

## THE BIRD YEAR IN BETUL (CENTRAL PROVINCES).

BY

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The excuse for such an inexperienced article is that the study of birds in the Central Provinces has attracted few people and the records from these parts are very meagre.

The Central Provinces are not a natural geographical unit. The topography, climate and distribution of the flora and fauna intergrade with the surrounding provinces. There is, for instance, a vast difference between the Godavary valley in Chanda district and the Narbada valley in Hoshangabad district. It is probable that in a careful survey of the whole province a large percentage of Indian birds would be found. A list of birds from the whole province for this reason is not very informative and in this article I deal chiefly with the birds of Betul district.

Betul district is the centre of India and was once vaguely considered for the head-quarters of the Central Government. The greater part lies in the Satpura range and consists of a plateau with an average elevation of 2,100 ft. The Tapti river rises near Multai in the south. The northern part of the plateau drains into the Narbada river. The plateau itself is mostly cultivated but the slopes of the plateau are covered with forest. Below the slopes there are numerous streams which contain a certain amount of water throughout the year. The bird population described in the article lives in these forests. The habitat is fairly uniform. The country is all hilly and the forest is the mixed deciduous association with a more or less dense second storey of bamboos. A large percentage of the forest is government reserve and due to sixty years of fire protection tends to be mesophytic. These conditions are ideal for a large number of bird species, and I think one of the striking aspects of these forests is the large bird population. There are no tanks or lakes in the area, and this explains the absence of the majority of water birds.

The lists of birds are compiled on visual identification only; but I have tried to be as rigorous as possible. I have only included species whose identification could be checked repeatedly. One disadvantage is that I am unable to give geographical races. Betul is close to the boundary between many Northern and Southern races and probably both races often occur. In the monthly lists I have shewn only the birds seen. The absence of a bird does not necessarily mean that it was migratory. In the notes on species I have given details of species which are probably migratory.

One of the interesting points brought out is the discontinuous distribution of several species. This is true not only of birds but also of animals and plants. The higher parts of the Satpura range enjoy a moderately cool climate and remain green and fairly moist



almost throughout the year. The more interesting examples are the Nilgiri Black bird, the Deccan Scimitar Babbler, the Whistling Thrush, the Pied Shrike and the Red-Whiskered Bulbul.

There is one consideration which restricts the value of my observation. Being a forest officer I am continuously moving and only stay two or three days in one place. This means that in the course of a year I see the greater part of the District, but I am unable to say whether a rare bird is a regular inhabitant of one locality or whether the bird's visit and mine happened to coincide.

Regular bird watching over a year shews that there is considerable local movement of the resident species. The dates of arrival and departure of the migratory species are based on ten years observation in various parts of the Central Provinces. Where my opinion conflicts with previous observers I am prepared to back my observations for a modest sum.

#### NOTES ON SPECIES.

(The scientific names are taken from Whistler's *Hand Book*, second edition and the *Vernay Survey of the Eastern Ghats*: I have added the locality in which some of the rarer species were seen.)

#### TITS (*Paridæ*).

**Parus major** Linn.

**Machlolophus xanthogenys** (Vigors).

These are both common birds throughout the forests. *Parus major* may be locally very abundant.

#### NUTHATCHES (*Sittidæ*).

**Sitta castanea** Lesson.

This is not a common species and I have only seen it outside the forest. *Sitta frontalis* is common locally, but is not widely spread (Selda Reserve). One would expect these to be common species.

#### BABBLERS (*Timalidæ*).

**Turdoides somervillei** (Sykes).

Abundant throughout the district. The colouration varies obviously and I should judge that both races occur equally. There is one albino in a family near my bungalow. *Argya caudata* is not a forest species but is frequent in the open. *A. malcolmi* is common round Betul town but is not a forest species. It is irregularly distributed.

**Pomatorhinus horsfieldii** Sykes.

Seen occasionally (Murha and Sarni). Once at an elevation of 1,800 ft. and once at 2,700 ft. The only other record is from Pachmarhi.<sup>4</sup>



**Dumetia hyperythra** (Frankl.).

A common species found in all types of forest but more usually in grassy areas, such as coupes closed to grazing.

**Pellorneum ruficeps** Swains.

Occurs in the higher forests. It is locally common.

**Alcippe poioicephala** (Jerdon).

Common particularly in bamboo forest.

**Aegithina tiphia** Linn.

Less frequent in the forest, and is less common in this district than in the south of the province.

**Chloropsis jerdoni** (Blyth).

This bird is more common than one at first realizes. It is remarkably noisy and mimics other birds.

BULBULS (*Pycnonotidæ*).

**Molpastes cafer** Linn.

The only Bulbul in the greater part of the area.

**Otocompsa jocosa** Linn.

Only found at elevations over 2,300 ft. and I have seen it only in one or two places where it is locally abundant. This agrees with its habits as reported by D'Abreu<sup>5</sup> and Bates<sup>4</sup>. At Pachmarhi it is common on the slopes of Dhupgarh (4,000 ft.). This species is also common at Chikalda (3,500 ft.). Generally speaking Bulbuls are poorly represented in the province.

