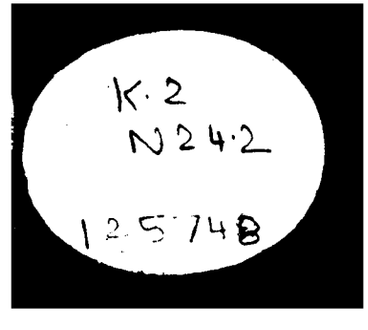

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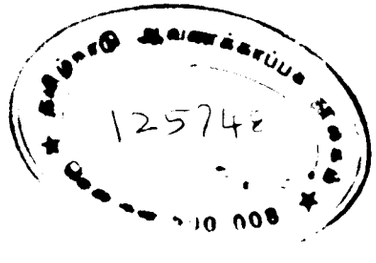
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PREFACE.

During the calendar year 1923 the following volumes of the "Fauna of British India" appeared—Diptera. Vol. III. *Pipunculidæ*, *Syrphidæ*, *Conopidæ*, *Œstridæ*, by E. Brunetti, and Oligochæta, by Dr. J. Stephenson.

In 1922 the first volume of the Aves, re-edited by Mr. E. C. Stuart Baker, was published. The present volume contains a further instalment of the *Passeres* including the *Cinclidæ* (Dippers); *Turdidæ* (Thrushes, Chats, etc.); *Muscicapidæ* (Flycatchers); *Laniidæ* (Shrikes); *Dicruridæ* (Drongos); *Sylviidæ* (Warblers, and *Regulidæ* (Goldcrests, etc.). It is hoped that a third volume will complete the *Passeres* and possibly also include the Woodpeckers, Barbets and other birds contained in Volume III. of the first edition with the exception of the *Strigidæ* and *Falconidæ*.

Certain additions and alterations have been made in the form in which the first volume of this edition appeared. These it is hoped will be an improvement and will be of use to readers other than pure field-naturalists and observers. The first reference to each genus and also the type of the genus and the type-locality have been given. When the typical form of any genus or species is "extra-limital" to the area included in this work, similar references have again been given and also a brief note showing how the nearest form in Indian limits differs from the typical one.

THE FAUNA OF BRITISH INDIA,

INCLUDING

CEYLON AND BURMA.

SECRETARIAT LI
20 NOV 1938
MADRAS

Published under the Authority of the Secretary of State for India in Council.

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EDITED BY SIR ARTHUR E. SHIPLEY, Sc.D. Cantab., HON. D.Sc. Princeton, HON. LL.D. Michigan, F.R.S.

BIRDS.—VOL. II.

(Second Edition.)

BY

E. C. STUART BAKER, O.B.E., F.Z.S., Etc.

LONDON:
TAYLOR AND FRANCIS, RED LION COURT, FLEET STREET.
April, 1924.

XXV.9.
67

Finally, separate keys to the subspecies have been given as well as keys to the species; these it is hoped will facilitate identification.

I may add that the present volume is in other respects fully up to the standard set by the author in his previous publication of eighteen months ago.

Christ's College Lodge,
Cambridge.
15th March, 1924.

A. E. SHIPLEY.

AUTHOR'S PREFACE.

THIS second volume of the Avifauna contains a further instalment of the *Passeres*, including 473 species and subspecies, bringing the total number dealt with up to date to 949. The second volume of the Avifauna has appeared within about 20 months of the first, although the prescribed period between the publication of each issue is supposed to be two years. This is due to the persistence of our Editor, Sir Arthur E. Shipley, and, it must be added, to the fact that the Authorities concerned fully appreciate the value of rapid production in a work of this nature. A still more important success gained by the Editor is sanction to a sixth volume to the Avifauna, which is to contain a full Synonymy of all first references in addition to corrigenda and addenda to the first five volumes.

It is hoped that the third volume will be completed in another 18 months or less and that subsequent volumes will appear at even shorter intervals. Readers will, however, realize that any work which entails the consideration of *subspecies*—a new factor in Indian Zoology—also entails an enormous amount of Museum work, which cannot be hurried over. Nomenclature, also, is at present in such a state of flux that it is extremely difficult to follow the writings of those who make a special study of this subject, in addition to the original research work the Author himself has to get through.

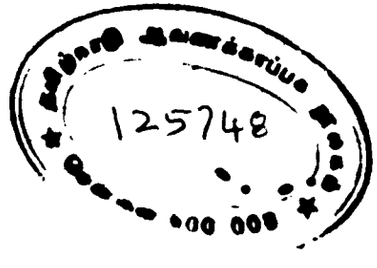
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March 1924.

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RED LION COURT, FLEET STREET.



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Family CINCLIDÆ.

The Dippers comprise a small group of birds which have undergone special adaptation to suit them to a more or less aquatic life. They appear to be closely allied to the *Troglodytidæ*, or Wrens, on the one hand, and to the *Turdidæ*, or Thrushes, on the other.

The nidification of these birds is very peculiar—the nests are very large and domed, and the eggs are pure white—and is certainly more like that of the former than that of the latter family.

In the Dippers the bill is very like that of the Wrens, it is almost as long as the head, narrow and straight, the tip slightly bent down and notched; the nostrils are covered by a large membrane and *there are no rictal bristles*; the wing is short and rounded; the tail exceedingly short and the tarsus long, smooth and very strong, with short, powerful claws.

The sexes are alike and the plumage of the young is barred. A semi-adult plumage is acquired in the first autumn moult but the feathers of parts of the breast and throat are fringed with white, these fringes being lost by abrasion in the succeeding season. The head is narrow in front and the feathers of the forehead very short, lying close to the head. The plumage generally is very firm and dense.

Genus **CINCLUS** Borkhausen, 1797.

Type, *C. cinclus* Linn. Type-locality: restricted to Sweden.

The characters of the genus are those of the family.

Key to Species.

A. Chin and breast white..... *Cinclus cinclus*, p. 1.
B. Chin and breast brown..... *Cinclus pallasii*, p. 4.

Cinclus cinclus.

Sturnus cinclus Linn., S. N., i, p. 290, 1766.

Type-locality: Sweden.

Key to Subspecies.

A. Chin, throat and breast white; abdomen brown ..... *C. c. cashmeriensis*, p. 2.
B. Chin, throat, breast and abdomen all white. *C. c. leucogaster*, p. 3.

The bird hitherto known as *Cinclus sordidus*, which is only an aberrant form of *cashmeriensis*, has the lower parts all more or less brown, but the brown is much paler than on the upper parts and not concolorous with them as in *pallasii*.

(477) Cinclus cinclus cashmeriensis.

THE KASHMIR DIPPER or WHITE-BREASTED ASIATIC DIPPER.

Cinclus cashmeriensis Gould, P. Z. S., 1859, p. 494 (Kashmir).
Cinclus kashmiriensis. Blanf. & Oates, ii, p. 162 (1890).
Cinclus sordidus. Blanf. & Oates, ii, p. 165.

Vernacular names. *Daodui-di* (Cachari).

Description. Forehead, lores, crown and upper back chocolate-brown; edges of eyelids with white feathers; remainder of upper plumage slate-colour, each feather centred and edged with black; on the back the slate and brown grade into one another; wing-feathers brown, edged with slate and the secondaries edged with white; tail slate-colour, faintly cross-rayed; chin, throat, cheeks and breast pure white; remainder of lower plumage chocolate-brown, darker than the head and deepening to dark chocolate on flanks, vent and under tail-coverts.

Colours of soft parts. Iris bright hazel; bill black or blackish brown; legs and feet dark brown, slaty-brown or almost black.

Measurements. Total length about 190 to 200 mm.; wing 90 to 100 mm.; tail 48 to 56 mm.; tarsus 27 to 29 mm.; culmen 18 to 19 mm.

Young birds after the first spring moult are like the adults but the feathers of the abdomen, vent, posterior flanks and under tail-coverts are streaked with white.

Nestlings have the whole upper plumage slate-grey, the feathers edged with dark brown; wing-coverts grey, with dark centres and broad white tips which form two wing-bars; wing-quills dark brown with broad terminal edges of white and the outer webs broadly edged with grey; the whole lower plumage is white, the dark bases of the feathers showing through here and there, with numerous narrow bars of black or blackish brown.

The birds hitherto known as *Cinclus sordidus*, which have the whole throat and breast brown like the head, are generally accepted as nothing more than aberrant specimens of the Kashmir Dipper. They occur over exactly the same area and intermediate forms are not very rare. The types of *sordidus* and *cashmeriensis* were both obtained at the Tso Morari Lake, Ladak.

Distribution. Kashmir, Murree Hills, Garhwal, Nepal, Sikkim, Tibet East to Kanni. Northern Assam as far East as Tezpur, not East of the Dibong or Brahmaputra and not South of that river. West to the Khagan Valley, and the whole N.W. Frontier.

Nidification. The Kashmir Dipper breeds in Kashmir from early April to the end of June at all heights from the lowest valleys up to 12,000 feet and possibly much higher. In the Khagan and Kurram Valleys on the extreme N.W. Frontier, Major C. H. T. Whitehead took two nests in the end of June at 12,000 feet. The nests are large domed structures, much the size and shape of a football and are built of moss, roots, grass and

leaves well matted together and lined with soft moss and grass. They are generally placed on a rock, small island or stranded log in the middle of a stream, sometimes on rocks or between boulders on banks and often, wherever it may be placed, it is a most conspicuous object, though in appearance it is so like a lump of rubbish, left by the flood, that it escapes detection. The eggs number four or five and are pure white with soft glossless texture and fragile shell. In shape they are normal or pointed ovals. Fifty eggs average 25·9×18·5 mm.: maxima 21·1×18·9 and 26·3×19·5 mm.; minima 22·8×? and ?×16·4 mm. (*Hume*).

