible as before, 1.7 to 1.88; mid toe and claw, 6 to 6.2; weight, 25 to 28lbs.

All that I have above said about the females appears to me to apply equally well to the males; but I have not yet obtained such a good series of these latter as I have of the females. I have no specimen of the male showing the tertiaries margined on both sides with black, and I have no male with a crest more than two inches long.

It may be that the males never assume the same long crests that the females do, or exhibit the black margins on both webs of the tertiaries; this is a matter which further investigation must decide.

The above measurements and remarks refer of course to adults. The young differ markedly in size of bill and in the color of the soft parts. A fine young male with some lesser and all the greater coverts, scapulars, tertiaries and secondaries brown, the two latter only profusely silvered with grey, measured as follows: Length, 61.5; expanse, 110; tail from vent, 8.5; wing, 25.5; tarsus, 5.4; bill at front, 14; greatest width of upper mandible as above, 1.75; mid toe and claw, 5.2; weight, about 18lbs. The legs and feet were pale yellowish fleshy or pinkish yellow, a long black patch on the front of the tarsus, a broad plumbeous patch on the inner side of the tarsus, a black patch on the front of the first joint of the mid toe, and similar but feebler patches on the front of its other joints, and on all the joints of the outer toe; nails blackish, but that of the fourth toe yellow, with a large blackish blotch about the middle; irides yellowish brown; the gular pouch very dingy yellow; the cheeks and orbits dull reddish pink.

I dare say that younger birds still, of which I have seen some, though I never procured a specimen, and which appeared to be a dull brown throughout, have the whole legs and feet dusky, and very likely have the bill quite different from that of the adults. The youngest bird I have obtained had the bill chiefly a dull pale mauve, spotted and marbled with yellow at the edges and towards the points, the basal portion of the culmen only having a more livid tinge.

The question still remains what is this one species; my

conviction is that it is *onocrotalus*, *pur et simple*. These birds all leave us in March, and we know from Captain Hutton, (J. A. S., 1847) that they pass through Kandahar in March, and I have no doubt many of them find their way to Smyrna and the coasts of Asia Minor, where in summer they are, or used to be—for I speak of nearly 30 years ago*—most abundant.

I said above that there might be a second species belonging to this sub-group in India. I possess two specimens, both young birds, the whole lower plumage of one (and this, and the head and neck of the other, strongly tinged with ferruginous as one often sees in other water-fowls), possessing such exceptionally elongated and narrow bills that they may possibly belong to a distinct species.

These birds are said to be male and female, and I contrast below the dimensions of their bills with those of the largest adult specimens of the other species which I possess:—

	Male.		Female.	
	Length.	Greatest width.	Length.	Greatest width.
<i>Onocrotalus</i> ...	17.5"	1.88"	13"	1.82"
<i>Dacca</i> birds ...	18.1"	1.7"	14.75"	1.5"

A young male *onocrotalus* in about the same stage of plumage has the bill 14" and the width 1.75."

The actual greater length coupled with the actual smaller width, is very striking, and these two birds may belong to a distinct species; but, if so, what can it be? Schlegel gives 17" as the maximum length of the bill in any specimen in the Leyden Museum. It is certainly none of the species yet described, unless *onocrotalus*, and, if new, which I myself do not believe, it ought to stand as *longirostris*, for, unless these are altogether abnormal specimens, to judge from the difference of the bill in the young and old of *onocrotalus*, the adult should have a bill of at least 20 inches in length.

Turning now to *P. philippensis* (or *rufescens*, if, as is possible, they are both the same bird) I would remark that at all ages and in all stages this species can be distinguished from all the others by the peculiar compression and convexity of the basal one-fourth of upper mandible.

Strange to say, although this Pelican is the commonest throughout Upper India, I possess a very indifferent series, and can therefore add very little to what Mr. Elliott says. I would note, however, that I have no specimen in the full breeding plumage described by him as that of the adult, and no specimen the upper mandible of which does not bear the double row of dark spots. The best plumaged adult that I possess, killed in August in Jhansi, has the whole head, neck all round, entire lower parts, lesser and

*Over 40 years now.—A. O. H.

median wing-coverts, scapular region and all but the longest scapulars, rump, and upper tail-coverts white; a short crest about 2.5" long, of white feathers, greyish brown at their bases; the whole of the feathers of the neck short, soft, fur-like, and comparatively thinly set; the brown bases of the feathers showing through and producing a mottled appearance; a very faint straw-like tinge on the front of the neck at its base; the rump and upper tail-coverts, the median wing-coverts and all but the longest scapulars black or brown shafted; the upper and middle back, the whole of the axillaries, the lower coverts at the elbow joint of the wing, and many of those of the lower surface of the wing immediately over the ulna and the metacarpal bones, a delicate but rather dull vinaceous pink; the longer scapulars, tail feathers, tertials and secondaries brown, very much silvered, the latter on their outer webs only, with grey; the secondary greater coverts similar, primaries, their greater coverts and the spurious wing blackish brown.

Another bird, not fully adult, killed on 10th November, is thus noticed in my journal: Length, 58"; expanse, 92"; wing, 22"; tail from vent, 7.5"; tarsus, 3.5"; bill at front, 13"; gular pouch to where feathers commence, 20." Legs and feet pale plumbeous, mottled on joints and inner side of tarsus and tibia with cream white; irides brown; orbits cream white, a semi-circle round the lower half of orbits blue; upper mandible uniform pale pinkish, with a conspicuous row of purplish brown spots on each side from base to tip; lower mandible, at base, and gular pouch pale café-au-lait color; rest of lower mandible a fleshy brown. The plumage was generally very similar to that of the bird just described, but there was no crest, no yellowish tinge at the base of the neck in front, and only a faint vinaceous tinge on the back, flanks and axillaries.

Another bird, killed the same day and of almost precisely the same size, had the legs and feet almost white, with a creamy tinge; irides brown; the orbits pale yellowish but with traces of the blue mark; the upper mandible livid pinkish, with a blue tinge on the basal half; a row of obscure bluish spots on either side of the culmen; nail pale yellow; lower mandible and pouch pinky white. The extraordinary difference in the color of the soft parts of two birds killed on the same day, at the same place and of the same size and sex, struck me forcibly at the time. I concluded that both were young, but that the latter bird had progressed more rapidly towards the adult plumage.

A very young bird has the whole head and neck mingled greyish white and pale ferruginous; a few short brown feathers, beginning at the occiput and running about 4 inches down the back of the neck, growing shorter as they recede from the occiput, form a sort of mane. The whole of the scapulary region,

and all but the longest scapulars, pale brown, broadly centred with silver grey; the whole of the lesser and median and secondary greater coverts pale brown; tail, secondaries and longest scapulars slightly darker brown, much overlaid with silver grey; primaries and greater coverts a dingy hair brown; the whole back, rump and upper tail-coverts dull white; the feathers of the rump tinged brownish and darker shafted, the whole lower parts mottled dull white and pale ferruginous, except about the vent and lower tail-coverts, where the feathers are so broadly tinged with dull ferruginous as to leave no white mottling visible; the whole wing-lining and axillaries white.

I think this ferruginous mottling so very conspicuous in this bird, though abnormally developed in the specimen described, as to be traced about the breast and lower tail-coverts in almost all my young individuals. It is very faint indeed in some, but is still I think always traceable.

These Pelicans do breed in India, though I have never been able to obtain the eggs. Dr. Jerdon mentions a Pelicanry in the Deccan, and Dr. Short in *epist.* mentions their breeding in the village of Pulla Goora Pully about 48 miles north-east of Cuddapah, and also in another village, about 70 miles north-east of Cuddapah, the name of which he does not tell me. I do not think the eggs or nestlings of this species have ever yet been carefully described, and I should be much obliged for specimens of these, or indeed of any Pelican, in regard to which the sexes and dates of killing have been accurately recorded. There is a good deal yet to be done in clearing up the changes of plumage of the Indian birds of this group.

P.S.—*P. rufescens* is clearly distinct from *P. philippensis*. An Abyssinian female, collected by Blanford, has the wing 20·25; bill at front, 12·45; its greatest width, 1·5; tarsus, 3·5; mid toe and claw, 4·6. The plumage of the head and neck is of quite a different character. The irregular curly mane (for it is scarcely a true crest) of *philippensis* is replaced by a full crest, nearly four inches in length, of straight narrow feathers, the webs of which are a good deal disunited. The feathers of the rest of the head and neck are, as compared with *philippensis*, regular or close-sitting. The upper mandible wants the double row of impressed spots, *always* present in *philippensis*, and is less compressed towards the base than in this species. It also *appears* to have a distinct frontal groove on the culmen near the base.

P.P.S.—I examined the museum specimens. One specimen, numbered 1741, labelled *P. javanicus* on the stand, and with a label attached to the wing—“*P. onocrotalus*, Bengal—” has no crest and bears no signs of breeding plumage. It has the

bill 15·5 at front; wing to end of tertials (all primaries destroyed), 27·25; bill, 1·75 wide, above, at widest place; 1·36 wide or a little more at narrowest place; about 1·5 down the culmen. All the scapulars, but one or two, pure white, these one or two silvery dusky at base, and with a blackish blue on the outer margin and with another corresponding line on the inner web running from the margin to the point.

Another specimen, labelled 1741, no other label, bill at front, from edge of skin as before, 11·12; greatest width, 1·62; least width, same as in preceding; no crest; breast densely set with ferruginous plumes, harsh in texture and with disunited webs; bill differs in color in this specimen; culmen, ridge and sides of basal half of lower mandible nearly uniform with the rest of the bill. In the first specimen these parts are very dark purplish brown, many of the scapulars margined with black line; wing to end of tertials, 24.

In both these specimens, though there is no crest, the feathers from either side form an occipital and nuchal crest-like ridge. Another specimen, labelled 1740 on stand, and no other label (named *onocrotalus* according to the catalogue, though no entire specimen of this species is acknowledged in the catalogue); bill length, 11·75; greatest width, 1·55; least width, 1·3; a distinct occipital crest, 3·5; followed by a ridge similar to that in preceding specimens.