**Pycnonotus luteolus** (Less.).

Occurs in Nagpur; and I suspect that the Yellow-vented Bulbul is locally distributed. An old inhabitant of Betul insists that there were green bulbuls when she first came. The specimens of *Otocompsa jocosa* always appear to be considerably larger than *Molpastes cafer*; and it is a forest species, and decidedly shy in this area.

CHATS, ROBINS, THRUSHES, ETC. (*Turdidæ*).

**Phoenicurus ochrurus** (Gmelin).

A very common species both in the more open parts of the forest and round cultivation. It is one of the most punctual of our migrants arriving on October 1st and leaving about April 1st.

**Saxicoloides fulicata** (Linn.).

**Copsychus saularis** (Linn.).

Well distributed throughout the forest. The latter species is perhaps one of the most regular inhabitants. The Shama does



not occur in the Central Provinces except perhaps rarely in the South.

**Turdus simillimus** Jerd.

The distribution of this species appears to be very discontinuous. Outside the province the nearest localities are Mount Aboo, the Eastern Ghats and Kandahar in Hyderabad. In the Central Provinces it is common at Chikalda and round Dhupgarh near Pachmarhi. It has been recorded from Seoni district by D'Abreu. I have found it in two localities in Betul. One was a small valley about 10 miles east of Betul town (2,200 ft.) and the second on an isolated plateau Killindeo (3,500 ft.) which is close to Pachmarhi. Where found it is abundant. The birds on Killindeo were just starting to sing. It probably occurs here and there throughout the Satpura range. I suspect that the birds are resident. I wonder whether individuals ever migrate from one colony to another.

**Geokichla citrina cyanotis** (Jard. & Selby).

Found throughout Betul district and as far as I know throughout the province. It is a resident species. It occasionally occurs in gardens but the typical habitat are the *nalas* in the forest where *Eugenia jambolana* and *Terminalia Arjuna* give shade throughout the year. Here they may be very common. They are usually in pairs and are active in the shade throughout the day. They are very quiet birds and unobtrusive. I have heard a bird in song on April 15th but I think the breeding season is later.

**Monticola solitaria** (P.L.S. Müller).

Widely distributed species in the cold weather from October to the middle of April. It is one of the last of the migrants to leave. It is common both in forest and villages.

**Myiophonus horsfieldii** Vigors.

Found here and there on the streams where they descend from the plateau over rocky precipices. The strongholds of this species are however the streams running off the Pachmarhi plateau. This species is very common there. They start their well-known school boy whistle in May. It occurs where conditions are suitable in the Betul forests. It is a resident species.

FLY-CATCHERS (*Muscicapidae*).

The Fly-catchers are well represented and are one of the most generally distributed and abundant groups. It will be seen that groups which take their food on the wing are all common species and these forests must support an immense insect population.

**Siphia parva** Bechstein.

Common in the winter and leaves comparatively late.



**Muscicapula tickelliae** Blyth.

Perhaps our most typical forest species and widely distributed.

**Eumyias thalassina** Swainson.

An occasional winter visitor.

**Culicicapa ceylonensis** Swainson.

A resident bird and widely distributed but not common.

**Hypothymis azurea** Boddaert.

About equally common with the last and my impression is that it is more common in the hot weather.

**Terpsiphone paradisi** Linn.

Definitely a summer visitor. It is not common in Betul but I give my observations based on five years in Bhandara and Chanda districts. There it arrives regularly in the last week of March and is common in suitable places in April and May. After May I am less certain but my impression is that the majority of birds leave at the break of the rains. A few birds are seen in July and August and a bird or two may be seen in the cold weather; but the main occurrence is as stated. Their favourite haunts are the *nalas* where water remains throughout the hot weather. Here the trees are in leaf in April and May and it is one of the finest sights in the world to watch these lovely birds hawking insects in these green fringed *nalas*. I have no record of the birds breeding but suggest that only a small proportion of birds breed here. I am unable to say which race our birds belong to.

**Leucocirca aureola** Lesson.

Our common species both in the forest and outside.

**Leucocirca pectoralis** Jerdon.

Occasionally seen in Betul and may be one of the species which prefer the higher elevations. It is the common species at Chikalda.

SHRIKES (*Lanidæ*).

**Lanius schach** Linn.

**Lanius vittatus** Valenciennes.

Occur throughout the forest.

**Lanius cristatus** Linn.

Only seen once in April, but I fancy it occurs fairly regularly.

**Lanius excubitor** Linn.

I have not found this shrike in Betul but it is a fairly regular inhabitant of the east of the province.



**Hemipus picatus** (Sykes).

An interesting species. It is not given by Osmaston<sup>3</sup> in his list of Pachmarhi birds but is mentioned as occurring in the Satpuras by D'Abreu: I have not seen it in any other part of the province. It is not given in Briggs'<sup>2</sup> list of birds of Mhow. The *New Fauna* gives the hills of the Deccan as one of the localities, but it is not recorded in the Hyderabad State Survey. I only saw a few individuals and never more than two birds at a time.