Habits. This Dipper is found both in summer and winter at very high levels and is one of the hardiest of birds. It has been seen at 15,000 feet in midwinter and Walton recorded it as common at Chumbi at 14,000 feet at that season. It spends all its time on fast-running streams, sometimes hunting the rocks and shallows for insects, etc., at other times pursuing its prey under water. It prefers rapids and turbulent waters to the more placid pools and is extraordinarily active under the most difficult of conditions whether above or below water. It flies with speed and directness, skimming along close to the surface, notifying both start and stop to its flight by its shrill whistle.

(478) Cinclus cinclus leucogaster.

THE WHITE-BELLIED DIPPER.

Cinclus leucogaster Bonaparte, Consp. Av., i, p. 252 (1850) (West Siberia).

Vernacular names. None recorded.

Description. Similar to the Kashmir Dipper but the lower parts are all white, with the exception of the extreme posterior flanks and vent which are brown and the under tail-coverts which are slaty-grey; even these parts, however, are also much marked and fringed with white; the head, neck and upper back are generally decidedly paler than in *cashmeriensis*.

Colours of soft parts and **Measurements** are the same as those of the last bird.

Distribution. West Siberia, Turkestan, Altai, the region of Lake Baikal and straggler South to Gilgit, from which last-named place there is a typical specimen in the British Museum.

Nidification. I can find nothing recorded.

Habits. Those of the genus.

Both this race and the last differ from typical *Cinclus cinclus* in being much darker, less reddish above and by the brown extending further down the back into the slate-colour. *C. c. cashmeriensis* also differs in being less red on the abdomen next to the white breast.

Cinclus pallasii.

Cinclus pallasii Temm., Man. d'Orn., i, p. 177 (1815).

Type-locality: Crimea.

Key to Subspecies.

A. Chocolate of head etc. not very dark; culmen from front 18 to 19 mm. ..... *C. p. tenuirostris*, p. 4.
B. Chocolate very dark; culmen 20 to 22·5 mm. *C. p. marila*, p. 5.

(479) Cinclus pallasii tenuirostris.

THE INDIAN BROWN DIPPER.

Cinclus tenuirostris Bonaparte, Consp. Av., i, p. 252 (1850) (Central Asia).

Cinclus asiaticus. Blanf. & Oates, ii, p. 163.

Vernacular names. *Nambong-kurriak* (Lepcha); *Chutia-nakka* (Bhut.).

Description. A ring of feathers on the eyelids white, often hardly showing; terminal edges of secondaries white and, in freshly moulted birds, a narrow pale fringe to the greater coverts. With these exceptions the whole plumage is chocolate-brown, the concealed portions of the wings and tail rather darker.

Colours of soft parts. Iris hazel-brown; bill black or nearly so; legs light to dark brown, sometimes tinged with plumbeous; soles paler and yellowish.

Measurements. Wing 93 to 101 mm.; tail 55 to 60 mm.; tarsus about 28 mm.; culmen 18 to 19 mm.

Distribution. Turkestan, Himalayas from Naini Tal and Murree, through Kashmir, Simla Hills, Garhwal, Nepal and Sikkim to East Assam, North of the Brahmaputra and not South of this river.

Nidification. The Brown Dipper breeds throughout its habitat at all heights from the foot-hills up to 14,000 feet, generally nesting below 9,000 feet. In Eastern Assam Stevens found it breeding in the Subansiri Gorge, practically at the level of the plains, in December and January. In Sikkim, Garhwal and further North-West it appears to breed from January and February on to April and even early May, but the later nests may be those of birds whose first broods have been destroyed by floods. The nests are placed in situations similar to those selected by the Kashmir Dipper, but they resort to boulders on banks of streams more often, perhaps, than to those in mid-stream. The nest is the same unwieldy ball of moss and grass, very compactly and stoutly built, measuring externally anything up to a foot in diameter. The walls, however, are so massive that the internal egg-chamber is only some four to five inches in diameter, with an entrance between two and three inches across. The eggs are indistinguishable from those of other Dippers. Twenty eggs

average 25·6 × 18·3 mm.: maxima 28·1 × 18·4 and 26·1 × 19·1 mm.; *minima* 24·4 × 18·1 mm. and 25·3 × 17·3 mm.

Habits. Although this Dipper often wanders up to very great heights and even breeds at such when there are suitable streams available, it is essentially a bird of the lower levels from 5,000 or 6,000 feet downwards. It breeds, as already mentioned, in the cold weather almost in the plains, but when the rivers get swollen and muddy in April and May it then seeks higher ranges where the streams rise and fall quickly and soon become clear again even after heavy rain. Stevens writes "one of the wariest of birds, its arrowy flights, *as it skims a foot or so above the water*, and the inaccessible nature of its haunts make it a most difficult bird to procure specimens of." They have the same shrill cry which seems common to all the Dippers and which they utter at intervals when on the wing.

(480) Cinclus pallasii marila.

THE FORMOSAN BROWN DIPPER.

Cinclus marila Swinhoe, Ibis, 1860, p. 187 (Formosa).

Vernacular names. *Di-dao-bui* (Cachari).

Description. Similar to the Indian Brown Dipper but darker everywhere. Both this and the last bird differ from *C. p. pallasii* in being less deep a chocolate in colour. This race is distinguishable from *C. p. soulei* in being a trifle paler.

Colours of soft parts. Iris hazel to dark brown; bill black; legs and feet horny-brown, plumbeous-brown or almost black; soles always paler and yellowish or fleshy.

Measurements. Wing 96 to 116 mm.; culmen 20 to 22·5 mm. The same measurements in *C. p. soulei* are 108 to 115 and 23 to 24 mm. respectively. I cannot divide Formosan birds from those of China, Burma and Assam. In the British Museum collection there is one Formosan, one Burmese and one Chinese bird, each with a wing of 116 mm. and several Assam specimens with wings of only 96 and 98 mm.

The young bird differs from that of the Indian Brown Dipper in being much darker; the grey above is replaced with brown and the dark centres to the feathers are larger; the lower plumage is brown, each feather with broad white edges.

Distribution. At present not well defined. Formosa, whence it was described by Swinhoe; Shan States (*Harington*); Chin Hills (*Mackenzie*) and the mountains South of the Brahmaputra River. Probably it will be found to be a small, low-level form of *C. p. soulei* extending all through the Burmese and Indo-Chinese Hill country. It has also been killed at Kuatun.

Nidification. In the Khasia and North Cachar Hills the normal breeding season is December to February, before the streams



Fig. 1.—*Copsychus s. saularis.*

Family TURDIDÆ.

The intrinsic muscles of the syrinx fixed to the ends of the bronchial semi-rings; the edges of both mandibles smooth, or the upper one simply notched; hinder aspect of tarsus bilaminated, the laminæ entire and smooth; wing with ten primaries; tongue non-tubular; nostrils always clear of the line of forehead, the space between the nostril and the edge of the mandibles less than that between the nostril and the culmen; plumage of the nestling mottled or squamated. There is only one moult in the year, in the autumn, but the fringes to the feathers of the winter plumage wear off in summer, causing a great alteration in colour in many species. Rectrices usually twelve, rarely fourteen.

The TURDIDÆ includes the Short-wings, Chats, Forktails, Robins, Thrushes and Accentors and forms a large family of the Passeres.

The only character which links all these species together is the squamated plumage of the young. The Dippers also have this characteristic but in other structural characters they show their affinity to the Wrens and therefore constitute a satisfactory family between the *Troglodytidæ*, or Wrens, and the *Turdidæ*.

From the *Muscicapidæ*, or Flycatchers, the young of which also have mottled or squamated plumage, the Thrushes are easily separated by their having no hairs over the nostrils and base of the bill and also by their long, strong tarsi. The only exception to this is the genus *Zoothera*, which has frontal hairs somewhat developed and overlying the nostrils. The exceptionally powerful and long tarsi of this bird and its general Thrush-like appearance more than suffice, however, to show its proper position.

In the *Brachypterygine* and in some other genera, especially *Phœnicurus* and *Saxicola*, the shafts of the feathers of the forehead are long and the webs somewhat disintegrated but these cannot be considered hairs, nor do they lie over the nostrils as is always the case with the *Muscicapidæ*.

I have divided the *Turdidæ* into six Subfamilies, which form groups easily distinguishable from one another by the field-naturalist, although there are really no structural differences between the Chats, Redstarts and true Thrushes.

As already noted, the *Cinclinæ* have been raised to the status of a family, *Cinclidæ*. The Short-wings, *Brachypterygine*, have been brought from the *Timaliidæ*, or *Crateropodidæ* of Oates, to the present family, their position in which is determined by their squamated juvenile plumage and, finally, I have separated the Forktails from the Redstarts, the peculiar structure of the tails of the former clearly differentiating them from any other of the *Turdidæ*.

Key to Subfamilies.

A. Wing very short and rounded; tail very short	*Brachypterygine*, p. 9.
B. Wing pointed and not very short; tail not very short.	
a. Tarsus smooth.	
a'. Habits Muscicapine; food principally captured by sallies from a perch	*Saxicolinæ*, p. 22.
b'. Habits terrestrial; insect-food sought for on the ground.	
a''. Tail deeply forked; middle pair of feathers shortest; penultimate pair longest	*Enicurinæ*, p. 56.
b''. Tail normal; square or rounded	*Phœnicurinæ*, p. 67.
c'. Habits terrestrial and arboreal; they are both insectivorous and frugivorous	*Turdinæ*, p. 120.
b. Tarsus scutellated	*Prunellinæ*, p. 186.

Subfamily BRACHYPTERYGINÆ.

This subfamily, which formerly Oates placed in his *Crateropodidæ*, is at once separated from that family by the fact that the young are all squamated, though they show a certain superficial resemblance to it in their long legs and short tails.