A straw-colored breast patch, wing perfect, 25·75; two or three of the scapulars margined with black.

Comparing these three specimens with Jerdon's descriptions, I have no doubt that these formed the types of his supposed three species. No. 1 is his *onocrotalus*, No. 2 his *javanicus*, No. 3 his *mitratus*.

Now No. 1 is a young male and No. 3 an adult, but not fully adult, female. No. 2 I take to be an old female, but I have never seen anything quite like it. I believe that the crest had been pulled out (as natives often pull them out) before Blyth got the bird, and I believe the extraordinary ferruginous colour to be due to some *post mortem* changes. I have never seen this color in a fresh specimen.

A. O. H.

Observations on the Pelican visiting the "Eastern Narra."

By SCROPE B. DOIG, C.E.

[*Note by the Editor.*—There is a great deal of useful detailed information in this old note of Mr. Doig's which it will be well to place on record. I have only to premise that Mr. Doig's birds all belonged to two species—one *P. crispus*, and the other that species which, as I pointed out some 14 years ago S. F., I, p. 128, Jerdon has in my opinion described under the three different names of *mitratus*, *javanicus* and *onocrotalus*. Whether our birds are really *onocrotalus*, or what name they should bear, I never could find out for want of proper European and African specimens with which to compare them, but there seems to me, and has always seemed to be, only one species in India of *this* type. Now that there are in the British Museum nearly 100 specimens of this one species in all stages of plumage and from all parts of the empire, pretty well correctly sexed and in most cases with the colors of the soft parts accurately recorded, this question ought soon to be (if it has not already been so) set at rest.]

THIS last cold weather I have, at Mr. Hume's suggestion, devoted my spare time to investigating the different species of Pelican which visit these districts every year in thousands, and I now propose placing before the readers of "Stray Feathers" the results of my observations, with the hope that they may be of assistance in determining the different species which visit India. There are two distinct kinds of Pelican to be met with in these districts, and they are distinguishable one from the other at a glance by the termination of their frontal feathers on the culmen. In one species these end in a concave line, in the other in a point. To the latter species I have particularly directed my attention at Mr. Hume's special request, but as I have from time to time shot a good many of the former, and at the same time preserved a few of their skins, I will proceed first to give a short sketch of my observations regarding them.

At the first glance one would suppose there were two kinds of Pelican belonging to this species, *viz.*, a large silvery white Pelican and a large grey Pelican; but after shooting a goodly series I am satisfied that these are one and the same bird in different stages of plumage. I am aware that two kinds of Pelican, both having their frontal feathers ending in a concave line, have been recorded from this province, *viz.*, *P. crispus* and *P. philippensis*, but as far as this district is concerned I have only come across one kind, which I conclude must be *P. crispus*, inasmuch as *P. philippensis* is stated to have a series of spots on each side of the mid-rib of upper mandible which none of my specimens possess. The

changes of plumage that the bird to which my specimens belong undergoes are as follows: The *young bird* has its scapulars and wing-coverts of a dirty pale brown; irides a greyish straw yellow; orbital region, bill and legs of a dusky livid leaden color, the bill and legs being the darker, especially the latter; the pouch is a pale greyish yellow. In the next stage of plumage the scapulars and wing-coverts, in fact the whole bird, becomes a pure silvery white with a moderate crest of long curly white feathers; the orbital region greyish white, with occasional dark purple blotches; bill, tarsus and toes a greyish pink, the two latter having a faint purple tinge, the toes being the darkest. The plumage gradually changes to a light silver and finally to a deep silver grey; the crest is fully 3 to 4 inches long. The orbital region is a livid purple; the irides a pale straw yellow; bill a greyish pink; tarsus and toes the same but darker; the pouch from being a pale greyish yellow becomes a deep yellow, and finally a deep vermilion orange.

I have watched large flocks of this species through my glasses from a distance of about 100 yards, and could trace the bird through all its different stages very plainly, some being of a light grey color with a part of the pouch deep vermilion orange, the remainder being a deep yellow; others were of a deep grey, with the whole of the pouch deep vermilion orange. I regret I have been unable to get one of these full adult birds, which from the description in Jerdon I should have thought would belong to *P. philippensis*. The birds I saw in large flocks, and out of which my specimens were killed, were, I feel convinced, all the same kind. Can it be that the bird recorded from Sind with the spots on the upper mandible is the full adult of *crispus*, or am I wrong in identifying any birds as *crispus* when they should be young of *philippensis*? I have no doubt Mr. Hume will, in due course of time, give us his opinions on the specimens I have sent him belonging to this species, as well as those of the next, which I will now proceed to discuss.

At first I was under the impression there were two kinds of Pelican whose frontal feathers ended in a point, *viz.*, the small pink and the large pink. The small white and large white Pelican I always thought to be the young of these two, and this turns out to be correct. Now, after shooting and carefully sexing over 80 specimens of the above, it is clearly evident that there is, so far as these districts are concerned, only one kind of Pelican belonging to this species, of which the small pink Pelican is the female and the large pink the male. Of the former I have sent four skins and of the latter eight to Mr. Hume for identification, as I am unable to say what the scientific name of the bird should be. Comparing my skins

with Jerdon's description, some answer to *P. onocrotalus*, others to *P. mitratus*, and others again to *javanicus*. One extraordinary circumstance is that out of over 80 specimens I only shot nine females, four of which I preserved, so that my series of skins of the female is deficient, inasmuch as I have been unable to come across a specimen intermediate between the full adult and the young female. But the series of the male birds' skins speak for themselves, the changes of plumage and colors of the soft parts being very easily followed from the young bird of the year right up to the old adult in full breeding plumage. I will now endeavour to the best of my ability to describe these changes, first roughly, and then in detail.

There are, I make out, three distinct stages of plumage, *viz.*, those of the *first*, *second* and *third* years, and as the changes in both sexes are identical, the following description will answer equally for both :—

The young birds, when they first arrive, are of a plain white color, with their scapulars and wing-coverts of a dirty pale brown ; they have no crest, but the feathers of the nape and neck form a sort of a hog mane ; the tail also has a few brown feathers. The orbital region, bill and legs are of a leaden grey color, the bill and legs being slightly the darker, especially the latter ; the irides are of a light brown, almost hazel ; pouch greyish yellow. The plumage of the scapulars and wing-coverts and tail gradually change to a pure white ; an incipient crest of soft white curly feathers begins to appear, and on the upper part of the breast a few sharp-pointed stiff feathers of a dirty China white can be discerned ; the winglet and primaries, which in the young bird were of the same dirty brown color as the scapulars and wing-coverts, are now deep brown, almost black ; the irides are hazel, with a slightly reddish tinge ; the orbital region becomes of a purplish white ; the bill changes to a yellow with a few red streaks in it, the mid-rib and base of upper and lower mandibles being of a dull leaden ; grey ; the nail from a dusky yellow in the young bird becomes a light red ; the pouch gets more yellow, and the legs and toes are gradually changing this leaden grey color for a greyish yellow ; the portion of leg above knee is now of a pale lemon yellow ; the mid-rib, which in the young bird is slightly concave and level with the rest of the bill, is now slightly raised.

Finally the pure white plumage turns into a lovely delicate pale rose color, getting deeper as the bird gets older (this color fades slightly in the course of time from the preserved skin). The crest is fully 3" to 4" long, the feathers being straight and soft, with a pale pink tinge ; the winglet also gets white

with a pink tinge; tail of a delicate pale pink; irides reddish hazel, almost carbuncle red in some lights; the orbital region a lemon yellow; the forehead considerably swelled (at least in the male); the bill of a deep blood red, especially at the edges; the mid-rib and base of upper and lower mandibles of a still deeper dull leaden color; the nail deep blood red; pouch deep gamboge yellow; the tarsus, toes and webs are of a pale lemon yellow, with the front portion of a pinkish yellow, with sometimes a few dark purple scales, which, however, disappear altogether in the old adult. The stiff white feathers on upper portion of breast gradually get of a very pale buff yellow, then pale golden, and finally a deep golden yellow, probably in the very old bird a ferruginous golden yellow, as some of the birds I shot but did not skin had their breast feathers of a reddish golden yellow, after which probably may come the ferruginous stage. The mid-rib in the adult is raised about $\frac{1}{12}$ th inch over the rest of the upper mandible.

I will now proceed to give the changes of each particular part in detail:—

Irides in young bird are of a light brown color, gradually changing into a hazel, and finally into a deep reddish hazel, almost carbuncle red in some lights.

Orbital region at first a very pale pinkish leaden grey, then a pale livid fleshy, and finally a pale lemon yellow, deeper in tint according to age. The forehead in the adult male is considerably swelled.

Bill, first year bird.—A pale pinkish leaden color slightly darker than orbital region, with the nail dusky yellow, pale at tip; edges of upper mandible are a deep brown, shading off into the pale leaden color of sides and mid-rib. This latter is slightly convex and rises on a level with sides of mid-rib.

Second year bird.—The mid-rib and base of upper and lower mandibles get of a deep leaden color, while the brown edging of the upper mandible gives place to a pale golden yellow; the edge of lower mandible also at base gets of a pale yellow; the nail reddish yellow; later on in the year the mid-rib and base of upper and lower mandibles increase in duskiess, the pale golden yellow edging of upper mandible changes to light red with streaks of red radiating towards mid-rib, portion between mid-rib and edges of a pale gamboge yellow, with a few dusky greenish blotches; the nail becomes pale red, paler at tip. The edging of under mandible is now near base of a dusky yellowish red, towards tip a pale yellow. The mid-rib is now slightly raised from rest of upper mandible.

Third year.—The mid-rib and base of upper and lower mandibles become a deep leaden grey or lavender; the base of mid-rib

lighter than the rest ; the portions on each side of mid-rib are of a blood red color with splashes of pale gamboge yellow, especially towards base and tip ; the edges of upper mandible are of a continuous deep blood red, those of lower mandible near base are of a deep dusky red ; nail of upper mandible of a deep blood red, pale at tip and base ; that of lower mandible a pale red. The mid-rib is now raised fully $\frac{1}{2}$ th of an inch over the rest of upper mandible.