**Tephrodornis pondicerianus** Gmelin.

An abundant species both inside the forest and outside.

MINIVETS (*Pericrocotidæ*).**Pericrocotus speciosus semiruber** Whistler & Kinnear.

Almost certainly a resident species and I have seen it in most months. The males were engaged in courting flights at the beginning of May.

**Pericrocotus brevirostris** Vigors.

A winter visitor.

**Pericrocotus peregrinus** (Linn.).

A common species outside the forest but rare in the denser growth.

**Pericrocotus erythropygius** (Jerdon).

Seen occasionally more usually in open grassy forest, such as regeneration areas, and is less arboreal than the other species. I do not know whether it is resident.

## CUCKOO-SHRIKES.

**Lalage sykesi** Strickl.

Found; but the common species of this group is *Graucalis javensis* which is abundant throughout the district in the forest and the open. They appear to be more common in the hot weather.

SWALLOW-SHRIKES (*Artamidæ*).**Artamus fuscus** Vieill.

I have only seen a party of *Artamus fuscus* once in the Central Provinces in my service. That was this year in February in the centre of a large compact area of forest. I am fairly certain it is not common but negative information is untrustworthy. It is not shewn in D'Abreu's list.<sup>1</sup>



KING CROWS (*Dicruridæ*).

**Dicrurus macrocerus** (Vieill.).

Widely distributed throughout the district.

**Dicrurus longicaudatus** Blanf. & Oates.

I have not recorded this shrike but this is possibly due to my failure to distinguish specimens.

**Dicrurus coerulescens** (Linn.).

This is the typical Drongo of the forest. A very attractive bird and less forbidding than the King Crow. It is also a fine whistler and has many pleasing notes. It often whistles very quietly as if trying over the notes under its breath. Its general habits are the same as those of the other Drongos except that it is more aboreal and is not found in cultivation.

**Dissemurus paradiseus** (Linn.).

**D. p. malabaricus** (Lath.).

Find these bamboo forests very suitable and is abundant.

Probably both occur as there is an obvious difference in size of the birds seen. This is one of the most attractive of all birds and appears to find time to practise its vocal talents. The range and variety of the notes is great.

WARBLERS (*Sylvidæ*).

I omit the Warblers as my notes are not sufficiently full.

**Orthotomus sutorius** Pennant.

Is common.

**Franklinia buchanani** Blyth.

Is occasional.

**Prinia socialis** (Licht.) and **Prinia inornata** (Sykes).

Occur locally.

ORIOLES (*Oriolidæ*).

**Oriolus oriolus** (Linn.).

Apparently a summer visitor. I have only recorded it in April and May and once in September. Further observations however are necessary.

**Oriolus xanthornus** (Linn.).

The common resident species being common in the forest and the open country.



STARLINGS, MYNAHS (*Sturnidæ*).***Sturnia malabarica*** (Gmelin).

Rare or absent in Betul and I have no definite record of it. It is however common in large flocks in March and April in the south of the Province. It is certainly more common at that time of year; but whether it is entirely absent at other times, I am uncertain.

***Temenuchus pagodarum*** (Gmelin).

Fairly common all over Betul district.

***Acridotheres tristis*** (Linn.).

Also abundant throughout.

***Acridotheres ginginianus*** (Lath.).

Not met with in Betul, but I have seen it near Katni in the Jubbulpur district.

***Aethiopsar fuscus*** (Wagl.).

Certainly not a common species in the Central Provinces; but I think I have seen it once or twice this year in Betul. The bird, I suspect to be it, was certainly a Mynah and not either the Common or Bank Mynah so by elimination I consider it likely to have been *Aethiopsar fuscus*.

***Sturnopastor contra*** Blanf. & Oates.

Also not a Betul bird, but I have seen it locally in Bhandara district. The distribution of the mynahs appears to be very erratic in the Central Provinces.

WEAVER BIRDS (*Ploceidæ*).***Ploceus philippinus*** (Linn.).

A rare bird in Betul, probably in the absence of tanks and watery ground. It is frequent in other parts of the province.

***Uroloncha malabarica*** (Linn.).

The common species being moderately common throughout; but it is more common in open cultivation.

***Stictospiza formosa*** (Lath.).

I have seen it once in the west of the district towards the Nimar border. I visited the same locality a second time but did not see any birds. The male is a very neatly marked individual. I have no records of other species of *Munia* but I suspect that *Uroloncha striata* occurs. It seems a very skulking bird and on neither occasion could I get a clear view but there is no other bird which answers the description I wrote down and it certainly was a *Munia* of sorts.



FINCHES (*Fringillidæ*).**Carpodacus erythrinus** (Pall.).

Occurs in January and February and may be locally common, particularly in areas under regeneration.

**Gymnorhis xanthocollis** (Burton).

This is another species of whose status I am doubtful. I have only recorded it from December to June. In March and April it is exceedingly abundant all over the forest; and, if anyone loses their birds, we could account for the majority. In May it is seen in quite large flocks. I think that the majority of birds must leave us in the rains. It breeds in March and April and is then very prominent and the vigorous chirping fills the forest. Afterwards however it is much less obtrusive.