Since Oates wrote the Avifauna we have learnt much about the young of many more species than was known in his time, a fact doubtless due to his own recognition of the importance of this point. *B. major major* (Cardew), *B. major albiventris* (Howard Campbell), *Heteroxenicus nipalensis* (Baker), *Hodgsonius*, *Larvivora* (Osmaston) are all known to have young of true Thrush type and it is now possible to place them in a position to which their habits and nidification also entitle them.

The bill is slender and about half the length of the head; the rictal bristles vary from small and weak in *Larvivora* to well-developed in *Brachypteryx*. The wings are short and rounded, the tail short or very short; the tarsi long, but more slender than in the *Timaliidæ*. They are not gregarious.

Key to Genera.

A. Tail but little graduated or nearly square, outer feathers falling short of tip of tail by less than half the length of tarsus.	
a. Tail not less than twice the length of tarsus.	
a'. Second primary much shorter than longest secondaries	BRACHYPTERYX, p. 9.
b'. Second primary equal to, or exceeding, secondaries	LARVIVORA, p. 12.
b. Tail much shorter than twice the length of tarsus	HETEROXENICUS, p. 16.
B. Tail greatly graduated, outer feathers falling short of tip of tail by as much as the length of tarsus	HODGSONIUS, p. 21.

Genus BRACHYPTERYX.

Horsf., Trans. L. S., xiii, p. 157 (1820).

Type, *B. montana*.

The genus *Brachypteryx* has the bill about equal in length to alf the head, fairly strong and broad at the base, but slender from he centre to the tip; the nostrils are long ovals and are overhung y the lengthened shafts of the frontal feathers; the rictal bristles re long. The wing is short and rounded; the tarsus smooth, ong and strong and the tail is almost square. The sexes are alike nd the young, like all the rest of the family, heavily squamated. here is only one species represented by two races, both confined o a comparatively small area.

Genus **LARVIVORA**.

Hodgs., J. A. S. B., vi, p. 102 (1837).

Type, *L. brunnea*.

The genus *Larvivora* contains three species, one resident in India, one in Burma and the third found in the Eastern portion of the Empire in winter only. The first two are only locally migratory, whilst the third has a very wide range over Eastern Asia.

In *Larvivora* the sexes are different in coloration and the young are barred and spotted.

In this genus the bill is slender and about half the length of the head and the nostrils are long ovals. The wing is rather pointed, with the first primary of somewhat small size; the tarsus is slender and long and the tail is much shorter than the wing.

Key to Species.

A. Upper plumage blue.
- *a.* Lower plumage white ..... *L. cyane*, ♂, p. 12.
- *b.* Lower plumage bright chestnut ..... *L. brunnea*, ♂, p. 14.
- *c.* Throat and breast light chestnut, abdomen white ..... *L. wickhami*, ♂, p. 15.

B. Upper plumage olive-brown.
- *d.* Throat and breast pale fulvous, mottled with brown ..... *L. cyane*, ♀, p. 12.
- *e.* Throat and breast bright fulvous, mottled with brown ..... *L. brunnea*, ♀, p. 14.

(483) **Larvivora cyane.**

THE SIBERIAN BLUE CHAT.

Motacilla cyane Pall., Reis. Russ. Reichs, iii, p. 697 (1776) (East Siberia).
Larvivora cyanea. Blanf. & Oates, i, p. 181.

Vernacular names. None recorded.

Description.—Adult male. Lores and a line under the eye black; cheeks, ear-coverts, sides of neck and whole upper plumage dark blue, the sides of the neck generally darker than elsewhere; tail and wing-quills brownish black, suffused with dark blue; below white, the flanks washed with blue and the sides of the upper breast very deep indigo-blue.

Colours of soft parts. Iris brown; bill black in the breeding season; horny-brown above and fleshy-yellow or pale horny below in the non-breeding season; feet, legs and claws white to pale fleshy.

Measurements. Total length about 140 to 150 mm.; wing 71 to 81 mm.; tail 47 to 50 mm.; tarsus 26 mm.; culmen about 12 mm.

Adult female. Lores, forehead and sides of the head fulvous-rufous, mottled with darker; remainder of upper plumage olive-brown, tinged with russet on the rump and upper tail-coverts; tail and wing-quills brown, edged with fulvous-rufous; greater coverts brown, edged and tipped with rufous; below white, the breast-feathers edged with brown and tinged fulvous; flanks fulvous-brown.

Colours of soft parts. Iris dark brown; bill above horny brown, mandible fleshy-yellow; feet white to fleshy or fleshy-yellow.

Measurements practically the same as the male.

Young male is like the female, but acquires a certain amount of blue on the lower back, rump, upper tail-coverts and tail at the first autumn moult, sometimes, also, patches of blue on the wing-coverts.

Nestlings are squamated on the lower plumage, spotted on the upper.

Distribution. Breeding in Eastern Siberia and Japan and possibly also in Mongolia and North-Eastern China. In winter migrating South to South China, the Indo-Chinese countries, Burma, Malay Peninsula, Borneo and probably most of the islands, Manipur and Assam. The label on the Pinwill specimen, "from



Fig. 3.—Head of *L. cyane*.

Simla," is undoubtedly wrong, nor is there any further evidence in support of Seebohm's statement that it winters in North India.

Nidification. This beautiful little Short-wing breeds abundantly in Japan, making a cup-shaped nest of moss and leaves on the ground or in an old stump or a hole in a tree. The eggs number four or five and are in colour like rather deeply-coloured Hedge-Sparrow's eggs. The texture is very smooth and the surface has a distinct gloss. Thirty eggs average 19·6 × 14·5 mm.

The breeding season is from early May to early July.

Oates considered it possible that this Blue Chat bred in Burma, as he obtained a specimen on the 21st May. It has never again been procured in the breeding season and his bird was certainly only a late visitor.

Habits. The habits of the Blue Chats are the same as those of the other Short-wings. They are shy retiring birds, keeping much to forest and undergrowth, feeding entirely on the ground or close to it and are purely insectivorous. They all have a rather sweet but not very loud song, which they utter either on the ground or from some bush or low tree and in winter at all events, they have a habit of flirting their tails not unlike some of the true Chats.

Brachypteryx major (Jerdon), 1844.

Key to Subspecies.

A. Sides of abdomen pale chestnut..... *B. major major*, p. 10.
B. Sides of abdomen slaty-blue ..... *B. major albiventris*, [p. 11.

(481) Brachypteryx major major *.

THE RUFOUS-BELLIED SHORT-WING.

Phœnicura major Jerd., Madr. Jour. L. S., xiii, p. 170 (1844) (Nilgiris).
Brachypteryx rufiventris. Blanf. & Oates, i, p. 185 (1889).

Vernacular names. None recorded.

Description. Lores and frontal line black; above this faint traces only of a blue line on forehead and above eye; upper plumage, wings and tail, sides of head and neck dark slaty-blue;



Fig. 2.—Head of *B. m. major*.

chin, throat and breast slaty-blue, nearly as dark as the back; centre of abdomen whitish; remainder of lower plumage pale chestnut, suffused with brown below breast and on flanks.

Colours of soft parts. Iris dark brown; bill black; legs and feet pale fleshy-brown, claws darker.

Measurements. Total length about 170 to 180 mm.; wing 78 to 83 mm.; tail 59 to 65 mm.; tarsus 29 mm.; culmen 16 mm.

Distribution. Nilgiris; Bramahagiris, Coonoor and adjacent hill-ranges.

Nidification. The Rufous-breasted Short-wing breeds in the Nilgiris in March, April and May from about 5,000 feet up to the highest levels. It makes a cup-shaped nest of green moss lined with roots and outwardly fitting the hollow, in tree or bank, in which it is placed. The tree selected, generally in preference to a bank, does not afford much concealment as, unlike *H. cruralis*, it does not choose one covered with moss or parasites. The eggs seem to be always two in number. In shape they are long, rather

* This species cannot bear the name *rufiventris*, Jerdon 1872, as he had already given it the name of *major* in 1844.

narrow ovals. The ground-colour is a greyish white, greenish white or yellow, but this is so completely covered with minute freckles of reddish brown that the egg appears to be unicoloured olive-brown. In a few specimens the marks are confluent as a cap or ring and in some they are sufficiently sparse for the ground-colour to show through and they then appear to be an olive-green.

My eggs, taken by Sir A. G. Cardew, Major Packard and others, average only 23·7 × 16·5 mm. but Hume gives the length as up to 25·9 mm. and the breadth up to 17·5 mm.

Habits. This Short-wing is common in the Nilgiris about Ootacamund, haunting the *sholas*, or copses, in the hollows between the grass-covered hills. Although they do not keep to very heavy cover they are shy retiring birds. The cock is said to have a very pretty little song, but so low that it is not often heard.

(482) Brachypteryx major albiventris.

THE WHITE-BELLIED SHORT-WING.

Callene albiventris Fairbank, Blanf., P. Z. S., 1867, p. 833, pl. 39 (Palni Hills).
Brachypteryx albiventris. Blanf. & Oates, i, p. 185.

Vernacular names. None recorded.

Description. Lores and a narrow frontal band velvety-black; above this a band of bluish white. Remainder of plumage as in the last bird but the chestnut replaced with slaty-blue on the lower plumage.

Colours of soft parts. Iris buff to red-buff; bill black; legs and feet dark horny-brown to plumbeous black.

Measurements. Wing 78 to 83 mm., ♂; 73 to 78 mm., ♀; tail 63 to 65 mm.; tarsus 29 mm.; culmen 15 mm.

Distribution. Palni Hills and Travancore only.

A specimen obtained by Bourdillon at Mynal, Travancore, shows a considerable amount of rufous on the vent and flanks, proving this bird to be merely a race of *rufiventris* and probably specimens from the hills of North Travancore will be intermediate between the two.