Pouch as a rule of young birds is of a pale greyish yellow, gradually changing into a pale lemon yellow and finally into a deep gamboge yellow. But I have shot some young birds with the pouch of nearly as deep a yellow as that of the adult bird.

Tarsus, toes and webs, first year bird, are of a purplish leaden color, dusker towards the claws.

Second year bird.—The portion of leg above the knee first changes into a pale lemon yellow, the tarsus getting of a dusky yellow, lighter at back and darker at front, while the toes and webs increase in duskiess towards the claws. By degrees the dusky color disappears from the tarsus, leaving it of a pale yellow with generally a few of the scales in front of a dusky purple ; the toes undergo a similar change, while the webs become of a greyish yellow, dusky towards the claws.

Third year bird.—Above knee a lemon yellow ; tarsus and toes of a pale yellow with a warm pinkish yellow tinge in front ; webs of a pale lemon yellow.

Claws in the young bird are dusky brown, gradually getting of a brownish yellow, and finally of a pale yellow. The claws appear to be the last to change, often being dusky yellow, with brown blotches in the young adult. The mid toe is pectinated, being more serrated in the young bird than in the old one.

Scapulars, wing-coverts, winglet and tail are in the young bird of a dirty pale brown. In the *second year* bird these change to a pure white, except one or two feathers of the scapulars, which retain a dark brown edging ; also the winglet, which is nearly black with a few streaks of white in the *third year* bird, or rather in the full adult, all have become pure white with a delicate pink tinge. This pink tinge also occurs in the second year. In one specimen, No. , all the above are white with a pink tinge, except one winglet, which still retains a black feather.

Primaries, the second of which is the longest, are in the young bird of a dusky brown, getting deep brown or black in the adult, with the tips frosted over with a silvery grey. The shafts are white brown at tip. Perhaps in the nestling they are all brown.

Secondaries are in young bird of a dirty pale brown, in the middle-aged they are deep brown, and in the adult almost

black in all stages, but as they get older they are closely frosted over with silvery grey, especially on the outer webs, and more so on those nearer the scapulars, making them at a distance look almost white.

Tertiaries are also of a dirty pale brown in the young bird, changing into black in the adult, with the tips slightly frosted over with silver grey. I have attached to this paper full measurements of all the specimens preserved, both of this species and of the first kind; also the colors of the soft parts of each specimen sent to Mr. Hume. From these it will be seen that the bills of the females range from 12.25 to 13.5; their wings from 24.00 to 26.25; and their tarsus from 4.50 to 4.62. The bills of the males range from 15.25 to 17.21; wings, 27.25 to 28.50; and the tarsus from 5.50 to 5.75.

In conclusion I would again allude to the extraordinary paucity of females, and also to the fact of the males and females keeping in separate flocks; for instance, out of a flock of seven that I found feeding in a small pool of water and got a "family" shot at, six proved to be females, the seventh escaped; to this flock belong specimens Nos. 3 and 4.

Again for three days, or rather mornings, I followed one flock of Pelican, which roughly numbered over 1,000. Two of the mornings I got "family" shots, and the third I bagged three, altogether in the three mornings getting 38 Pelican, all of which I sexed most carefully and roughly measured and found them all males, with their testes all more or less showing signs of breeding. None of these birds had bills less than 15.25 or wings less than 27.25. To this flock belong specimens No. 13 to No. 16 inclusive. Again in another place, some 12 miles away, there was a flock of about 300. I failed to get a family shot at these, but got a right and left as they flew over my head, dropping two. Both of these proved females, one (specimen No. 12) having eggs as large as big marbles in her (fully one inch in diameter), and the other with ovaries having eggs as big as grains of barley.

Specimen No. 1—(P. crispus).

Irides pale straw yellow; *orbital region* greyish white; *bill* dusky grey; edges of upper mandible near nail pale yellow; nail yellow, pale at tip; lower mandible greyish purple; *pouch* greyish yellow; *tarsus* greyish pink; *toes*, dusky pink; *claws* dusky pale yellow.

MEASUREMENTS.
Date, 4th January, 1880.

Sex, ♀		Weight, 16lbs.
Length	... 65.50"	*Bill at front ... 15.25"
Expanse	... 116.75"	Bill at gape ... 16.25"
Tail	... 9.00"	Tarsus ... 4.50"
Wing	... 27.12"	Mid toe and claw ... 5.75"
		Greatest width of bill ... 1.62"

* Note.—Length of bill in all cases is measured from point of feathers on culmen. Greatest width of bill is that of upper mandible.

Specimen No. 2—(P. crispus).

Irides pale straw yellow ; *orbital region* white, with dark purple blotches about edges ; *bill* pale greyish pink ; edges of upper mandible pale yellow near nail, which is also pale yellow ; *pouch* greyish pink ; *tarsus* greyish, with a faint purple tinge ; *toes* similar, but much darker ; *claws* pale horny yellow.

MEASUREMENTS.

Sex, ♀	Date, 6th January, 1880	Weight, 15.5lbs.
Length ...	70.00"	Bill at front ... 17.25"
Expense ...	116.00"	Bill at gape ... 18.00"
Tail ...	8.00"	Tarsus ... 4.50"
Wing ...	28.50"	Mid toe and claw ... 6.25"
		Greatest width of bill ... 1.62"

Specimen No. 5—(P. crispus).

Colors of soft parts similar to Nos. 1 and 2.

MEASUREMENTS.

Sex, ♀	Date, 8th January, 1880.	Weight, 16lbs.
Length ...	65.62"	Bill at front ... 14.50"
Expense ...	114.75"	Bill at gape ... 15.50"
Tail ...	8.00"	Tarsus ... 4.50"
Wing ...	26.50"	Mid toe and claw ... 5.50"
		Greatest width of bill ... 1.62"

Specimen No. 6—(P. crispus).

Irides pale straw yellow ; *bill* pale leaden ; edges near nail pale yellow ; nail orange yellow ; *tarsus* and *toes* dusky leaden, darker nearer claws. The colors of the remaining parts same as those of Nos. 1, 2 and 5.

MEASUREMENTS.

Sex, ♀	Date	Weight, 19lbs.
Length ...	68.50"	Bill at front ... 15.50"
Expense ...	113.00"	Bill at gape ... 16.50"
Tail ...	8.00"	Tarsus ... 4.50"
Wing ...	26.00"	Mid toe and claw ... 6.00"
		Greatest width of bill ... 1.75"

And three more *P. crispus* measured but not skinned.

Measurements of Birds measured but not skinned.

No. of Specimen.	Sex.	Date.	Weight.	Length.	Expense.	Tail.	Wing.	Bill at Front.	Bill at Gape.	Tarsus.	Mid Toe and Claw.	Greatest width of Bill.	REMARKS.
15	Male	11th Feb., 1880	26lbs.	68.75"	120.00"	9.0"	27.75"	15.00"	16.5"	5.5"	6.5"	1.87"	„
18	Male	1st Feb., 1880	18lbs.	73.25"	118.5"	9.00"	27.75"	16.52"	17.50"	5.50"	6.50"	1.87"	„
19	Male	1st Feb., 1880	23lbs.	71.00"	118.00"	8.00"	27.75"	16.75"	17.75"	5.70"	6.70"	1.87"	„

Tabular List of Females according to age, with full Measurements of the skins sent of the "Frontal-feather-ending-in-a-point species."*

No. of Specimen.	Date.	Weight.	Length.	Expanse.	Tail.	Wing.	Bill at Front.	Bill at Gape.	Tarsus.	Mid Toe and Claw.	Greatest width of Bill.	REMARKS.
3	6th Jan., 1880	16lbs	59.75"	104.75"	7.00"	25.00"	12.87"	13.50"	4.50"	5.50"	1.62"	For detailed description of colors of soft parts of each specimen <i>vide infra</i> .
4	6th Jan., 1880	13.5lbs	58.25"	102.50"	7.50"	24.75"	12.25"	13.25"	4.50"	5.50"	1.78"	
17	17th Feb., 1880	14lbs	61.00"	106.50"	7.50"	24.00"	13.50"	14.50"	4.62"	5.62"	1.75"	
12	1st Feb., 1880	18lbs.	60.50"	109.25"	8.00"	26.25"	12.62"	13.62"	4.50"	5.50"	1.75"	

*Viz., the *P. onocrotalus-javanicus-mitratus*, apud Jerdon.

Tabular List of Males according to age, with Measurements of the skins sent of the "Frontal feather-ending-in-a-point species."

No. of Specimen.	Date.	Weight.	Length.	Expanse.	Tail.	Wing.	Bill at Front.	Bill at Gape.	Tarsus.	Mid Toe and Claw.	Greatest width of Bill.	REMARKS.
9	25th Jan., 1880	19lbs	72.00"	119.25"	8.00"	28.50"	16.50"	17.50"	5.50"	6.50"	1.82"	For detailed description of colors of soft parts of each specimen, <i>vide infra</i> .
10	27th Jan., 1880	21lbs.	69.25"	114.75"	8.00"	27.25"	16.12"	17.12"	5.50"	6.50"	1.87"	
11	29th Jan., 1880	22lbs	72.00"	121.00"	7.50"	28.00"	16.62"	17.62"	5.50"	6.50"	1.87"	
8	17th Jan., 1880	22lbs.	71.00"	117.25"	8.00"	28.00"	15.50"	17.00"	5.50"	6.50"	1.87"	
13	1st Feb., 1880	30lbs.	71.50"	121.00"	7.50"	28.00"	16.75"	17.75"	5.50"	6.50"	1.87"	
14	9th Feb., 1880	29lbs	72.00"	122.00"	8.00"	28.50"	17.25"	18.25"	5.62"	6.62"	2.00"	
7	17th Jan., 1880	17lbs	71.00"	117.25"	8.25"	28.25"	15.25"	17.00"	5.50"	6.50"	1.87"	
16	13th Feb., 1880	29lbs.	71.00"	118.00"	8.00"	28.50"	17.00"	18.00"	5.75"	6.75"	1.90"	

Detailed description of the colors of the soft parts of specimens entered in preceding tables:—

FEMALES.