**Passer domesticus** (Linn.).

Always with us.

**Emberiza melanocephala** Scop.**Emberiza icterica** Eversm.

Both occur in flocks in February and March when the cold weather crops are ripening. In the south of the province it is seen in January and it probably follows the ripening of the crops to the north. Curiously I have never recorded either species in September to December.

**Melophus lathami** Gray.

A local migrant. I have seen birds in all months of the year, but it is more common in December to February. This year it was quite abundant locally both round forest villages and in the forest. Several individuals may be found together in a loosely associated flock, but it appears less gregarious than other species of this group.

MARTINS AND SWALLOWS (*Hirundinidæ*).**Riparia chinensis** Gray.

Occurs locally.

**Riparia concolor** (Sykes).

Also found.

**Hirundo smithii** Leach.

The common local species of this group both in the open and the forest. It is of course more common near water, but occurs also in fairly dry areas.



**Hirundo daurica** Linn.

Found here and there; but I associate it with the more inaccessible and deserted parts of the forest. I have insufficient data to enable me to say whether it is migratory.

WAGTAILS, LARKS AND PIPITS (*Motacillidæ*).**Motacilla alba** Linn.

Abundant in the cold weather, arriving in the first week of October. A wave of these birds seem to arrive and for a few days they are as thick as leaves. They leave in the middle of April.

**Motacilla maderaspatensis** (Gmelin).

Found regularly on the larger nalas and other water. They breed in April.

**Motacilla cinerea** Tunstall.

Our earliest migrant to arrive in the second half of September and leaves nearly the last after the 15th April. One of these birds will occur wherever water is found even in the remotest forest.

**Motacilla flava** Linn.

Occurs sparingly.

**Anthus hodgsoni** (Richmond).

Widely distributed from November to May.

**Anthus rufulus** Vieill.

I am discreetly non-committal about this species as I am not sure whether I have not confused it with one of the larks. About the Larks I am also doubtful in my identifications.

**Mirafr erythroptera** Jerdon.

A widely distributed species.

**Alauda gulgula** Franklin.

Common.

**Eremopteryx grisea** (Scop.).

A winter visitor in my opinion. Anyhow it is less common in the summer and I have only recorded it from February to May.

WHITE-EYES (*Zosteropidæ*).**Zosterops palpebrosa** (Temm.).

One of our abundant species both in the forest and the mango groves in the open areas.



SUNBIRDS (*Nectarinidæ*).

**Cinnyris asiaticus** (Lath.).

The only sun-bird of these parts and is common all over the district.

**Cinnyris zeylonicus** (Linn.).

Only occurs, if at all, in the south of the province.

PITTAS (*Pittidæ*).

**Pitta brachyura** (Linn.).

One of our summer visitors. It is rare in Betul, but was a very common species in the denser bamboo forest of Chanda district. There it used to arrive in May and probably left in September or October. It probably breeds in the Central Provinces as I have seen nests which answer to the description of Pitta's nests.

WOODPECKERS (*Gecinidæ*).

**Brachypternus bengalensis** (Linn.).

Our common wood-pecker, and it might be described as abundant throughout our forests.

**Dryobates mahrattensis** (Lath.).

Also common.

**Dryobates hardwickii** (Jerd.).

Generally distributed.

These are the common species; at least one more occurs, but I have never had a clear view.

BARBETS (*Capitonidæ*).

**Thereiceryx zeylanicus** (Gmel.).

Very abundant.

**Xantholaema haemacephala** (Müller).

Common.

ROLLERS (*Coracidæ*).

**Coracias bengalensis** (Linn.).

Widely distributed and penetrates right into the forest. It does not ascend very high and is uncommon on the Chikalda plateau.



BEE-EATERS (*Meropidæ*).**Merops orientalis** Lath.

The common species.

Leaves the plateau during the rains from July to September. It occurs in the plains of the Central Provinces throughout the rains but my impression is that it is less common at this time.

**Merops superciliosus** Linn.

I have not recorded at all in Betul.

KINGFISHERS (*Alcedinidæ*).**Ceryle rudis** Linn.

Not common, as suitable water is rare; but it occurs on the larger nalas.

**Alcedo atthis** (Linn.).

Common and well distributed.

**Halcyon smyrnensis** (Linn.).

The typical species of this group, and occurs throughout our forest very regularly. It is apparently the victim of one of the birds of prey as I have found remains two or three times.

**Ramphalcyon capensis gural** (Pearson).

Also a regular inhabitant of stretches of permanent water in the forest. It is found in similar places in Chanda as well.

All four species are resident. The last species is excessively noisy and has a loud ringing call which is unusual.

## HORNBILL (Bucerotidæ).

**Tockus birostris** (Scop.).

A common species throughout.

**Anthracoceros coronatus** (Bodd.).

I have seen one party of this at one of the higher parts of the plateau in December.

HOOPOE (*Upupidæ*).**Upupa epops** Linn.

A regular inhabitant, and is partially migratory. It is less common in the rains and more common in the cold weather.