Nidification. In every way like that of the Rufous-bellied Short-wing. The eggs, also, cannot be distinguished from those of that bird. The average of 12 eggs is 23·7 × 16·5 mm.: maxima 25·5 × 17·0 and 23·6 × 17·3 mm.; minima 21·0 × 16·0 mm. Eggs taken by the late Rev. Howard Campbell were found in April and May.

Habits. Much the same as those of the last bird. It is found in shady cover, either singly or in pairs, and keeps entirely to the ground or to the lower bushes and scrub but, though so terrestrial in its habits, it flies well when forced to do so.

(484) Larvivora brunnea.

THE INDIAN BLUE CHAT.

Larvivora brunnea Hodgs., J. A. S. B., vi, p. 102 (1837) (Sikkim); Blanf. & Oates, i, p. 182.

Vernacular names. *Manzil-pho* (Lepcha).

Description.—Adult male. Forehead, lores, ear-coverts and sides of neck black; a long broad supercilium white; remainder of upper plumage dark blue; wing-quills brown edged with blue; point of chin and narrow line under the black cheeks white; under wing-coverts and axillaries blue; throat, breast and lower plumage bright chestnut; centre of abdomen, vent and under tail-coverts white. The amount of white on the abdomen varies considerably individually.

Colours of soft parts. Iris brown; bill black in breeding season, horny-brown above, fleshy below in winter; legs and feet fleshy to dark yellowish fleshy; "legs and feet blackish-grey" (*Forrest*).

Measurements. Wing 70 to 78 mm.; tail 46 to 48 mm.; tarsus 27 mm.; culmen 13 mm.

Adult female. Above similar to the female of *L. cyane* but the whole breast, flanks, under wing-coverts and axillaries are dark, bright fulvous; in some birds the fulvous is much suffused with brown and in a few practically the whole of the lower parts are fulvous, leaving only the under tail-coverts white.

Colours of soft parts and **Measurements** as in male.

The young male is like the female but has the whole back darker, much suffused with blue, especially on the lower back to the tail and also on the wing-coverts.

Distribution. Breeding in the Himalayas, Kashmir and Garhwal to Sikkim and Bhutan. In winter throughout India and Ceylon, Assam, N. Burma and Yunnan. Specimens taken in Ceylon and the Nilgiris in April and May have black beaks and may possibly breed locally.

Nidification. The Indian Blue Chat breeds during May, June and early July from Kashmir to Sikkim and is very abundant all round Murree. The nest is almost invariably placed on the ground at the foot of a tree or bush, sometimes without any vegetation to screen it from view, sometimes under a bush or on a bank covered with weeds and moss. It never, however, seems to select very thick cover. The nest itself is a large, loosely put together cup of dead leaves, lined with hair or fine roots and at a short distance looks like a little pile of rubbish drifted against the trunk of the tree or blown up on the bank. The eggs number three or four and are pale spotless blue, just like dark Hedge-Sparrow's eggs. Twenty-four eggs average 19·4 × 14·5 mm.: maxima 20·4 × 15·0 mm.; minima 18·4 × 14·1 and 18·9 × 14·0 mm.

It has not yet been found to breed in the Nilgiris as was at one time supposed, and in ten years Sir A. J. Cardew, a very close observer, never saw it once during the breeding season.

Habits. The Indian Blue Chat frequents forest, preferably such as is not very dense in undergrowth but at the same time is shady and cool. It keeps much to the ground and never ascends into the trees, though it may feed in the lower growth occasionally. It is an extremely shy bird, resenting observation but during the breeding season in Kashmir when the hens were sitting Davidson found that the males were very bold, singing their pleasant little song in almost every small patch of thick jungle.

It breeds from about 5,000 feet upwards and Stevens obtained it rather lower down than this in Nepal during the winter months.

(485) Larvivora wickhami.

THE CHIN-HILLS BLUE CHAT.

Larvivora wickhami Stuart Baker, Nov. Zool., xxiii, p. 298 (1916) (Chin Hills).

Vernacular names. None recorded.

Description. Upper plumage slaty-blue; forehead and above the lores rufous; lores, cheeks and ear-coverts pale dull buff, the edges blackish, making this part of the plumage mottled; visible portions of the wing like the back; primaries blackish brown edged with dull buff; tail, central feathers like the back, outer ones blackish suffused with slaty-blue on the outer webs; chin, throat, fore neck and breast light rusty chestnut, the centre of the throat slightly paler; an indefinite slaty-blue band, interrupted in the middle, across the breast; abdomen, vent and under tail-coverts white; under wing-coverts and axillaries dull rusty-buff.

Colours of soft parts. "Bill black; legs very pale flesh-colour, almost white" (*Wickham*).

The tail-feathers are only slightly acuminate, but would possibly be more so in a freshly-moulted bird.

Measurements. Wing 72 mm.; tail 43 mm.; tarsus 24 mm.; culmen 10·5 mm.

Distribution. Chin Hills.

Nidification. The nest of this Blue Chat appears to be very similar to that of the Indian Blue Chat and has been taken on Mt. Victoria and other peaks in the Chin Hills, at about 7,000 feet, by Messrs. Macdonald, Wickham and others. The eggs are indistinguishable from those of other species of this genus, and those in the possession of Mr. J. M. D. Mackenzie and myself average about 18·6 × 13·8 mm.

Habits. Nothing recorded.

Genus HETEROXENICUS.

Sharpe, Bull. B. O. C., xii, p. 55 (1902).

Type, *H. cruralis*.

Gould's name *Drymochares* being preoccupied as a name for a genus of Coleoptera, Sharpe's name *Heteroxenicus* ('Hand-List of Birds,' iv, p. 56, 1903) must be used.

The genus *Heteroxenicus* differs from *Brachypteryx* principally in having longer tarsi and a still shorter tail, in other respects it is very close to that genus. The bill is much as in that bird, rather more slender, with long oval nostrils and moderate rictal bristles. The wing is short and rounded; the tail very short and the tarsi very long and slender.

The young are not, as stated by Oates, like the female, but are squamated and spotted as in all the *Turdidæ*.

Key to Species.

A. Upper plumage chestnut	*H. stellatus*, p. 16.
B. Upper plumage blue.	
a. Chin and throat chestnut	*H. hyperythrus*, ♂, p. 17.
b. Chin and throat indigo-blue	*H. nipalensis*, ♂, p. 19.
c. Chin and throat white.	
a'. Abdomen barred with ashy	*H. cruralis*, ♂, p. 18.
b'. Abdomen without any bars	*H. sinensis*, ♂, p. 20.
C. Upper plumage brown.	
d. Chin and throat chestnut	*H. hyperythrus*, ♀, p. 17.
e. Chin and throat ashy-brown	*H. cruralis*, ♀, p. 18.
f. Chin and throat dull white	*H. nipalensis*, ♀, p. 19.
g. Chin and throat fulvous	*H. sinensis*, ♀, p. 20.

(486) Heteroxenicus stellatus.

GOULD'S SHORT-WING.

Brachypteryx (*Drymochares*) *stellatus* Gould, P. Z. S., 1868, p. 213 (Sikkim).

Drymochares stellatus. Blanf. & Oates, i, p. 187.

Vernacular names. None recorded.

Description. Lores and a narrow frontal line black; crown to rump, upper tail-coverts, tail and wing-coverts bright chestnut; a narrow supercilium, chin, throat and breast grey finely vermiculated with narrow bars of black; lower breast dark grey turning to rufescent brown on the vent and posterior flanks, each feather vermiculated as on the breast but with the addition of a triangular white spot; under tail-coverts rufous-brown, barred with paler rufous and spotted with white; rump like the vent.

Colours of soft parts. Irides brown; bill black; legs horny fleshy.

Measurements. Total length about 130 mm.; wing 72 to 77 mm.; tail 45 to 47 mm.; tarsus 30 mm.; culmen 12 mm.

Distribution. Sikkim only.

Nidification. Unknown.

Habits. Nothing is known about this very rare bird. Blanford obtained it in Sikkim at 12,000 feet and there are two or three specimens in the Tring Museum obtained at still higher elevations, whilst Stevens procured it at about 7,000 feet in the Mai Khola Valley, East Nepal, in early April. He thinks it may breed in this valley or in its vicinity.

(487) Heteroxenicus hyperythrus.

THE RUSTY-BELLIED SHORT-WING.

Brachypteryx hyperythra Jerdon & Blyth, P. Z. S., 1861, p. 201 (Sikkim).

Drymochares hyperythrus. Blanf. & Oates, i, p. 187.

Vernacular names. None recorded.

Description.—Adult male. Lores and frontal line black; a short, rather broad supercilium white; whole upper plumage, sides of head and neck and exposed parts of wings and tail deep blue; concealed parts of wings and tail brown; whole lower parts from chin to under tail-coverts bright chestnut.

Colours of soft parts. Iris brown; bill black, more or less fleshy at the base and on the mandible during the non-breeding season; legs fleshy to light horny brown.

Measurements. Total length about 120 mm.; wing 63 to 64 mm.; tail about 45 mm.; tarsus 29 mm.; culmen 11 mm.

Female. Whole upper plumage olive-brown, the ear-coverts with pale shafts; plumage below chestnut suffused with brown on the flanks and vent and albescent on the centre of the abdomen. The white eyebrow is absent or obsolete.

Colours of soft parts as in the mae.

Measurements. Wing about 62 mm.; tail 38 mm.; tarsus 28 mm.; culmen 11 mm.

Distribution. Sikkim. "N. Lakhimpur and Margherita in Assam" (*Stevens*).

Nidification. Unknown.

Habits. Another very rare bird of which little is known. Stevens saw it at Tonglo, Sikkim, at 9,700 feet, in January, and he also obtained specimens in the plains of North Lakhimpur in winter. The Sikkim specimens were seen in dense bamboo growth.