Specimen No. 3.

Irides hazel; *orbital region* light livid purple; *bill*, mid-rib and base of upper and lower mandibles light livid purple, portion between mid-rib and edge of upper mandible of a greenish blue; edges of upper mandible for 11 inches from nail of a faint golden yellow, also upper edge of lower mandible a dusky yellow; *nail* dirty yellow, dusky in centre; *pouch* deep gamboge yellow; *tarsus* and *toes* greyish yellow, the latter dusky purplish near claws; *webs* dusky yellow; *claws* dirty yellow, with dusky brown blotches.

Specimen No. 4.

Irides hazel; *orbital region* light livid purple; *bill*, mid-rib and base of upper mandible and lower also light livid purple; portion between mid-rib and edge of upper mandible of a greenish blue; edges of upper mandible for 11 inches from nail of a faint golden yellow; also upper edge of base of lower mandible a dusky yellow; *pouch* deep gamboge yellow; *nail* dirty yellow, dusky in centre; *tarsus* and *toes* greyish yellow, the latter dusky purplish near claws; *webs* dusky yellow; *claws*, dirty yellow, with dusky brown blotches.

Specimen No. 17.

Irides light brown, almost light hazel; *orbital region* pinkish white; *bill* pinkish white, but darker than orbital region, especially near edge of upper mandible, where it is dusky brown, mixed with pale golden yellow; *nail* dirty brownish yellow, pale at tip; *pouch* pale greyish yellow; *tarsus*, *toes* and *webs* dusky yellow, the two latter dusker than the former; edge of webs deep dusky; leg above knee pale lemon yellow; *claws* dark brown, with patches of dirty yellow.

Note.—I found the sex of this bird rather difficult to determine, but as there was nothing that bore the slightest resemblance to the testes, there being only a whitish yellow film about one inch long by a quarter inch wide, I conclude it was a virgin female.

Specimen No. 12.

Irides reddish hazel, carbuncle red in some lights; *orbital region* pale orange yellow; *bill*, mid-rib, base of upper and lower mandibles leaden slaty; the mid-rib has a few scales pale yellow and red; sides of upper mandible blood red, deeper on edges, paler towards mid-rib; edge of lower mandible deep dusky red, paling to light yellow at tip; nail of upper mandible blood red, lower mandible paler, portion of lower mandible near nail pale yellow; *pouch* deep gamboge yellow; *tarsus* and *toes* pale straw yellow, the former in front a bright pink, with a few purple scales; *claws* dusky with patch of yellow; *roof of upper mandible* with six lines of red, the four in centre meeting in a point near nail.

This was an adult female, with eggs as large as big marbles.

MALES.

Specimen No. 9.

Colors of soft parts similar exactly to specimen No. 8, with the following exceptions:—

Bill has less red; *tarsus* and *toes* have a few scales in front dark purple; *webs* greyish pink; *claws* dark dusky.

This bird is evidently a younger bird than No. 8, which is again a younger bird than No. 7.

Specimen No. 10.

Colors of soft parts very similar to No. 8, but with the following exceptions:—

Bill slightly redder; *tarsus* and *toes* a few dark purple scales in front; also front skin of *tarsus* a reddish yellow.

This bird is evidently next in age to No. 9.

Specimen No. 11.

Colors of soft parts very similar to No. 8, with the exception of the following differences:—

Bill of a brighter yellow and a lighter red; base of upper and lower mandibles and mid-rib of a lighter leaden slaty; nail a lighter red; *orbital region* has yellow patches; *tarsus* and *toes*, the former with a few scales in front slightly dusky.

This bird in age evidently comes next to No. 10.

Specimen No. 8.

Irides deep hazel red, almost carbuncle red in some lights; *orbital region* pale purplish white, with a yellow tinge; *bill*, mid-rib, base of upper and lower mandible dull leaden slaty, mid-rib paler at base, darkest in centre, and near nail shading off into greyish pink; sides of upper mandible between mid-rib and edges of a pale gamboge yellow, with streaks of light red radiating from edge, which is of a continuous bright light red color, shading off near nail into a pale golden yellow; nail bright light red; lower mandible pale greyish yellow for 7 inches near nail; upper edge near base of a dusky red; nail of lower mandible pale red; *pouch* light gamboge yellow; *tarsus* and *toes* pale pinkish straw yellow (no dark scales); *webs* greyish yellow; *claws*, some reddish yellow, others nearly dark brown.

Specimen No. 13.

Colors of soft parts similar to No. 8, with the exception of the following differences:—

Bill not so much yellow and a little more red; *tarsus* and *toes* have a few purple scales in front.

This bird evidently comes next in age to No. 8.

Specimen No. 14.

The colors of the soft parts are exactly similar to those of No. 12, but with the following exception:—

Bill not so much red.

This bird is much of the same age as No. 13, but if anything slightly older.

Specimen No. 7.

Irides deeps hazel red, almost carbuncle red in some lights; *orbital region* pale purplish white, with a yellow tinge; *bill*, mid-rib, base of upper and lower mandible dull leaden slaty; mid-rib paler at base, darkest in centre, and near nail shading off into greyish pink; sides of upper mandible between mid-rib and edges of a gamboge yellow ground color, with streaks of deep red radiating from edge, which is of a continuous deep red color, paling to orange yellow near nail, which is deep bright red; lower mandible pale greyish yellow for 7 inches near nail; upper edge near base of a deep dusky red; nail of lower mandible pale red; *pouch* gamboge yellow; *tarsus* and *toes* pale pinkish straw yellow, with a few dark purple scales in front of *tarsus*;





♀

♂

webs pale straw yellow; *claws* dark yellow with blotches of dusky brown bed.

Specimen No. 16.

Colors of soft parts exactly similar to those of No. 8, except in the following instances:—

Orbital region, the whole of it pale lemon yellow; *forehead* largely developed, skin over it rather rough; *tarsus* and *toes* pale lemon yellow, darker above knee; in front of *tarsus* and *toes* a pinkish yellow; *pouch* deep gamboge yellow.

This bird evidently is the full adult male; its testes were very largely developed.

Notes.

I AM very glad to be able to give, before "Stray Feathers" altogether disappears, a fine plate, prepared under the kind supervision of my esteemed friend Mr. J. H. Gurney, of PERNIS TWEEDALII, *nobis*, already referred to *ante*, pp. 446—8 and 122, 123. I have nothing now to add to what has been already said by Mr. Gurney and myself in regard to this species.

NEITHER the large Flamingo (944.—PHENICOPTERUS ROSEUS, *Pall.*) nor the small Ruddy one (944*bis*.—P. MINOR, *G. St. Hil.*) so far as I have yet been able to ascertain breeds anywhere in India. The larger species breeds in enormous companies towards the head of the Persian Gulf, and I have had simply hundreds of eggs of this species sent me thence.

Where the small one breeds, if at all out of Africa, I do not know; but both species frequent the Sambhur lake as seasonal visitants, and are much esteemed there for the table, and deservedly so since, when in the fine condition they there soon assume, they are, I used to think in my old unregenerate kreophagite days, superior to the best stubble-fed goose I ever tasted.

But, though neither species, so far as I have yet been able to discover (and it may be imagined that I have had them well searched for), breeds either at Sambhur or anywhere else in India, both species have an untidy habit of dropping their eggs about at the lake before leaving.

I have had several eggs of both sent me from time to time picked up at the lake's edge, or on some mud bank—eggs mostly quite fresh when found—and many more eggs of the same kind than I have seen or heard of have, I know, been converted into omelettes and otherwise sacrilegiously disposed of. Now to-day my friend Mr. Ashton sends me an egg of the large species picked up on the morning of the 5th of

November, 1887, on a mud bank out in the lake a little to the north-east of the town of Sambhur, clearly laid during the night of the 4th, as it lay right in the path followed daily by the labourers. He also sends me an egg of the smaller species laid on the lake edge near Mata Pahar, about May, 1885, the hot season following a great flood, when the flamingoes remained unusually late.

THE HAWFINCH FROM ATTOCK, by R. Bowdler Sharpe.— Three specimens of a Hawfinch were collected at Attock in the Punjab in March, 1869, and in February, 1870, by Colonel Delmé-Radcliffe. They are mentioned by Mr. Hume in "The Ibis" for 1869, p. 456, and again in "Stray Feathers" for 1877, Vol. VII, pp. 413, 462, and are there referred to *C. vulgaris*, i.e., *C. coccothraustes* (Linn.). In the Hume Collection there were no specimens of true *C. coccothraustes* from Europe; and the comparison of these specimens was therefore doubtless made with plates of the European bird; but on comparing the three birds with a series of true *C. coccothraustes*, it seems to me certain that they are distinct from the European Hawfinch.

The female differs from the corresponding sex of *C. coccothraustes* in being ochreous brown above, pale ashy ochreous on the lower back, rump, and upper tail-coverts, while the crown of the head is ashy grey like the hind neck; sides of face also ashy grey, washed with ochreous; breast and sides of the body ochreous buff, instead of vinaceous brown; centre of breast and abdomen white. Total length, 6·75 inches; culmen, 0·75; wing, 3·9; tail, 2·35; tarsus, 0·8.

The male differs less from *C. coccothraustes* than the female, but it is distinguished by its paler coloration, and by the breast and sides of the body being light orange-brown instead of vinaceous. Total length, 6·9 inches; culmen, 0·8; wing, 3·8; tail, 2·1; tarsus, 0·8.

I may add that the Attock bird is not *C. japonicus*, for it has a greater extent of pure white on the wing-coverts than in even true *C. coccothraustes*. *C. japonicus* is scarcely to be distinguished from the European bird; and differs only in having the median and greater wing-coverts pale drab at the ends instead of white. I propose to call the *Coccothraustes* from Attock after my friend Mr. Hume, *C. humii*. Whether it is the Hawfinch recorded by Lieutenant Barnes as a permanent resident at Chaman in Southern Afghanistan (S. F., IX, p. 456) must remain a question to be decided by an examination of specimens, which I have not yet had the opportunity of doing.