SWIFTS (*Cypselidæ*).**Micropus affinis** (Gray).

Found here and there.



**Micropus melba** (Linn.).

I think also occurs regularly, but I have only noted it once without doubt.

**Hemiprocne coronata** (Tickell).

A regular jungle species; but I did not know the identity of the bird, when I first came, so that it does not occur in the records until March.

NIGHTJARS (*Caprimulgidae*).**Caprimulgus macrurus** Horsf.

Regarding the Indian Nightjars I am doubtful as my identifications largely depend on their calls. On this basis and going by the descriptions of the call given in Whistler's *Hand Book* and the *New Fauna* I consider *Caprimulgus macrurus* to be the common forest species.

**Caprimulgus indicus** Lath.**Caprimulgus asiaticus asiaticus** Lath.

More occasional. The birds are fairly common throughout the forest. They start to call from the middle to end of March. The calling is most vigorous at dusk and a second crescendo announces the dawn.

CUCKOOS (*Cuculidae*).

The Cuckoos. I offer my observations on this group with a certain amount of hesitation. Granting that one more often hears these birds than sees them, I find it difficult to acknowledge that in ten years I should have regularly failed to see any birds in the cold-weather—if they stayed with us.

**Cuculus canorus** Linn.

In my opinion it arrives towards the end of April to the beginning of May.

**Cuculus micropterus** Gould.

Arrives about the same time.

**Hierococcyx varius** (Vahl.).

More or less a resident.

**Clamator jacobinus** (Bodd.).

Definitely migratory arriving with the break of the rains, roughly speaking in the second half of June.

**Eudynamis scolopaceus** (Linn.).

Also fairly certainly migratory but arrives earlier than the other species about the middle of March to early April. The dates of



departure of this species are much more difficult to fix but I think they leave about the middle of September which represents the turn of the year with us.

**Toccocua leschenaultii** Lesson.

A widely distributed bird in jungle with a certain amount of grass. This is one of the quietest and most unobtrusive bird that I know.

**Centropus sinensis** Stephen.

Also widely distributed but is more common in cultivation and open country than in the forest. Both these species are resident.

PARAKEETS (*Psittaculidæ*).

**Psittacula eupatria** (Linn.).

**Psittacula krameri** (Scop.).

**Psittacula cyanocephala** (Linn.).

Abundant. Perhaps *Psittacula cyanocephala* is the most frequent in the forest.

OWLS (*Asionidæ*).

I do not claim that my records of the owls are in any way complete and even the ones I have recorded may be wrongly identified.

**Ketupa zelonensis** (Gmel.).

Fairly common along the larger nalas.

**Bubo bengalensis** (Franklin).

Also fairly widely distributed.

**Otus sunia** (Hodgs.).

Frequent in Betul district. This bird advertises itself by its characteristic call and going by the call its distribution is very irregular. I heard it in the *sal* forests in the east of the province, when I first entered the service; but for ten years, until I came to Betul, I did not hear it in the south or north of the province.

**Athene brama** (Temm.).

Common throughout. This owl will stay out quite late in the mornings and when the white ants are flying will continue hunting until the sun is well up. There are few birds who do not take advantage of the white ant swarms. Of the birds I have seen feeding I think the Green Barbet is the least adapted to taking food on the wing.



VULTURES (*Gypsiidæ*).

**Sarcogyps calvus** (Scopoli).

Ordinarily common.

**Pseudogyps bengalensis** (Gmelin).

The chief species of the Central Provinces.

**Gyps indicus** (Scopoli).

Also occurs.

**Neophron percnopterus** (Linn.).

Widely distributed. Some birds found near small jungle villages look more tidy than the usual run of birds.

EAGLES, FALCONS, KITES ETC. (*Falconidæ*)

**Falco tinnunculus** (Linn.).

As far as I know a winter bird in Betul. It is fairly common from October to March.

I have no definite records during the last year of any eagles.

**Spizaëtus cirrhatus** (Gmelin).

Well distributed but in no way common.

**Spilornis cheela** (Lath.).

A more common forest species being found close to water.

**Butastur teesa** (Frankl.).

The common and abundant species of small hawk in these parts. It is one of the birds that appear to spend very little time feeding. It is generally either soaring or sitting lumpily on a tree.

**Haliastur indus** (Bodd.).

Only occasionally seen on the larger nalas.

**Milvus migrans** (Bodd.).

Widely distributed. Jungle birds always seem to be larger and darker than those seen round towns. Perhaps the town birds rely on scavenging while jungle species must vary their diet with more natural food.

**Circus macrourus** (S. G. Gmel.).

I am uncertain of the correctness of my identification of the Harriers but I think this is the common species. These birds arrive in October and leave in February or early March.



**Astur badius** (Gmelin).

Common in forest and cultivation.

**Accipiter nisus** (Linn.).

I have no certain record of this, but I think it does occur. I am also doubtful of the occurrence of either the Lugger or the Hobby.

**Pernis ptilorynchus** (Temm.).

A common jungle species.