(488) Heteroxenicus cruralis.

THE WHITE-BROWED SHORT-WING.

Calliope cruralis Blyth, J. A. S. B., xii, p. 933 (1843) (Darjiling).

Drymochares cruralis. Blanf. & Oates, i, p. 188.

Vernacular names. None recorded.

Description.—Adult male. Lores, frontal band and over eye velvety black; a supercilium from the forehead to the back of the ear-coverts white; centre of abdomen with broad ashy margins to the feathers; under tail-coverts with narrow ashy margins; remainder of plumage deep indigo-blue.

Colours of soft parts. Iris brown; bill dark horny blackish, lower mandible a little paler; legs fleshy brown to "greyish brown" (*Wardlaw Ramsay*).

Measurements. Total length about 140 mm.; wing 65 to 71·5 mm.; tail 42 to 44 mm.; tarsus 31 mm.; culmen 12 mm.

Female. Lores, a ring round the eye and narrow frontal line golden ferruginous; a silky-white supercilium; upper plumage olive-brown, tinged with ferruginous, especially on the head; lower wing-coverts like the back; visible portion of greater wing-coverts, wing-quills and tail chestnut-brown; under plumage ashy brown, paler and more fulvous on the abdomen and rufescent on the vent and under tail-coverts.



Fig. 4.—Head of *H. cruralis*.

Distribution. Himalayas from Simla and Garhwal to Eastern Assam both North and South of the Brahmaputra. Chin Hills, Kachin Hills to Kareni.

Nidification. The White-browed Short-wing breeds from 5,000 up to at least 10,000 feet, perhaps a good deal higher. Around Darjiling Osmaston found it breeding between 6,000 and 8,000 feet and in the Khasia, Naga and Cachar Hills it breeds from 5,000 feet up to 9,000 feet. The breeding season lasts from the end of May to the middle of July. The nest is a large oval affair made entirely of moss, lined with moss roots and placed in among the strands of living moss growing either on a rock face or, more often, on a tree. From its position it is very hard to find. The eggs number three or four and are pure white, fairly glossy and measure about 22·7 × 16·2 mm.

The male often breeds in immature plumage.

Habits. Like the other birds of this genus, this Chat is an inveterat skulker, keeping entirely to the ground or to the thick low cover in mossy humid forests. It frequents heavier undergrowth than either of the preceding genera and is even harder to watch or shoot but it has a pretty little song which betrays its whereabouts.

(489) Heteroxenicus nipalensis nipalensis.

THE NEPAL SHORT-WING.

Brachypteryx nipalensis Hodgs., Moore, P. Z. S., 1854, p. 74 (Nepal).
Drymocharcs nipalensis. Blanf. & Oates, i, p. 188.

Vernacular names. *Inrui-piji* (Kacha Naga).

Description.—Adult male. Lores and an obsolete frontal band black; a white eyebrow, often concealed by the feathers of the crown; sides of head and neck, whole upper plumage and visible portions of wings and tail deep slate-blue; chin, throat and centre of abdomen white; sides of breast and flanks smoky-slate, shading into the blue of the upper parts and generally forming a well-defined band across the breast.

Colours of soft parts. Iris hazel-brown to dark brown; bill dark brown above, yellowish horny below and with yellow-white gape; the bill is nearly black in the breeding season; legs and feet fleshy white to dark purplish fleshy.

Measurements. Total length about 130 mm.; wing 58 to 64 mm.; tail 27 to 32 mm.; tarsus about 26 mm.; culmen 11·5 to 13 mm.

Female. Lores and feathers above the nostrils fulvous; sides of head and neck and whole upper plumage ferruginous olive-brown; a concealed white eyebrow; below dull white; sides of breast, a band across it and flanks fulvous.

Colours of soft parts and **Measurements** the same as in the male but the bill is never black.

Distribution. The Himalayas from Garhwal to Eastern Assam, North and South of the Brahmaputra, Chin Hills, Hills of Arrakan, Tenasserim.

Birds South of the Brahmaputra and in the extreme East of Assam only differ from those of the West in that the males are like the females and never put on the blue plumage except in very rare cases, and even then, as a rule, only partially. I can see no other difference in either coloration or size.

Heteroxenicus n. carolinæ La Touche, 1898, found in Fohkien, is a well-marked race with much brighter under plumage, more fulvous buff and much less brownish; this race also occurs in Annam and will probably be found in the Shan States.

H. n. harterti Weigold, 1922, from Setchuan seems very doubtfully distinct from *carolinæ*.

Nidification. In the Hills South of the Brahmaputra the Nepal Short-wing breeds from the end of April to June or the first few days of July, between 3,000 and 6,000 feet. In Sikkim it breeds in June and July between 4,000 and 7,000 feet. The nest is globular, made of moss, roots, leaves and bracken, bound together with grass and moss and lined with skeleton leaves. It is generally placed against a tree or clump of shrubs, sometimes in amongst the branches low down or, rarely, on the ground itself.

It may be placed in thin shrub or secondary growth or in dense evergreen forest and is generally well hidden. The bird lays three to four eggs which are miniatures of those of *Brachypteryx major* but smaller and shorter in proportion. The ground-colour is some shade of olive-green or pale sea-green and usually this is almost entirely obliterated by innumerable freckles of light reddish. The eggs appear practically unicoloured, varying from olive-green to olive-brown. Sixty eggs average 19·5 × 14·5 mm.: maxima **22·3 × 15·0** mm.; minima **18·5** × 14·2 and 19·0 × **14·0** mm.

Habits. In the winter the Nepal Short-wing is found either singly or in pairs, never in flocks like the Timaliine birds. It is a very shy, retiring little bird, keeping entirely to undergrowth of evergreen forests, secondary growth in deserted cultivation or, less often, to low scrub-jungle. It is essentially a ground-bird in all its habits, seeking its insect-food almost entirely amongst the leaves and fallen rubbish but sometimes working through the low undergrowths and picking ants and Aphidæ off the lower stems and branches. It has a pretty little song of a few short jerky notes, which it is fond of repeating, perched on a low branch in the middle of a bush or cane-brake. According to Stevens it descends in winter to the foot-hills and even into the Plains, but South of the Brahmaputra we never obtained it much below 3,000 feet.

(490) Heteroxenicus sinensis.

THE CHINESE SHORT-WING.

Brachypteryx sinensis Rickett & La Touche, Bull. B. O. C., vi, p. 50 (1897) (Kuatun, N. Fohkien).

Vernacular names. None recorded.

Description.—Adult male. Lores dusky black; a supercilium from the nostrils behind the ear-coverts white; remainder of upper plumage dark, dull blue; concealed parts of wings and tail dark brown; below from chin to vent and under tail-coverts smoky-blue.

Colours of soft parts. Iris brown; bill above horny-brown, below yellowish; legs fleshy-brown.

Measurements. Wing 65 to 66 mm.; tail 47 to 51 mm.; tarsus 29 mm.; culmen 11 mm.

Adult female. Lores and a ring round the eye fulvous; whole upper plumage fulvous-brown, tinged with rufous on wings and tail; below pale dull fulvous, albescent on the belly, brighter on chin, throat, and fore neck; under tail-coverts ochre-yellow.

Distribution. W. China. Dibrugarh in Assam (*Dr. H. N. Coltart*) and Hungram, N. Cachar Hills. Probably it will be found to extend throughout the hills of extreme North Burma.

Nidification. Ricketts and La Touche found this Short-wing breeding in Kuatun in April and May. Eggs taken by them are

pale, dull terra-cotta in colour and measure 21·0 × 15·3 mm.; a nest taken by one of my Naga collectors in N. Cachar at 6,000 ft., and another brought to Dr. Coltart by Trans Dikku Nagas, in both cases the parent birds being caught on the nest, have eggs exactly similar in size, shape and texture, but in colour they are reddish olive-brown. The nests were said to be domed and to have been made of grass, leaves and moss with a lining of skeleton leaves.

Habits. These do not appear to differ from the habits of the Nepal Babbler.

Genus HODGSONIUS.

Hodgsonius Bonap., Consp. Av., i, p. 300, 1850.

Type, *H. phœnicuroides.*

The genus *Hodgsonius* is represented by a single Himalayan species very closely allied to *Heteroxenicus* and *Brachypteryx*. The sexes are differently coloured, as in the former; the wing is short and rounded and the bill is like that of *Brachypteryx*; the rictal bristles are weak; the tarsus is long. It differs from others of the subfamily in its comparatively long tail, thus showing an approach to the *Saxicolinæ*.

The young are squamated as in all the nestlings of this family.

(491) Hodgsonius phœnicuroides phœnicuroides.

HODGSON'S SHORT-WING.

Brachypterus phœnicuroides Hodgs., Gray, Cat. M. & B. Nepal, App. iv, p. 153 (1846) (Nepal).
Hodgsonius phœnicuroides. Blanf. & Oates, i, p. 190.

Vernacular names. None recorded.

Description.—Adult male. Plumage above and below dark, but fairly bright, slaty-blue; the wing-quills brown, edged with the same blue; bastard-wing black with broad white tips; central pair of tail-feathers blue-black, the next pair light, bright chestnut on half the outer web and obliquely to the base of the inner web, the four outer pairs chestnut on the basal halves, black on the terminal halves; abdomen white, posterior flanks and vent suffused with brownish ochre; under tail-coverts slaty-brown with broad white tips.

Colours of soft parts. Iris dark brown; bill horny-brown above, lower mandible light horny, gape yellow; legs pale reddish brown to olive lead-colour.

Measurements. Total length 180 to 190 mm.; wing 73 to 77 mm.; tail 75 to 82 mm.; tarsus 30 mm.; culmen 15 mm.