IN continuation of his letters (*ante*, p. 425) Mr. R. N. Stoker sends exact measurements and weights of three more female Scaup and three more female Golden Eyes, shot by him subsequent to the date of his former communications on the 20th and 21st of December, some 12 miles up the Indus above Attock. So few specimens of these species have been obtained and carefully examined in India that these figures are worthy of record:—

SCAUP.

	No. 1.	No. 2.	No. 3.
Sex	♀	♀	♀
Expanse	28.41	28.25	27.25
Length	16.25	16.92	16.12
Tarsus	2.54	2.5	2.7
Bill from gape	1.87	1.92	1.75
Weight	1lb. 6oz.	1lb. 8oz.	1lb. 8oz.
Wing	8.25	7.92	7.75

GOLDEN EYE.

	No. 1.	No. 2.	No. 3.
Sex	♀	♀	Mature ♀
Expanse	27.17	26.08	28.75
Length	15.87	15.5	18.08
Tarsus	3.45	3.45	4.37
Bill from gape	1.7	1.66	1.8
Height of bill at base ... ..	.....	.....	1.08
Weight	1lb 2½oz.	1lb. 2½oz.	1lb. 10½oz.

These six birds were shot 12 miles up the Indus above Attock, December 20th and 21st, by R. N. Stoker.

LONG ago Mr. Doig sent me exact measurements and description of colours of soft parts of ten specimens of *Falco babylonicus* procured by him in Sindh, and I think these accurate particulars recorded from the fresh specimens are worth preserving, and therefore I reproduce them now:—

Measurements of Falco babyloicus.

Date.	Sex.	L.	E.	T	W.	Bf.	Bg.	Ts.	No. of Twee	REMARKS.
21st Nov. 1878	Female	17"	39.25"	7"	12.75"	87"	1.25"	...	1	
26th Decr 1878	Female	16"	37.5"	6.62"	12.25"	1"	1.25"	...	2	
18th Jan. 1879	Male ...	14"	33.	6"	10.62"	1'	1"	...	3	
19th Jan. 1879	Female	16.62"	38.12"	7"	12.12"	1.12"	1.2"	...	4	
28th Nov. 1880	Male ...	13.75"	33.5"	6"	11"	93"	1"	1.75"	5	
18th Dec. 1880	Male ...	14.25"	34.50"	5.62"	11"	94"	1.06"	1.75"	6	
1st Jan. 1881	Male ...	16.12"	38.5"	6.5"	12.37"	95"	1.22"	1.75"	7	Immature.
2nd Jan. 1881	Male ...	14.25"	34.5"	5.75"	11.46"	1"	1.00"	1.75"	8	
4th Jan. 1881	Female	16.80"	38"	7"	12.75"	1.12"	1.25"	1.75"	9	Weight 2lb 1oz.
3rd Feb. 1881	Male ...	13.75"	33.75"	5.75"	11.00"	1"	1.06"	1.75"	10	„ 15oz.

COLOURS.

Specimen No. 2 (26th December 1878)—

Cere greenish yellow ; bill pale, horny dusky at tip ; feet pale yellow.

Specimen No. 3 (18th January 1879)—

Irides dark brown ; cere greenish yellow ; bill pale horny, dark at tip ; legs and toes lemon yellow ; claws black.

Specimen No. 4 (19th January 1879)—

Irides dark brown ; orbital skin pale greenish yellow ; cere greenish yellow ; bill pale horny, dark at tip ; toes and legs pale lemon yellow.

Specimen No. 5 (28th November 1880)—

Irides dark brown ; cere and legs yellow ; bill deep slaty at tip, pale greenish yellow near base ; orbital skin lemon yellow ; claws black.

Specimen No. 6 (18th December 1880)—

Irides deep black ; bill pale greenish yellow at base of upper and lower mandible, getting dusker towards tip, which is black ; cere, legs and toes bright lemon yellow.

Specimen No. 7 (1st January 1881) (immature)—

Irides dark brown; cere and orbital skin light whitish yellow, the latter colour very faint; legs pale whitish yellow; claws dusky; bill pale slaty blue, dusky horny blue at tip.

Specimen No. 8 (2nd January 1881)—

Irides deep brown; orbital skin, cere and legs bright yellow; bill pale, greenish yellow at base, dusky slaty horny at tip; mid toe and claw = 2 inches.

Specimen No. 9 (4th January 1881)—

Irides deep brown; edge of eyelid, orbital skin and cere pale yellow; legs and toes yellow; claws black.

Specimen No. 10 (3rd February 1881)—

Irides black; cere, eyelid, orbital skin and legs bright lemon yellow; bill greenish yellow at base, bluish horny at tip; claws slaty horny, darker at tips; testes considerably enlarged.

IN the cold weather of 1880, Captain Williamson, 43rd Light Infantry, met with the Woodcock (*S. rusticola*) on several occasions in the neighbourhood of Tonghoo. He says: "The first Woodcock I got was on the march from Thayetmyo to Tonghoo, half way between the two places. I flushed it in a sandy nullah, nearly dry, though with a spring not far off. This was in the last week of March.

"About six miles north of Tonghoo there is a jhil situated in the midst of the jungle. It has very flat banks on the three sides, covered with bushes, which are submerged for about fifty yards during the rains. These bushes are open underneath when the water subsides. I was there after duck and discovered marks in the soft mud of prodding, made by a Woodcock I thought. I measured the depth and found it about the length of a Woodcock's bill. I then hunted about and flushed and shot a cock. I went there several times after, and to another jhil about half a mile off the same place and killed two or three each time, and on one occasion I got eight. Twenty-three miles south of Tonghoo, when in search of pig, I saw a likely place in the jungle at the head of a spring and flushed a cock, but having only a rifle with me could not bag it. I returned there three days afterwards and got a couple. I have looked at several other very likely coverts in the Tonghoo district, but never saw any more cock, but I am sure they are to be got. Could see no difference between these and the English bird, though some are smaller than others."

Letters to the Editor.

SIR,

THE Peahen generally nests on the ground. Here the country is very flat and gets so flooded that trees are used. I found, on 30th September, 1884, a nest and five eggs, hard set, in a triple fork of mango tree 12 feet from ground; in just such a position as is represented in Captain Marshall's sketch of the nest (Birds Nesting in India) of the Brown Fish Owl.

2. Nest of *Iora zeylanica* (which is very common here) and three eggs hard set, on October 4th, 1884—very late, was it not? I shot the female as she flew off nest. We had to bully her off it, and I think the man might have taken her in his hand.

3. Marshall, p. 173 (Birds Nesting) says of 826—*P. cambayensis* "requires confirmation." I caught the female by popping my hat on her as she sat in a tuft of grass on six fresh eggs, 24th September, 1884, about 50 yards behind my house.

On 21st September, 1884, four hard-set eggs of same species were brought me.

H. LITTLEDALE.

THE COLLEGE, BARODA, November 7th, 1884.

SIR,

YESTERDAY I saw in an open field a large flock, over three hundred, of what I think were Rooks (*C. frugilegus*). I was unable to shoot one, and should be glad to know if the Rook is ever found as far south, as I have never seen it before. Neither Ravens, which are common here, nor Crows (*C. splendens*) ever collect in flocks to feed in the fields as far as I am aware.

FRANK W. CHANTER.

LUDHIANA, November 1st, 1884.

[Rooks, I think, are rarely seen as far east as Ludhiana. They are common some years during the winter in the submontane districts from Sealkote and Rawalpindi to Peshawar, and I have seen specimens from Hoshiarpore, but never, I think, from Ludhiana.—ED., S. F.]

SIR,

WITH reference to page 174 of your Vol. III, "Game Birds of India," I have the pleasure to inform you that this year, on the 16th May, I came across a very large number of the "Pink-headed Duck," on the "Koosumba Tal" at the edge of the Sakhoo forest about 25 miles north of Kheeri. Unfortunately I could not shoot one of them as we had a large tiger in a patch of reeds adjoining the Tal (we got him after rather a sharp tussle.) The birds, however, came so close to me that I had *no difficulty* in identifying them as "Pink-headed Duck."

The place was eminently one for ducks to breed in—retired, plenty of cover, and a deep fringe of grass all round the Tal covering a large space of ground.

The ducks would hardly have been there as *late* as the end of May unless they intended stopping there to breed, and I can positively assert they were Pink-headed Duck.

MAURICE TWEEDIE, *Lt.-Col.*

KHEERI, OUDH, 30th September, 1883.

SIR,

As in your "Nests and Eggs of Indian Birds" you have very little information regarding the nidification of *Pitta coronata* (345), perhaps the following account may interest you:—

While walking through one of our reserved forests in this district on the 30th ultimo, I observed a bird which appeared to me like a *Nourang* fly out of a tree a little in front of me.

As I had never before seen this Ground Thrush on a tree it struck me as curious, and I therefore went up to the tree and had a good look at it.

Some twenty feet from the ground I thought I saw a nest in a fork, and on going up to look found such was the case. The nest was by no means a large one, such as found by Mr. Blewitt. It was a domed-shaped nest, built chiefly of small twigs and contained very young birds—how many I could not tell, for I did not like disturbing them.

While on the tree the parent birds kept flying about at a respectful distance, but quite near enough for me to identify them.

This Ground Thrush is to me a very familiar bird, but I have never before found their nests, chiefly, I fancy, because I have looked for them on the ground. On mentioning this matter to Mr. R. Thompson the other day, he told me that he had often found this bird nesting on trees.

The same day I found a nest of *Turnix taigoor* with four eggs in the same forest.

The nest which was at the foot of a small clump of bamboos was, I think, rather a remarkable one for this bird. It was the usual little pad in a small hollow in the ground, but in addition had a little hood over it made of fine grass. The nest seemed to me to be a perfectly new one, and not an old one of some other birds used for the occasion.

IVER MACPHERSON,

CHANDA, C. P., 5th July, 1883.

Dy. Consr. of Forests.

SIR,

I HAVE just, for the first time, been looking at Vol. I of your book about the "Game Birds of India, &c.," and I think I have made a discovery.