PIGEONS AND DOVES (*Columbidæ*).**Crocopus phoenicopterus** (Linn.).

Very common.

**Muscadivora aenea** (Linn.).

A resident in Chanda district but only in small parties in very restricted localities.

**Chalcophaps indica** (Linn.).

I should like to draw attention to the occurrence reported by D'Abreu in Balaghat district. This is probably the only locality as I have served in the districts surrounding Balaghat without seeing it. This is an excellent example of discontinuous distribution as the nearest localities are the Western Ghats, Himalayas and Behar and Orissa.

**Columba livia** Gmelin.

Occurs occasionally as a forest bird where suitable rocky sites are found but more usually it is associated with old buildings or towns.

**Streptopelia orientalis agricola** (Tickell).

A fairly common forest bird and a resident species.

**Streptopelia chinensis** (Scop.).

The common dove of the forests.

**Streptopelia senegalensis** (Linn.).

Less of a forest species and not particularly common in this district.

**streptopelia risoria** (Linn.).

Also not a true forest species and is more usually found in the open country.

**Oenopopelia tranquebarica** Herm.

Also a bird of open country. Does the male bird migrate? From about August to November I did not note a male bird.



SANDGROUSE (*Pteroclidæ*).**Pterocles indicus** (Gmelin).

The common sand-grouse of most of the province. Most of the year it is found in pairs scattered in the forest; but in August and September small covies are seen. These are probably family parties. In the rains they are found in more open country and on suitable sites a large number of birds may be found together. These are the drier areas which stand above the general level of cultivation. There is a famous shoot in the south of the province where 200 birds may be seen in the air together. This sand-grouse drinks after dusk and as far as I know only once a day.

PEACOCK, JUNGLE-FOWL, QUAILS, ETC. (*Phasianidæ*).**Pavo cristatus** Linn.**Gallus sonnerati** Temm.

Both common.

**Galloperdix spadicea** (Gmel.).

Also widely distributed in the forest particularly in bamboo jungle.

**Coturnix coturnix** (Linn.).

Fairly common in open country.

**Perdica asiatica** (Lath.).**Francolinus pictus** (Jard. and Selby).

A forest species.

**Francolinus pondicerianus** (Gmelin).

Both fairly common in open forest.

STONE-PLOVERS (*Oedictnemidæ*).**Oedictnemus oedictnemus** (Linn.).

An occasional inhabitant of more open forest. It seems to shun any forest where the growth is at all dense.

PLOVERS, LAPWINGS (*Charadriidæ*).**Lobivanellus indicus** (Bodd.).

A very regular forest inhabitant and no open ground is without a pair.



**Lobipluvia malabarica** (Bodd.).

Not a forest species, but occurs fairly regularly on the plateau and in cultivation below.

**Hoplopterus duvaucellii** Lesson.

Found in pairs on the larger nalas.

**Charadrius dubius** (Scop.).

Found here and there on the larger nalas.

**Tringa hypoleucus** Linn.

A frequent species at all water.

TERNs (*Sternidæ*).**Sterna aurantia** Gray.

Seen occasionally.

CORMORANTS (*Phalacrocoridæ*).**Phalacrocorax niger** (Vieill).

Can find enough food on some of the larger streams.

STORKS (*Ciconidæ*).**Dissoura episcopus** (Bodd.).

Another occasional resident.

EGRETS AND HERONS (*Ardeidæ*).

Egrets are found on some parts of the plateau but are not common.

**Ardeola grayii** (Sykes).

Also only found occasionally.

**Butorides striatus** (Linn.).

Found fairly regularly on forest streams.

## REFERENCES.

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2. Briggs, *J.B.N.H.S.*, vol. xxxv, 2.
3. Osmaston, *J.B.N.H.S.*, vol. xxviii, 2.
4. Bates, *J.B.N.H.S.*, vol. xxxi, 4.
5. D'Abreu, *J.B.N.H.S.*, vol. xxxv, 1.



## MONTHLY LIST OF BIRDS OBSERVED

x shews bird seen.

a shews bird definitely absent.

Species.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Remarks.
<i>Corvus macrorhynchos</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Corvus splendens</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Dendrocitta vagabunda</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Parus major</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Machlolophus xanthogenys.</i>	x	x	x	x	x	x	x	x	x	x	x	x	
<i>Sitta castanea</i>	...	...	x	x	...	...	...	...	...	...	...	x	Seen near Betul.
<i>Sitta frontalis</i>	...	...	...	x	...	x	...	...	...	...	...	...	Seen in one locality.
<i>Turdoides somervillei</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Argya caudata</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Argya malcolmi</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Pomatorhinus horsfieldii.</i>	...	...	...	x	x	...	...	...	...	...	...	...	Local.
<i>Dumetia hyperythra</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Pellorneum ruficeps</i>	...	...	...	...	x	x	...	...	...	...	...	...	Local.
<i>Alcippe poioicephala</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Aegithina tiphia</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Chloropsis jerdoni</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Molpastes cafer</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Otocompsa jocosu</i>	...	...	...	...	...	x	...	...	...	...	...	x	Local.
<i>Saxicola caprata</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Saxicola torquata</i>	...	x	x	x	a	a	a	a	a	a	a	x	
<i>Phoenicurus ochrurus</i>	...	x	x	x	x	a	a	a	a	x	x	x	
<i>Saxicoloides fulicata</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Copsychus saularis</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Turdus simillimus</i>	...	...	...	...	x	x	...	...	...	...	...	...	Local.
<i>Geokichla citrina</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Monticola solitaria</i>	...	x	x	x	x	a	a	a	a	a	x	x	



MONTHLY LIST OF BIRDS OBSERVED—(continued).