Adult female. Upper plumage olive-brown, tinged with rufous on the margins of wing-quills and tail; the bases of the rectrices tinged with chestnut where they are chestnut in the male; sides of head and lower plumage ochraceous, suffused with brownish

on flanks and albescent on chin, throat and abdomen; under tail-coverts dark ochraceous edged and centred paler.

Young. Upper plumage dull rufescent brown, the feathers edged darker and with fulvous spots, most marked on head and nape; below dull fulvous, each feather edged with brown and with pale centres or shaft-stripes.

Distribution. Himalayas from Kashmir to North-East Assam. Yunnan.

The Yunnan bird is rather dark but agrees with the Himalayan bird, rather than with the Chinese, in size.

Nidification. Hodgson's Short-wing breeds throughout its habitat at elevations between 6,000 and 12,000 feet during June, a few birds laying in July. The nest is a massive cup of leaves and grass lined with finer roots and grass and often with a little hair, fur or feathers. It is placed either actually on the ground or within a few inches of it in thick undergrowth and bushes. The birds generally lay three eggs, sometimes only two and very rarely four; in colour these are a dark blue, darker than those of any other Indian bird except *Garrulax albigularis* but, unlike these latter, they have no gloss. In shape they are rather broad ovals and the texture is stout and smooth. Forty eggs average 21·7 × 15·9 mm. and the extremes are: maxima **24·1** × 16·3 and 22·1 × **17·0** mm.; minima **20·0** × **15·3** mm.

Habits. This Short-wing is much more of a true Chat in its habits than the other birds of the subfamily. Davidson says: "the male has the habits of a Robin, hopping about with its tail over its back and is very pugnacious to other birds trespassing in its vicinity. Both sexes, however, were partial to thick cover and, except in the neighbourhood of the nest, very shy." They have a sweet little song, which they utter from the tops of low bushes and they keep less to the ground and more to bushes in their search for food than do any of the other *Brachypteryginæ*.

Subfamily SAXICOLINÆ.

The *Saxicolinæ* or Chats form a natural section of the *Thrushes* and to some extent lead from the true Thrushes to the Flycatchers.

They are well represented in the Indian Avifauna, though the greater number of species are migratory and very few are really permanent residents in the Plains. They have an autumn moult and a further seasonal spring change in coloration caused by the abrasion of the fringes of the feathers. The sexes are almost invariably dissimilar, sometimes strikingly, sometimes only slightly.

In the Chats the bill is strong and the rictal bristles well developed, sometimes very numerous and strong; the wing is pointed and is nearly always longer than the tail, which is almost square or is graduated. The tarsus is fairly long and strong.

Key to Genera.

A. Bill broad at base; rictal bristles numerous and strong.
  a. Tail decidedly shorter than wing and not noticeably graduated ..... SAXICOLA, p. 23.
  b. Tail almost or quite as long as wing and very much graduated, the outermost feathers falling short of the longest by about half the length of tarsus ..... ORBICOLA, p. 34.
B. Bill narrow and not strikingly broad at base; rictal bristles moderate or weak.
  c. Tail with a pattern of two colours ..... ŒNANTHE, p. 38.
  d. Tail all of one colour ..... CERCOMELA, p. 54.

Genus **SAXICOLA.**

Saxicola Bechst., Orn. Taschenb., p. 216, 1802.

Type, *Saxicola rubicola*, by subsequent designation, Selby, 1825.

The name *Pratincola* has hitherto been used for the Stone-Chats but this is not available, having been previously used by Schrenk for the Pratincoles (1798). In 1825 Selby designated the Stone-Chat *Saxicola rubicola* as the type of the genus *Saxicola* of Bechstein. This name must therefore stand. As *Saxicola* cannot



Fig. 5.—Head of *Saxicola caprata*.

therefore be used for the Wheatears the name *Œnanthe* Vieillot, 1816, will have to be used for this genus, the type by tautonymy being *Œnanthe œnanthe* (Linn.).

In *Saxicola* the bill is rather less than half the length of the head, broad at the base and well notched; the rictal bristles are very strong; the wing is well pointed and the first primary is large, varying from half to one-third the length of the second; the tail is decidedly shorter than the wing and is only slightly rounded; the tarsus is moderate. The sexes are invariably dissimilar and the seasonal changes of plumage are very marked.

Key to Species.

A. Plumage entirely black and white ..... *S. caprata*, ♂, p. 24.
B. Plumage not entirely black and white.
  a. Chin and throat black ..... *S. torquata*, ♂, p. 28.
  b. Chin and throat white or pale rufous.
    a'. Inner webs of tail-feathers white ..... *S. macrorhyncha*, p. 32.
    b'. Inner webs of tail-feathers black or brown.
      a''. Wing over 80 mm. ..... *S. insignis*, p. 33.
      b''. Wing under 80 mm. ..... *S. torquata*, ♀, p. 28.
  c. Chin and throat brown ..... *S. caprata*, ♀, p. 24.

Saxicola caprata.

Motacilla caprata Linn., S. N., i, p. 335, 1766.

Type-locality: Luzon.

Key to Subspecies.

A. Below very rusty, the white absent or confined to a very small area on abdomen and under tail-coverts.
  a. Wing 67 to 72, generally under 70 mm... *S. c. burmanica*, p. 24.
  b. Wing 71 to 81, generally over 75 mm. .. *S. c. atrata*, p. 25.
B. Below much paler, the white of the under tail-coverts extending to abdomen and posterior flanks and often right up to breast ..... *S. c. bicolor*, p. 26

(492) Saxicola caprata burmanica.

THE BURMESE STONE-CHAT.

Saxicola caprata burmanica Stuart Baker, Bull. B. O. C., xliii, p. 9 (1923) (Pegu).

Vernacular names. None recorded.

Description.—Adult male. Whole plumage black with the exception of the upper and lower tail-coverts and the feathers of the wing next the back which are white, the latter forming a very conspicuous patch.

After the autumn moult the feathers of the back and breast are fringed with rufous-brown, making these parts look quite brown rather than black.

Colours of soft parts. Iris brown, eyelids plumbeous; bill, legs and feet black.

Measurements. Total length about 140 mm.; wing 67 to 72 mm.; tail 44 to 50 mm.; tarsus 22 to 23 mm.; culmen 11 to 11·5 mm.

Female. Upper plumage greyish brown, with dark brown mesial streaks; the lower back tinged with rufous; upper tail-coverts ferruginous; tail dark brown, obsoletely edged paler; lores, forehead, chin and throat brownish grey, gradually darkening on breast and becoming more rusty, or fulvous, on abdomen and posterior flanks; the breast, upper abdomen and flanks streaked to a varying degree with dark brown, sometimes altogether absent; wing-coverts and quills dark brown edged with pale rufous; under tail-coverts pale rufescent.

In winter the grey margins are very broad and make the whole bird look more grey.

Young male. Like the female but much darker and more richly coloured above, below darker and boldly streaked with very dark brown; the white wing-patch well developed.

Nestling very dark brown above, each feather spotted with fulvous; below dark brown spotted with dull fulvous rufescent; the white wing-patch of the male is present to some extent from the very first.

This form of *caprata* is very close to the true *S. caprata caprata* but is distinctly bigger, the wing-measurements of the latter being 63 to 65 mm., in one instance, only, 67 mm.; the culmen measures 10 to 11 mm.

Distribution. The whole of Burma, Yunnan and Assam, South of the Brahmaputra.

Nidification. There is very little on record about the breeding of this race of *S. caprata*. Messrs. Harington, Hopwood, and others found it breeding in the Chin and Kachin Hills in April and May. Mr. J. T. Mills and I found it breeding in the Hills of South Assam, and Oates took its nests in Pegu. The nest is the usual rough pad of grass and roots, generally lined with hair or fur of some kind, less often with feathers. It is placed in a hole in a bank, tree or wall or actually on the ground in a natural hollow under the shelter of a bush or tuft of grass. The eggs number three to five and are indistinguishable from those of the other subspecies. The few I have seen measure about 18·5 × 13·7 mm.

They breed from the level of the Plains up to at least 6,000 ft.

Habits. The Pied Chat is extremely common in most parts of Burma in the hills and plains alike, up to some 4,000 ft., above which it is less abundant. It frequents open country and is not found in heavily forested areas, but it may be seen in grass-lands and all kinds of thin bush, cultivated and semi-cultivated country. It has the usual habits of the family, catching insects on the ground by making little sallies from some point of vantage. It constantly spreads and flirts its tail up and down like the rest of the genus.

(493) Saxicola caprata atrata.

THE SOUTHERN INDIAN STONE-CHAT.

Pratincola atrata Kelaart, Blyth, J. A. S. B., xx, p. 177 (1851) (Ceylon); Blanford & Oates, ii, p. 60.

Vernacular names. *Kampa naluchi* (Tel.).

Description. Exactly like the Burmese Stone-Chat but much larger.

Colours of soft parts as in the last bird.

Measurements. Wing 70 to 81 mm., generally 75 to 77 mm.; tail 49 to 51 mm.; tarsus 24 to 25 mm.; culmen 13 mm.

The females and young vary from those of *S. c. burmanica* in size only.

Distribution. Ceylon, Travancore, Mysore in the extreme South, Nilgiris and Malabar. The Kanara birds appear to belong to the smaller Northern race.

b. Wing nearly always over 71 mm.; culmen about 15 mm. ..... *S. t. przewalskii*, p. 30.

B. White on tail most on inner web of second pair of tail-feathers, decreasing in extent outwardly ..... *S. t. leucura*, p. 31.

The races are not easy to define by a key, though on actual comparison the differences are at once appreciable. The big bill of *S. t. przewalskii* will, however, nearly always suffice to distinguish that race, whilst *S. t. stejnegeri* will not be found over the greater part of the winter area of *S. t. indica*.