In the beginning of 1881 I shot a Sandgrouse which was different from any I had seen before. The male was something like the Painted Grouse, but of much more sober coloring. The female was very finely and closely barred. I have hardly any doubt that the birds were the Close-barred Sandgrouse.

Looking up my diary I find that the date on which I shot them was the 3rd February, 1881. The place was Damokur in the Soane Valley in Rewah, 18 miles from Chundea, which is some 20 miles south of the station of Kutni on the E. I. Railway.

My camp was in a stubble field on a hillock with thin jungle all round, and I found the birds close to my tents. There were two or three parties of five or six in each. They had a whistling cry, laid pretty close, and did not fly far. I shot four birds of which I think only one was a male. The plumage of the female struck me very much. It was so very soft and pencilled. It is a long time ago and I write from memory, but I am convinced the bird was the Close-barred Sandgrouse. I am keen about birds, though I have no scientific knowledge, and whenever I find a bird I don't know I look him up on the first opportunity.

The place is very wild and unfrequented; and there is far more jungle than cultivation for miles around.

J. C. BERKELEY.

MORAR, 20th May, 1883.

[I insert this letter because Colonel Berkeley I know was always a keen observer of birds, but I have no other record of the occurrence of this species eastwards of Sind.—ED., S. F.]

SIR,

ON the 28th November, 1882, at a small jhil near the Mala Swamp (about $4\frac{1}{2}$ miles south of Gujrowla in Philibhit, one of the officers of my regiment and myself were out shooting duck and teal.

He got first shot at a flock of teal and knocked over some six or seven in his first shot or two. They fell near my side, and as I had a dog I went in to retrieve them. They were pretty well scattered, and he and I both saw one (as we thought) of the wounded swimming about near the edge of the open bit of water in the centre. He asked me to get it, but as the water was deep there I shot it on the water, and my dog retrieved it. I was struck by its peculiar appearance. We both

examined it very carefully when we had finished off the shooting on that jhil, and he came to the conclusion that it was that very rare duck, the white-faced or stiff-tailed duck.

On getting home we consulted the volume on ducks, and there could be no doubt whatever that it was the stiff-tailed duck. Unfortunately the bird was mixed up with the others shot that day, and sent into Bareilly, and who got it we don't know.

It was, however, undoubtedly the stiff-tailed duck. After reading your account of the habits of the bird we have come to the conclusion that it was *not* wounded when we first noticed it; we saw no other and did not sex it. The name of the jhil is the "Musapur Jhil."

The Mala swamp is a grand place for duck if one could only retrieve all the birds shot, but the "nurkul" reeds are so thick and high that one loses half or more of the birds.

W. C. PLOWDEN.

BAREILLY, 7th April, 1883.

[Vide *ante*, p. 420.—ED., S.F.]

SIR,

A SPECIMEN of a stiff-tailed duck was brought to me by a native who wounded it out of a small number near Keengurh on this side of the Indus in February of this year. The bird lived for a week in captivity. The birds were living on a large, shallow, but very open jhil which is slightly saltish.

T. BOMFORD.

MULTAN, 20th June, 1887.

SIR,

YOU may care to note that I shot two Florican (females) to-day at Nawa tank, seven miles east of Baroda city. I saw one (a female) in the same place in March, 1883. Except these three I have never heard of their being here before the rains. They generally come in July (late) and disappear in September.

I tried last winter to identify all the ducks I shot, and found that you had noted all the varieties I met with as visiting Guzerat.

Last year, on June 1st, I shot three Painted Snipe at Pavagadh, 30 miles east of this. I think a few "painters" stay in the quietest tanks all the year. Two Bitterns were

shot at Pelol, eight miles north of this, in 1881. I have never met with the Bittern here before or since. Our first ducks last year were pintails: I shot a great number in October, and then not one till February (late), which looks as if they went early south of this. Our commonest duck are the Grey-winged Teal, the Mallard, Common Teal, and occasionally Widgeon, besides many Whistling Teal and Cotton Teal. The Cotton and some of the Whistling Teal stay all the year. There are a few Brahminys, but they keep more to the rivers.

H. LITTLEDALE.

BARODA, 6th April, 1884.

SIR,

THE following notes may be of some interest to you.

The Sarus Crane has been seen in the Tanna Collectorate by Mr. T. D. Mackenzie, the Collector. He saw four, two old and two young, birds on a tank at Tembhi in the Dahanu taluka on March 4th, 1883. He got within 25 yards of them. He also in the month of January, 1883, when acting as Collector of Salt, saw Sarus on two occasions in the Tanna district contiguous to the Daman territory. As Mr. Mackenzie has served for several years in Guzerat, he knows a Sarus, to use his own expression, as well as he knows a Snipe. I shot a brace of Spotted Crake at Joo near Panwell on the other side of the Bombay Harbour on 2nd December, 1883. On January 13th, 1884, I shot a female Scaup Duck on a small tank on the roadside about a mile from Panwell, close to the 18th milestone from Tanna. It was alone with a lot of Coots. I had some difficulty in getting it, as whenever I went to one side of the tank it swam to the other with the Coots. I fired a long shot at it when it dived and remained under water some time. On my firing at it again, it took wing, a very slow and laboured flight, when I got it with the second barrel. I showed the skin to Col. Swinhoe, who pronounces it to be a Scaup. I have sent you the skin by parcel post in order that you may identify it. I don't want the skin back again. It had a yellow eye. I fancy this is the first record of a Scaup so far south.

I observe that you say in the "Game Birds of India" that you have never seen the Gadwall on the sea coast, and that they are essentially a fresh-water bird. I have frequently seen them in the Salt Creeks on the other side of the Bombay Harbour, and I shot one out of a very large flock in a salt water creek close to the tank, where I got the Scaup on the same day.

I don't think the Tufted Pochard can be said to be fairly common in Guzerat as stated in the "Game Birds of India." I

have shot a good deal in Guzerat, and have only shot one. This last Christmas in a bag of 527 duck, shot within 40 miles of Ahmedabad, there was not one and none were seen.

The Bittern this year is very common about here ; I have seen one or two almost every day I have been out shooting snipe.

J. D. INVERARITY.

BOMBAY, 17th January, 1884.

SIR,

IN your account of the range of the Grey Lag Goose you put the course of the Subanreeka as the southern boundary on the east.

Marching along the banks of the Chilka lake with the regiment, I was out on the lake shooting at a stage called Tanghi, where I found almost any number of Grey Lags, of which I got one on the evening of the 16th November and six next morning, none of the bar-headed being in the bag. Next day, however, (we halted a day because it was Sunday) my batman went out and shot seven geese, five being grey lags and two bar-headed, my first introduction to the Bar-headed Goose. The weights of the Grey Lags killed by myself are as follows :—

			lbs.	ozs.	
1st	(16th November)	...	6	9	
1st	(17th ,,)	...	6	4	
2nd	...	...	5	12	} Shot with '360 Express ; very big hole where the bullet left body.
3rd	...	...	7	8	
4th	6	4		Do. do.
5th	...	...	6	9	
6th	...	...	7	0	

The weight alone would prove them to be Grey Lags. I did not weigh those killed by my batman. Only yesterday, 25th November, at Kantalu on the Mahanadi, I came across a large flock of geese feeding in the fields, and about a sixth of them were Grey Lags, easily distinguishable by their dark colour. I have preserved the heads and beaks of several of those shot by myself.

Mr. Taylor, Deputy Magistrate, and Mr. Wylly, Forest Officer, both of the Khurda division, told me that in the early part of the season the Grey Lag always very much outnumbered the Bar-headed Goose on the Chilka.

At Kalapathar, Khurda division, on the 22nd November, I killed a female Wigeon which "can always be distinguished from other ducks by her tiny blue black-tipped bill."

(Game Birds, Vol. III, p. 202.) Unfortunately, I could not visit the jhil on which I killed it.

G. RIPPON, *Lieut.*

ORISSA, 26th November, 1883.

SIR,

ON Wednesday last, November 7th, I shot a Woodcock in the Gurdaspur district, when out snipe-shooting in the low lands between the Bari Doab canal and the Bias river, some two or three miles east of the Tehi Bungalow (four miles east from Gurdaspur) where the canal branches. He was flushed in comparatively hard but rather sloppy ground, sparsely covered with "phoos" grass, some five or six feet in height. None of my coolies who were here constantly employed with shooting parties in the neighbourhood, and far above the common cooly in knowledge and intelligence, could say they had ever seen a similar bird. One youngster said he believed it to be the cock bird of the pin-tailed snipe. The bird was in fair condition, and weighed, in the evening, some seven hours after it was killed, about 11oz. I have shot many years off and on in the neighbourhood, though usually later in the year, and never saw a Woodcock there before, and have never heard of any one seeing one there.

H. M. PLOWDEN.

LAHORE, November 13th, 1883.

SIR,

I GOT a *Naga* Pheasant sent to me the other day from the Daffla hills by Mr. Crowe, who went on a visit to a Daffla tribe.

The Dafflas informed him that they were very common on the lower ranges.

I showed it to Captain Stevens who at once identified it as the *Cerionis blythi*, as hitherto only found on the Naga and Mishmee hills.

ROBERT CRAN, M.D.

NORTH LAKHIMPUR,
UPPER ASSAM, 18th April, 1883.

SIR,

IT has been my good luck lately to come across a beautiful specimen of *Falco severus* (♀), and as I cannot find a good description of the female in either Jerdon, "S. F." or

Rough Notes on the Indian Raptore, I send you one taken from this skin, which I imagine from the size belonged to an adult female.

I showed it to Mr. Bowdler Sharpe, so there is no doubt about the species.

Falco severus, Horsf.

DESCRIPTION.—Adult (♀). Above dark slaty blue, darkest on the head, neck and shoulders, which are almost black; the head, nape, moustachial stripe, cheeks and ear-coverts forming one homogeneous unbroken black, or slaty black; cap as described in the case of *F. atriceps*, Hume, some of the feathers of the forehead being slightly edged with rufescent, which may disappear in very old specimens. The feathers of the back, upper tail-coverts, tertials, scapulars, and some of the wing-coverts have a conspicuous dark shaft, giving those parts a striated appearance.