× shews bird seen.

a shews bird definitely absent.

[illegible]



## MONTHLY LIST OF BIRDS OBSERVED—(continued).

x shews bird seen.

a shews bird definitely absent.

Species.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Remarks.
<i>Franklinia buehanani</i>	...	...	x	...	...	...	...	...	...	...	...	...	Probably occurs.
<i>Prinia socialis</i>	...	...	...	...	x	x	x	...	...	...	...	...	Do.
<i>Prinia inornata</i>	...	...	...	...	x	x	...	...	...	...	...	...	Do.
<i>Oriolus oriolus</i>	...	...	...	...	x	x	x	...	x	...	...	...	Probably migra- tory.
<i>Oriolus xanthornus</i>	...	x	x	x	x	x	...	x	...	...	...	x	Probably resident.
<i>Temenuchus pagodarum</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Acridotheres tristis</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Ploceus philippinus</i>	...	...	...	x	...	...	...	...	...	...	...	...	Not a typical resident.
<i>Uroloncha malabarica</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Stictospiza formosa</i>	...	...	...	...	...	x	...	...	...	...	...	...	Local.
<i>Carpodacus erythrinus</i>	...	...	x	...	a	a	a	a	a	a	...	...	Migratory.
<i>Gymnorhis xanthocollis</i>	...	x	x	x	x	x	...	...	...	...	...	x	Suspected mig- rant.
<i>Passer domesticus</i>	...	x	x	x	x	x	x	x	x	x	x	x	
<i>Emberiza melanocephala</i>	...	...	x	x	...	...	...	...	...	...	...	...	Migrant.
<i>Emberiza icterica</i>	...	...	...	x	...	...	...	...	...	...	...	...	Do.
<i>Melophus lathamii</i>	...	...	x	x	x	x	...	...	...	...	...	...	Status uncertain.
<i>Riparia chinensis</i>	...	...	...	...	...	x	x	x	...	...	...	...	Probably resi- dent.
<i>Riparia concolor</i>	...	...	...	...	...	x	x	...	...	...	...	...	
<i>Hirundo smithii</i>	...	x	x	x	...	x	x	x	x	...	...	x	
<i>Hirundo daurica</i>	...	...	...	...	...	x	...	...	...	...	...	...	Local.
<i>Motacilla alba</i>	...	x	x	x	x	a	a	a	a	a	x	x	
<i>Motacilla maderaspatensis.</i>	x	...	x	x	...	...	...	x	...	...	...	x	Resident.
<i>Motacilla cinerea</i>	...	x	x	x	x	a	a	a	a	x	x	x	
<i>Motacilla flava</i>	...	...	...	x	...	...	...	...	...	...	...	...	Migratory.
<i>Anthus hodgsoni</i>	...	x	...	x	x	a	a	a	a	...	...	x	Absent in Sum- mer.



## MONTHLY LIST OF BIRDS OBSERVED—(continued).

x shews bird seen.

a shews bird definitely absent.

Species.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Remarks.
<i>Anthus rufulus</i>	...	...	...	x	...	x	x	x	x	...	...	...	Status uncertain.
<i>Alauda gulgula</i>	...	...	...	...	x	x	x	...	...	...	...	...	
<i>Mirafra sp.</i>	...	...	...	...	...	...	...	...	...	...	...	...	Insufficient data.
<i>Ammomanes phoenicura</i>	...	...	...	x	...	...	...	...	...	...	...	...	Do.
<i>Eremopteryx grisea</i>	...	x	x	x	x	...	...	...	...	...	...	...	Probably migratory.
<i>Zosterops palpebrosa</i>	...	x	...	x	x	x	x	x	x	...	...	...	
<i>Cinnyris asiaticus</i>	...	x	x	x	x	x	x	x	...	...	...	x	
<i>Pitta brachyura</i>	...	a	a	a	...	x	...	...	x	...	a	a	Summer visitor.
<i>Dryobates maharattensis</i>	...	x	x	x	x	x	...	...	...	...	...	x	Resident.
<i>Dryobates hardwickii</i>	...	...	x	...	x	...	...	...	...	...	...	...	Resident local.
<i>Brachypternus bengalensis</i>	...	x	x	x	x	...	x	x	x	...	...	x	
<i>Thereiceryx zeylanicus</i>	...	x	x	x	x	...	...	x	x	...	...	x	
<i>Xantholaema hemacephala</i>	...	x	x	x	x	x	x	...	...	...	...	x	
<i>Coracias bengalensis</i>	...	x	x	x	x	x	x	x	x	...	...	x	
<i>Merops orientalis</i>	...	x	...	x	x	x	x	a	a	x	...	x	Locally migrates.
<i>Ceryle rudis</i>	...	x	...	x	x	...	...	...	...	...	...	x	Resident.
<i>Alcedo atthis</i>	...	x	x	x	x	...	x	...	...	...	...	x	Do.
<i>Ramphalcyon capensis</i>	...	x	...	...	...	...	...	...	...	...	...	x	Do.
<i>Halcyon smyrnensis</i>	...	x	x	x	x	x	x	x	x	...	...	x	Do.
<i>Tockus birostris</i>	...	...	...	x	x	x	x	x	x	...	...	x	Do.
<i>Anthracoseros coronatus</i>	...	...	...	...	...	...	...	...	...	...	...	x	Blanford and Dazes.
<i>Upupa epops</i>	...	x	x	x	x	x	x	...	...	...	...	x	Rare local migrant.
<i>Micropus affinis</i>	...	x	...	x	x	x	...	...	...	...	...	x	Resident.
<i>Micropus melba</i>	...	...	...	x	...	...	...	...	...	...	...	...	
<i>Hemiprocne coronata</i>	...	...	...	x	x	...	...	...	...	...	...	...	Resident.
<i>Caprimulgus macrurus</i>	...	...	...	x	x	...	...	...	...	...	...	...	Only recorded by breeding calls