(495) Saxicola torquata indica.

THE INDIAN BUSH-CHAT.

Pratincola indica Blyth, J. A. S. B., xvi, p. 129 (1847) (India, Calcutta).
Pratincola maura. Blanf. & Oates, ii, p. 61.

Vernacular names. *Adavi-campa-nalaachi*, *Adavi-campa-jitta* (Tel.).

Description.—Male. After the autumn moult the forehead, crown, nape, hind neck, back, scapulars and upper rump are black, with broad fulvous or rufous margins to the feathers; the innermost wing-coverts pure white; the remaining upper wing-coverts black, edged with rufous; primary-coverts and winglet black edged with whitish; quills dark brown, the primaries narrowly, the secondaries broadly edged with rufous on the outer webs and tips; lower rump and upper tail-coverts white, frequently suffused with orange-rufous; tail black, narrowly edged with pale rufous; the extreme bases generally white; lores, sides of head, chin and throat black, most of the feathers edged with fulvous; a patch of white on each side of the neck; breast orange-rufous, remainder of the lower plumage paler rufous; under wing-coverts and axillaries black with narrow white tips.

In summer plumage the fringes on the black plumage wear off and these parts become deep black; the rufous on the upper tail-coverts disappears and these become pure white.

Colours of soft parts. Iris dark brown; bill, legs and feet black.

Measurements. Total length about 130 mm.; wing 67 to 71 mm.; tail about 50 mm.; tarsus 21 to 22 mm.; culmen 11 to 12 mm.

Female. Upper plumage and ear-coverts brown, the feathers broadly tinged with fulvous; more rufescent on lower back; upper tail-coverts pale rufous; lores, a ring round the eye and ear-coverts dusky fulvous; forehead, supercilium and chin pale fulvous, remainder of lower plumage still paler fulvous, the bases of the feathers showing through more rufescent, especially on the breast.

Nestling. Head black, with broad fulvous central lines; mantle brown with golden-fulvous centres and fringes; rump and upper tail-coverts bright ferruginous; lower parts dull fulvous; the breast freely streaked with dark brown; the wing-feathers are brown, broadly edged with ferruginous buff.

The white wing-patch is very early developed in the male.

The Indian Bush-Chat is very closely allied to the European Stone-Chat (*S. t. rubicola*), from which it differs in having no streaks on the upper tail-coverts and in having the black axillaries and under wing-coverts tipped with white.

Distribution. Breeds from extreme East to extreme West of Himalayas and thence North to Western Siberia, Transcaspia, Turkestan and Persia. In winter throughout Northern India to the hills in the North of Mysore and Travancore, Andamans and, rarely, in North-West Burma.

Nidification. The Indian Bush-Chat breeds during late May, June and early July in the hills and about a month earlier in the lower ranges and plains. Marshall has recorded it as breeding at Saharanpur but this must have been quite an abnormal occurrence, for the district has had many good ornithologists working it since that date without any repetition of its nesting having been recorded. It may have been a mistake. It does, however, breed occasionally at the foot of the Himalayas in the plains of North-West India, but typically it is a hill-breeder between elevations of 2,000 and 8,000 feet. It breeds in great numbers in Kashmir, the Simla and Garhwal Hills between 5,000 and 7,000 feet, in Sikkim certainly up to 9,000 feet, whilst in the Khagan and Kurram Valleys Whitehead and Harington found it breeding at even higher elevations. The nest is a cup of grass, leaves and roots, sometimes mixed with other materials and generally lined with hair or fur. It is placed in holes in walls, under rocks and boulders, occasionally in banks and still less often under bushes and tufts of grass but nearly always well concealed. The eggs number four to six and have the ground-colour a pale, rather dull blue with freckles of light reddish brown sometimes fairly numerous over the larger half of the egg, sometimes coalescing in a well-defined ring or cap and sometimes almost absent. Fifty eggs average 16·9×13·5 mm.: maxima **18·5**×14·0 and 16·2×**14·5** mm.; minima **15·4**×13·0 and 15·8×**12·6**.

Habits. The Indian Bush-Chat differs little from its English cousin in its habits. Usually it is seen perched up on some rock or high stone, flicking and spreading its tail about and every now and then launching forth after some insect on the ground below it and then returning to its seat to devour it. Its flight is strong and fairly direct but it is not good on its feet and seldom runs on the ground. It keeps entirely to open country and is most common on bare, rocky hillsides in summer and about villages and cultivation in winter, especially when they are interspersed with stony, bare wastes.

Nidification. The Southern Indian Bush-Chat breeds from March to June in the hills of Ceylon and Southern India from 3,000 feet upwards. It is not a forest bird and is most common round about villages, cultivated land, grass and light scrub-jungle. The nest is a cup or shallow saucer of grass and roots, lined with fur, hair, wool or almost any other soft material, and it may be placed in any kind of hole or hollow whether in bank, building or drain. The eggs number three to five and only vary from those of the next bird in their somewhat larger size. Fifty eggs average 19·5 × 15·2 mm.: maxima **21·0 × 15·2** and **20·0 × 16·2** mm.; minima **17·5 × 14·6** and **17·7 × 14·1** mm.

Habits. Those of the genus.

(494) Saxicola caprata bicolor.

THE NORTHERN INDIAN STONE-CHAT.

Saxicola bicolor Sykes, P. Z. S., 1832, p. 92 (Deccan).
Pratincola caprata (part.). Blanf. & Oates, ii, p. 59.

Vernacular names. *Pidha*, *Kala Pidha* (Hind.); *Kumpa malanchi* (Tel.).

Description. Similar to *S. c. burmanica* but intermediate in size between that bird and *S. c. atrata* and with the white of the under tail-coverts extending well on to the abdomen and posterior flanks, often quite up to the breast.

Colours of soft parts as in the other races.

Measurements. Wing 67 to 77 mm.; tail 44 to 48 mm.; tarsus 22 to 24 mm.; culmen 11 to 12 mm., the latter measurement obtaining only in a few specimens in the extreme South of its range, adjoining the larger-billed *S. c. atrata*.

The females and young are only distinguishable from *atrata* by their smaller bills and rather smaller size.

I cannot separate Hartert's *rossorum* from *bicolor* in so far as our Indian birds are concerned. There are very big series of both of these supposed races in the British Museum and the limits of measurement are the same in each for wing, tail, tarsus and bill, whilst the extent of white on the belly varies to exactly the same degree. Persian and Afghan birds *do*, however, differ somewhat and *are separable*.

Distribution. North of the area occupied by the Southern form, to every portion of India, North-East to Bengal and Assam North of the Brahmaputra, North to the Himalayas from Assam to the extreme North-West, Oudh, Sind.

Nidification. The Northern Indian Stone-Chat breeds throughout its area both in the plains and in the hills up to 8,000 feet. The principal months of the breeding-season are April and May in the plains and May and June in the hills, but in Sind it appears to breed in March and April and again in August, in which month Barnes took its eggs. The nest is a pad, shallow saucer or fairly deep cup of grass and roots lined with any soft material, such as hair, fur or wool, but feathers are not often used. It may be placed in a hole in practically any position and it has been taken from wells, houses, retaining walls, road-side banks and railway cuttings, old dead or fallen trees, or even from a hollow on the ground under a bush, tuft of grass or other shelter. Although the bird is so common the nests are not always easy to find as the parent birds are said to be very cautious in visiting them, whilst the hen slips away unnoticed or sits tight until danger has passed. The eggs number three to five, generally four. The normal ground-colour is a pale bluish white or less often a pale stone or pinkish white, whilst in a few eggs it may be a darker tint of blue. The markings consist of freckles, specks and small blotches of light reddish brown, generally rather indistinct and numerous everywhere, occasionally bolder and well defined. They are nearly always more numerous at the larger end where they often form a ring or cap. In shape they are short, broad ovals with a fine, smooth texture only slightly glossy. One hundred eggs average 17·6 × 13·9 mm.: maxima **19·2 × 14·5** and 18·2 × **15·0** mm.; minima **16·2 × 13·4** and 17·0 × **12·9** mm.

Habits. The Northern Indian Stone-Chat is a resident almost throughout its habitat but it seems to leave its highest ranges in winter and in some parts moves locally from the plains to the adjacent hills for breeding-purposes. It is not found in heavily-forested country but is common in grass-lands, thin scrub and mixed cultivation, and appears to prefer the vicinity of villages and gardens. It takes nearly all its food off the ground by little flights from some prominent stone, stump, fence or other place with a clear view all round. Less often it will make little sorties into the air and capture an insect on the wing, not, however, with the invariable success which follows its attempts on the ground. It is fond of spreading and jerking its tail about like all Chats, and during the breeding-season it also drops and quivers its wings, raising its scapulars to show the broad white patch on the coverts. At the same time it puffs out the feathers of the rump. Its notes are indistinguishable from those of the English Stone-Chat.

Saxicola torquata.

Muscicapa torquata Linn., S. N., i, p. 328, 1766.

Type-locality: West South Africa.

Key to Subspecies.

A. White on base of tail straight across all feathers.
a. Wing nearly always under 71 mm.; culmen about 12 mm.
a'. Paler; underparts pale rufous on flanks and abdomen ..... *S. t. indica*, p. 28.
b'. Darker; the orange-rufous of breast extending to lower breast and flanks .... *S. t. stejnegeri*, p. 30.

(496) Saxicola torquata przewalskii.

THE TURKESTAN BUSH-CHAT.

Pratincola maura var. *przewalskii* Pleske, Wis. Res. Przewalski's Reis., Vog., i, p. 46 (1889) (Kansu).

Vernacular names. None recorded.

Description. The darkest and largest race of *S. torquata*, both sexes showing this character distinctly, especially on the under plumage; the axillaries are black with only obsolete white tips. The orange-rufous of the underparts is much deeper and extends well on the flanks and even on to the centre of the abdomen.