Chin and throat, as far as upper breast, buffy white, indenting deeply into the sides of the neck, where it becomes rufous, like the breast.

Breast, abdomen, thigh and lower tail-coverts deep ferruginous, the breast feathers having a few inconspicuous dark blackish central streaks, principally on the sides. Lower abdomen and vent inclining to pale buff like the throat.

Wing-lining rufous, like the breast, most of the under-coverts having blackish shafts to the feathers, and some of the feathers being mottled or patched with dark slate also; wings blackish, the inner webs of primaries and secondaries being cross-barred with rufescent or pinkish cream, the bars about $\cdot 18$ inch in width, commencing about $2\cdot 5$ inches from the end of the second primary which is the longest, and becoming smaller and less distinct towards the tips of the feathers; the primary under wing-coverts are similarly marked, but on both webs, and the first primary most peculiarly notched, as if a piece of the web had been cut out with a pair of scissors.

Tail, viewed from the underside, cross-barred like the wings, the bars growing fainter in the same way also towards the tip; viewed from the upper side, when the tail is closed, inconspicuously barred with dusky, having a very narrow pale whitish edging at the extreme tip, and the black bar nearest the tip broader than the others, being about $\cdot 62$ inch in width.

Measurements of the dried skin which looked very natural and was not overstretched:—

<i>Sex.</i>	<i>Length.</i>	<i>Wing.</i>	<i>Tail.</i>	<i>Locality.</i>
♀	11 \cdot 62.	9 \cdot 75.	5 \cdot 25.	Himalayas.

E. BUTLER.

SIR,

In your book on the "Game Birds of India" you request your readers to send you any information they may be able to furnish with respect to the same birds or to new species not mentioned.

I have jotted down a few notes which, though of small value as containing little or nothing that is new, may perhaps help to corroborate information received from other sources.

I give a list of all the game birds that are to be found in Khorda, Orissa.

Khorda is a sub-division of Pooree ; my father, Mr. W. C. Taylor, has been sixteen years resident here as Settlement Officer, and in his final Settlement Report, not yet sent up, he includes the following list of game birds of Khorda, all of which he has shot.

This list also includes the Uriya names of most of the birds. The Uriyas, however, are not very observant of birds. They are first class botanists, but their nomenclature of birds is very defective, and a great deal pirated from other Oriental languages. Khorda lies between parallels $19^{\circ} 41'$ and $20^{\circ} 26'$ North and $84^{\circ} 59'$ and $85^{\circ} 56'$ East.

You will notice names of birds mentioned which you refer to as not having been met with so far south or in this part of the country.

Khorda is bounded by the greater portion of the Chilka lake, a splendid shallow tract of water 45 miles long by 11 miles broad, connected by a narrow outlet with the sea. The water is brackish all the year round, slightly so during the autumn and winter months, but getting considerably saltier towards March and April owing to the southern winds. The Chilka, for two or three miles out from the Khorda shore, is but three or four feet in depth. This shallowness is especially the case at the northern end of the lake and on the south eastern side ; it is covered for the greater part with a light feathery weed, which grows in compact masses, and affords both food to the wild fowl and also grand concealment to a wounded Blue-winged Teal or Pochard.

I have myself shot all the birds entered in the subjoined list, except the Peacock, the Painted Spur Fowl, the Grey Partridge, the Rain and Bush Quails, the Comb Duck, the Pink-headed Duck and the White-eyed Pochard. I have however seen all except the Pink-headed Duck and the Painted Spur Fowl.

The list I send is, I should say, nearly exhaustive. The Wigeon may occur, and should do so, but we have not come across it, and I am nearly certain I saw the Burrow Duck last year, but I do not add it to the list, as I am not quite sure, not having shot it or seen it close enough

to be able to swear to it. The Grey Jungle Fowl also, I more than strongly suspect, is to be found in the Mals near the Ghumsur boundary. I myself one day came on a Grey Jungle Fowl, which immediately flew into a tree. I took a careful pot at it about ten yards off and missed it horribly. When the smoke cleared away I discovered that the fowl had done the same. This was within half a mile of a village, so the bird in question might have been a village *Murgi* astray, or a cross with a village one. On the other hand the Raja of Nyagarh assured me that on his estate there were two kinds of Jungle Fowl—one a grey one, "Chitra" he called it, and the ordinary red and black one. He has promised to send me specimens. We also questioned several Konds independently, and they all made similar statements.

It would be difficult to exaggerate the number of wild fowl that visit the Chilka annually. They come literally in millions. The best feeding grounds are near Bhusandpur, a village at the north-western corner of the lake, and at Parikud, an estate situated at the south-eastern and eastern border. Here, as I stated before, the lake is very shallow and filled with weed (Linli); there are large crops of rice grown in the vicinity and besides, near Bhusandpur, some thousands of acres of mud flat extend into the Chilka.

There are rice fields however and lots of weeds the whole way round the Chilka shore, so that, although most of the birds are to be found either near Bhusandpur or Parikud, yet a fair sprinkling occur all over the lake. The birds that occur in the greatest numbers are the Barred-headed Goose, the Pintail and the *Greylag Goose*. One flock of Barred-headed Geese, which we came across in December, 1885, were standing on a mud flat in a line over three-quarters of a mile long and three and four birds deep, all closely packed. They were much too wise to let the chaprasi that we sent after them get within two hundred yards of them. The birds get very wild on the Chilka, as native shikaries are potting at them all day long. No one has tried a proper punt and swivel gun at them yet, and I have no doubt immense bags could be made in that manner.

The usual way here is to get into a native "danga" or dug-out, and let the boatmen pole you to within range. In this way you can get lots of pretty shots, but very rarely one within fifty yards. On some days the birds are much wilder than others. I remember one day, when out with my brother, a party of nine Ruddy Sheldrakes let us come up within thirty yards of them before they rose, and another pair settled down within twenty yards of the boat and let us pass them without

bothering their heads at all about us. Some Pintail too allowed us to come up within twenty or thirty yards of them. After the first shot, however, nothing did we fire at under fifty yards, and most of the birds rose at a hundred.

The Pintail come in enormous numbers to the Chilka; the flocks are dotted all over the lake, either alone or mixed with Blue-winged Teal and Shovellers. I have, on several occasions, come across flocks composed entirely of males and others entirely of females. On the 28th of March this year at Barkul I shot a brace out of a small party of 15 birds, all female Pintails.

The Greylags too are very numerous, though not nearly so much so as *Anser indicus*; they however are to be numbered by thousands and chiefly to be seen at Bhusandpur and Parikud; the latitude of the latter place is 19° 45', or rather lower than you allow in the "Game Birds of India." The Ducks, which are least common on the Chilka, though they are to be met with in fair numbers in special portions of the lake, are the *Fuligula rufina* and *nyroca*, *Sarcidiornis melanonotus* and *Anas pœcilorhyncha*. The last two are found in greater numbers in the fresh-water jhils inland, chiefly about Banki, Haldia and Kalapathar.

I have nevertheless shot several Grey Duck on the Chilka, which, considering that the water is brackish, is rather uncommon. I have never seen them feeding there, and my impression is that they feed inland on fresh-water jhils at night, flying to the Chilka by day for protection.

The Pink-headed Duck has not been seen on the Chilka. My father has only seen and shot it at Kalapathar, not far from the Mahanadi river. The natives say it breeds there; anyhow it is a rare bird in Khorda. The Comb Duck breeds on the estate as do the two kinds of Whistling Teal, the Cotton Teal and the Grey Duck. Nalbana, a large marshy island covered with reeds in the Chilka lake, is a great place in the rains for nests of wild fowl. This information has been derived chiefly from natives, as neither my father nor self have looked into the nidification of birds except in a most desultory manner.

I have only seen and shot *Dendrocygna fulva* twice. Once my brother and myself obtained six out of a flock of about twenty on a jhil on the Madras Trunk Road, about seven miles south of Cuttack, and last month I shot a brace out of a party of seven that I found on a jhil about two miles from Jenkia and 15 miles south of Khorda.

Dendrocygna javanica are very common, both in immense flocks of several thousands on the Chilka and in much smaller parties on many jhils and tanks. The Gadwall

are, I should say, only in fair numbers on the lake. I have never seen large flocks of them, and, although I have met with a few near Barkul and off Monglajuri, the majority congregate near Bhusandpur and Parikud. At Barkul, the D. P. W. bungalow is built on the edge of the lake, so I had many opportunities last month of watching the comparatively few Water-fowl that had not left for the north from the verandah. There were numerous parties of *Limosa cegocephala* along the shore, ranging from a pair of birds to a couple of hundred. I several times noticed that those birds which were standing a little way out where the water was about six or seven inches deep submerged their heads and necks entirely in search of food, so much so indeed that I often mistook them for Teal until they raised their heads. Their plumage then (at the end of March) was in the transition stage, the head and neck being quite rufous; we shot 13 or 14 of these birds. The Demoiselle Crane, the Uriyas call it Garara, is to be found in flocks of about 100 birds here and there along the shore of the Chilka. One flock annually visits Bhusandpur, where we shot the Crane. I have also seen flocks flying overhead at Khorda head-quarters, at Barkul and Cuttack, their peculiar cry, like a grating cart wheel, being quite unmistakable. And now to come back to our jungle birds. The Red Spur Fowl is very common all over the estate; any rocky bamboo-clad hill is a certain find with us.

They *do* come also into the jungle at the base of the hill and for some distance on to the flat, but the majority will be found either on the hill itself or in the very skirts of the bamboo in the open at the base of the hill. Of course they are only found in the open either in the morning or evening.

The Painted Spur Fowl is very rare; only one specimen has been shot here as far as I am aware, and that was shot last year by Mr. E. Wylly, of the Forest Department, at or near Panchgarh. By the way we have often heard a peculiar call in the early morning, something like the syllables To-Kay, To-Kay, repeated several times. The natives say it is the call of the "Kainjar" or Red Spur Fowl. I have not been able to verify this, but my father has. I know that Spur Fowl were in the vicinity wherever we heard this call.