## MONTHLY LIST OF BIRDS OBSERVED—(continued)

× shews bird seen.

a shews bird definitely absent.

Species.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Remarks.
<i>Caprimulgus indicus</i> ...	...	...	...	×	×	...	...	...	...	...	...	...	Do.
<i>Caprimulgus asiaticus</i> ...	...	...	...	×	×	...	...	...	...	...	...	...	Do.
<i>Cuculus canorus</i> ...	a	a	a	×	×	×	×	×	...	a	a	a	
<i>Cuculus micropterus</i> ...	a	a	a	×	×	×	×	a	a	a	a	a	
<i>Hierococyx varius</i> ...	×	×	×	×	×	×	×	×	...	...	×	...	Probably resident.
<i>Clamator jacobinus</i> ...	a	a	a	a	a	×	×	×	×	a	a	a	
<i>Eudynamis scolopaceus</i> ...	a	a	×	×	×	×	×	×	a	a	a	a	
<i>Toccocua leschenaultii</i> ...	...	×	×	×	×	...	...	...	...	...	...	...	Probably resident.
<i>Centropus sinensis</i> ...	×	×	×	×	×	×	×	×	×	...	...	×	
<i>Psittacula eupatria</i> ...	×	×	×	×	×	×	×	×	×	...	...	×	
<i>Psittacula krameri</i> ...	×	×	×	×	×	×	×	×	×	...	...	×	
<i>Psittacula cyanocephala</i> ...	×	×	×	×	×	×	×	×	×	...	...	×	
<i>Retupa zeylonensis</i> ...	×	...	...	...	...	...	...	...	...	...	...	...	Insufficient data.
<i>Bubo bengalensis</i> ...	...	...	×	×	...	...	...	...	...	...	...	...	Do.
<i>Otus sunia</i> ...	×	×	×	×	×	...	...	...	...	...	×	×	
<i>Athene brama</i> ...	×	×	×	×	×	×	...	...	...	...	...	×	
<i>Sarco gyph calvus</i> ...	×	...	×	×	×	×	×	×	×	...	...	×	
<i>Gyps indicus</i> ...	...	...	...	...	×	...	...	...	...	...	...	...	Probably resident.
<i>Pseudogyps bengalensis</i> ...	×	×	×	×	×	×	×	×	×	...	...	×	
<i>Neophron percnopterus</i> ...	×	×	×	×	×	×	×	×	×	...	...	×	
<i>Spizaetus cirrhatus</i> ...	×	...	×	...	×	...	...	...	...	...	...	×	
<i>Spilornis cheela</i> ...	...	...	×	×	×	...	...	...	...	...	...	...	Local.
<i>Bulastur teesa</i> ...	×	×	×	×	×	×	...	...	...	...	...	×	
<i>Haliastur indus</i> ...	×	×	×	...	×	×	...	...	...	...	...	×	
<i>Milvus migrans</i> ...	×	×	×	×	×	×	×	×	×	...	...	×	
<i>Circus macrourus</i> ...	×	×	×	a	a	a	a	a	a	×	×	×	







## MONTHLY LIST OF BIRDS OBSERVED—(continued)

× shews bird seen.

a shews bird definitely absent.

Species.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Remarks.
<i>Dissoura episcopus</i>	...	..	×	×	×	×	...	...	...	...	...	...	Local.
<i>Bubulcus ibis</i>	...	×	...	...	×	×	...	...	...	...	...	×	Local.
<i>Ardeola grayi</i>	...	...	...	...	×	...	×	...	...	...	...	...	Local.
<i>Butorides striata</i>	...	...	...	×	×	×	...	...	...	...	...	...	Local.





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