Among the Quails we get a few of the "common" in the cold weather, and the Rain, Bush, Indian, Bustard and Button (*Turnix joudera*) Quails all the year round. The Khorda jungles are very difficult to shoot in, being excessively dense in most places and one mass of thorny bushes. I am speaking now of those jungles where the Quails are to be found. The birds get up so close, and after dodging over the first bush drop so suddenly that nearly every attempt to shoot

them blows them to atoms or results in a miss. Now and then we been able to get specimens sufficiently good to identify. I have many times seen the Indian Bustard Quail (*Turnix taigoor*) and *Perdicula asiatica* running about within a couple of feet or so of the bush under which I have been resting. I have only seen two specimens of *Turnix joudera*; one I shot last year in a low scrub jungle and one my brother obtained last month on a low hill covered with thorny bushes. We have had several specimens of *Turnix taigoor*, and in July, 1886, I found a nest of *taigoor*, a mere depression under a small bush, containing five eggs. I know the Quail was *taigoor*, for I waited for the mother and shot her.

The Rain Quail I have not been able to get a specimen of, but my father has shot it here.

Snipe are not very abundant in Khorda except in certain very favorable localities on the Chilka shore and round a few favorite jhils. The Common Snipe and the Pintail seem equally distributed; some days we will get more of the former and on another the latter will be the more abundant.

The little Jack is not common and the Painted rather rare. I have only seen three specimens within these two last seasons.

In Khorda apparently we do not get the Painted Partridge, *Francolinus pictus*. This is strange, as it *should* occur, but we have neither seen it or heard of it in Khorda, neither do we get its northern ally *Francolinus vulgaris* which stops at the left bank of the Mahanadi except near the coast at Jaldanda, where my father has shot several on the right bank of a nala leading from the right bank of the Mahanadi. The Grey Partridge is not very common, still it is not rare in a few isolated places on the estate; its distribution seems very irregular.

JAMES H. TAYLOR.

P.S.—It will be interesting for you to hear that in March, 1885, my father found in the jungles near Banpur quite fresh eggs (of which he barbarously made an omelette) of the Red Jungle Fowl and the Red Spur Fowl in the *same* nest in the centre of a clump of bamboos. There were four or five eggs of each bird. The *Pavo cristatus* down here get their full tails sometimes by the end of March.

J. H. T.

The Game Birds of Khorda, Orissa.

No.	Common Names.	Scientific Names.	Uriya Names.	REMARKS.
1	Pea Fowl ...	<i>Pavo cristatus</i> ...	"Manir," male called "Nanja."	Breed in Khorda.
2	Red Jungle Fowl ...	<i>Gallus ferrugineus</i> ...	"Kukra," male called "Ganja."	Do.
3	Red Spur Fowl ...	<i>Galloperdix spadiceus</i>	"Kainjer" ...	Do.
4	Painted Spur Fowl	Do. <i>lunulatus</i>	Do. ...	Do.
5	Grey Partridge ...	<i>Ortygornis pondice-</i> <i>rianus.</i>	"Hutia Gundri" ...	Do.
6	Common Quail ...	<i>Coturnix communis</i>	"Gundri" ...	Migratory.
7	Kain "	Do. <i>coromandelica</i>	Do. ...	Breed in Khorda.
8	Bush "	<i>Perdica asiatica</i> ...	Do. ...	Do.
9	Button "	<i>Turnix joudera</i> ...	Do. ...	Do.
10	Indian Bustard Quail	Do. <i>taigoor</i> ...	Do. ...	Do.
11	Common Snipe ...	<i>Gallinago celestis</i> ...	"Chaha charai" ...	Migratory.
12	Pintail Snipe ...	Do. <i>sthenura</i>	Do. ...	Do.
13	Painted Snipe ...	<i>Rhynehœa capensis</i>	Do. ...	Do.
14	Grey Duck ...	<i>Anas pœcilorhyncha</i>	"Bhera" ...	Breed in Khorda.
15	Comb Duck ...	<i>Sarcidiornis mela-</i> <i>nonotus.</i>	"Naki hansa" ...	Do.
16	Pink-headed Duck...	<i>Rhodonessa caryo-</i> <i>phyllacea.</i>	.....	Do.
17	Whistling Teal ...	<i>Dendrocygna jawa-</i> <i>nica.</i>	"Hansrali" ...	Do.
18	Larger Whistling Teal	<i>Dendrocygna fulva</i>	Do. ...	Do.
19	Cotton Teal ...	<i>Nettopus coroman-</i> <i>delianus.</i>	"Dandana" ...	Do.
20	Greylag Goose ...	<i>Anser cinereus</i> ..	"Raj hansa" ...	Migratory.
21	Barred-headed Goose	Do. <i>indicus</i> ...	"Raj" or "Raj han-	Do.
22	Ruddy Sheldrake ...	<i>Casarca rutila</i> ...	"Kesar pandia" or "Panda hansa."	Do.
23	The Shoveller ...	<i>Spatula clypeata</i> ...	"Gendu" ...	Do.
24	The Gadwall ...	<i>Chaulelasmus stre-</i> <i>perus.</i>	"Hansa" ...	Do.
25	Pintail ...	<i>Dafila acuta</i> ...	"Nanda" & "Nanja"	Do.
26	Common Teal ...	<i>Querquedula crecca</i>	"Gendu" ...	Do.
27	Garganey ...	Do. <i>circia</i>	Do. ...	Do.
28	Pochard ...	<i>Fuligula ferina</i> ...	Do. ...	Do.
29	Red-crested Pochard	Do. <i>rufina</i> ...	Do. ...	Do.
30	White-eyed Pochard	Do. <i>nyroca</i> ...	Do. ...	Do.
31	Demoiselle Crane ...	<i>Anthropoides virgo</i>	"Garara" ...	Do.
32	Black-tailed Godwit	<i>Limosa ægocephala</i>	"Chaha charai" ...	Do.
33	Jack Snipe ...	<i>Gallinago gallinula</i>	Do. ...	Do.

Nearly all the smaller Ducks and Teal are known here only by the generic name of "Gendu," and every wader not so large as a paddy bird by the name of "Chaha."

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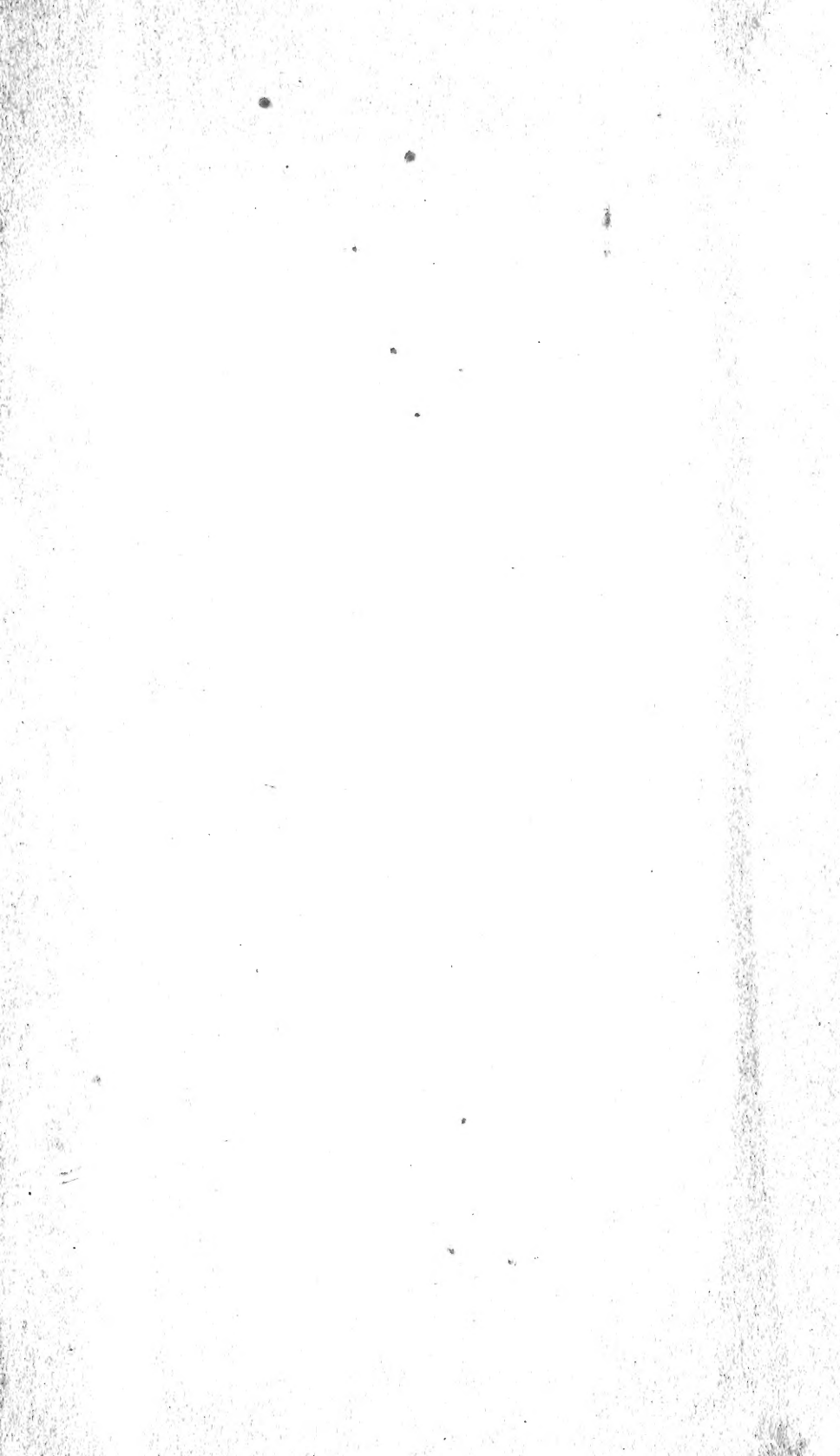
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