Colours of soft parts as in the Indian Bush-Chat.

Measurements. Wings 72 to 77 mm.; culmen 15 mm.

Distribution. Breeding in Tibet, the higher ranges of the Kachin Hills, Shan States, Yunnan and Western Central China. In winter throughout Eastern India, Assam, Burma and Siam, straggling west into Kashmir.

Nidification. The only nest taken within the limits of this work was found by Mr. J. P. Cook at Monywa, Chin Hills, on the 6th June and contained five eggs. These have the ground-colour pale yellowish white and they are well-marked with reddish brown, principally at the larger end. They measure about 17·2 × 13·8 mm.

The nest was described as a shallow pad of grass and roots, lined with hair and feathers, and placed in a hole in a bank under a thick root.

Habits. *Those of the genus.*

(497) Saxicola torquata stejnegeri.

THE JAPANESE BUSH-CHAT.

Pratincola rubicola stejnegeri Parrot, Verh. Orn. Ges. Bayern, viii, p. 124 (1908) (Iturup in N. Japan).

Vernacular names. None recorded.

Description. Both sexes are darker than *indica*, not quite so dark as *przewalskii*.

Colours of soft parts as in *S. t. indica*.

Measurements. Wing 65 to 71 mm.; culmen 13·5 to 14·5 mm. Meinertzhagen says that the bill is wider and stouter than in either of the last two races, but the difference is not easy to see.

Distribution. Breeds in Siberia, East of the Lena to Japan, and from Trans-Baikalia to North-Eastern China and Saghalien. In winter it is found throughout Southern China, the Indo-Chinese countries, Malaya, Burma, Assam and Eastern Bengal.

Nidification. This bird breeds in great numbers about Mt. Fuji-yama in Japan, making a typical Bush-Chat's nest and laying eggs like those of *S. t. torquata* but generally less blue and more heavily marked. Forty eggs average 17·8 × 13·7 mm.

Habits. Those of the genus.

(498) Saxicola torquata leucura.

THE WHITE-TAILED BUSH-CHAT.

Pratincola leucura Blyth, J. A. S. B., xvi, p. 474 (1847) (Sind); Blanf. & Oates, ii, p. 63.

Vernacular names. *Khar-pidda* (Hind. at Monghyr).

Description. Like the Indian Bush-Chat but very much paler, the rufous below is confined to a patch on the breast and the upper parts in winter are also much paler in both sexes. The tail is quite different; all other forms of the Stone-Chat or Bush-Chat have the white, if any, confined to the extreme base, straight across. In this bird the pair next the centre pair is typically all white on the inner web decreasing slightly in extent to the outermost pair; on the outer web the white varies from a line at the base to about half the feather, also decreasing in extent to the outermost pair which is generally pale brown throughout.

Colours of soft parts and **Measurements** as in *S. t. indica*.

Distribution. Himalayas from Assam to Sind and also in the foot-hills and plains adjoining them. It has also been found in the low hills of Northern and Eastern Burma through to Pahpoon in Tenasserim.

Nidification. The White-tailed Bush-Chat breeds in the sub-Himalayan plains and foot-hills from Assam to Garhwal and Currie obtained them breeding at Multan* in considerable numbers. In Assam they breed in the tracts of thatching-grass land which run for many miles without a break except for swamps and patches of coarse ekra and reeds. Of Garhwal, Whymper writes: "I never saw them in our parts except in the Terais and Bhabers, so that 1,500 or, at the outside, 2,000 feet is their limit, though, doubtless, if there was swampy ground and heavy grass I can imagine their following it up hill considerably higher. Their nests are very well concealed and a favourite site is a tangled mass of grass brought down by floods and stranded, and I have seen a nest fully two feet inside one of these masses. The only way I could find nests was to go about until a female joined a male and then watch the former back on to her nest, a very difficult job in the long grass they frequented." Mr. P. W. Mackinnon said that he had found this Chat at Dehra Dun and, finally, Mr. Stevens obtained them breeding in the Mai Valley in East Nepal. The eggs, which number three to five, cannot be distinguished from those of *P. t. indica* but taken as a whole are

* An imperfect specimen was wrongly described by me in 1913 as *Pratincol maura* (= *Saxicola torquata indica*).

paler, less blue or blue-green in tint and rather more profusely freckled with reddish. Twenty-four eggs average 18·0 × 14·0 mm.: maxima 19·1 × 14·1 and 16·8 × 14·6 mm.; minima 16·4 × 14·4 and 17·5 × 13·6 mm. They breed from the end of April to the end of May.

Habits. This subspecies is merely a form of the Indian Bush-Chat breeding in the plains and low-levels but, curiously enough, instead of being darker and more richly coloured than its relations breeding in the mountains, reverses the usual rule and is paler and less richly coloured. It frequents grass-lands, reed-beds and stretches of elephant-grass but keeps to such as are in swampy land or in the vicinity of swamps. It is probably a much more common bird all along the Terai than is supposed but its haunts are seldom visited by Europeans except when shooting big game and they are easily overlooked or merely accepted as the common Chat on migration.

(499) Saxicola macrorhyncha.

STOLICZKA'S BUSH-CHAT.

Pratincola macrorhyncha Stoliczka, J. A. S. B., xli, pt. ii, p. 238 (1872) (Cutch); Blanf. & Oates, ii, p. 63.

Vernacular names. None recorded.

Description. Upper plumage sandy-buff, broadly streaked with dark brown; lores and a broad supercilium pale buff; ear-coverts rufous-buff; lores and ear-coverts marked with dark brown; upper tail-coverts white or rufous-white; middle tail-feathers dark brown, edged with sandy-buff, the next pair white on about four-fifths of the inner web and about two-thirds of the outer webs, increasing gradually to the whole of the outer web on the outermost pair; a broad patch of white on the wing-coverts next the back; other wing-coverts and quills black, edged with rufous-sandy; chin and throat pure white; remainder of lower plumage very pale buff, generally darker on the breast; under wing-coverts white, with the black bases showing through; axillaries white with black bases.

Colours of soft parts. Iris brown; bill and legs black.

Measurements. Wing 70 to 77 mm.; tail 50 to 54 mm.; tarsus 24 mm.; culmen 11 to 12 mm.

Male in summer. Above, the pale margins are nearly worn off and the bird appears to be a sooty-black; the supercilium becomes white and the lower surface creamy-buff, the black bases often showing through.

Female similar to male but with no white wing-patch and no white on the tail.

Measurements practically the same as the male.

Colours of soft parts. Iris brown; bill horny-black, paler at base of maxilla and on mandible.

Young males are like the adult but have the white wing-patch very small and the white on the tail less in extent and strongly tinged with fulvous.

Young. "Upper surface earthy brown, streaked and spotted with pale creamy buff; upper tail-coverts pale creamy-buff; wings dark brown, all the feathers edged with rufous, the median coverts with triangular whitish tips; tail dark brown, all the feathers edged on both webs and tipped with rufous; the outer pair of feathers have the entire outer web and a small portion of the base of the inner web rufous; sides of the head, lores and ear-coverts dirty white mottled with brown; the lower surface dull buffish white, mottled with brown on the throat and breast." (Whistler, 'Ibis,' 1922, p. 304.)

Distribution. A resident species in the Punjab, Rajputana, Northern Gujarat, Cutch and Sind.

Nidification. Unknown but Mr. H. Whistler obtained specimens in pairs, in the Jhang District, Punjab, in April and July, and obtained young birds in August and September.

Habits. Mr. Whistler writing of this Chat in the Jhang District records: "Its favourite haunts are the wide plains of a hard, sandy soil, fertile when ploughed and irrigated, but normally of the consistency and appearance of a 'made-up' tennis court; they are bare of grass for the most part, but are studded with the small desert plants of 'Uck' and 'Karil' (wild Caper) and diversified with small sand-dunes and broken ground.

"A few pairs also inhabit the somewhat different area of the Nurpar Canal escape, where the running-off of volumes of waste canal-water has produced great reed-beds, surrounded by jungles of Pampas-grass.

"In habits Stoliczka's Chat resembles the other members of the genus, perching on the tops of bushes or stems, at times fairly tame, at others surprisingly wild. I never heard any call-note uttered."

(500) Saxicola insignis.

HODGSON'S BUSH-CHAT.

Pratincola insignis Hodgs., List Mam. Birds B.M., App. p. 153 (1847) (Nepal); Blanf. & Oates, ii, p. 64.

Vernacular names. None recorded.

Description.—Male in winter. Lores and ear-coverts black; head black with narrow fulvous fringes; upper plumage black with broad fulvous edges; upper tail-coverts white, more or less suffused with rufous; tail blackish with narrow rufous edges and concealed white bases; edge of shoulder of wing, a very big patch next the back and the greater primary coverts white; remainder of wing black, the inner secondaries edged with fulvous; point of chin black; chin and throat white, sometimes smeared with

rare instances with a very faintly freckled ring at the larger end. The texture is close and fine with a slight gloss, and they are very stout little eggs for their size. Thirty eggs average 16·2 × 13·2 mm.: maxima **18·0 × 13·6** mm.; minima **15·2 × 12·4** mm.

Habits. Jerdon's Bush-Chat is just like the other Chats of the genus *Saxicola* in all its ways but is not, perhaps, quite so quick or lively in its movements on the wing whilst it is even more active on its legs when hunting for its insect-food. It takes most of its prey by short flights from some twig at the top of a bush or a tall reed, either descending to the ground or clinging to the lower parts of the reeds, etc. Sometimes, however, it regularly hunts amongst the bottoms of the reeds and grass for insects more like a Babbler than a Chat. It is a very silent little bird but the male sometimes utters a low "chit-churr, chit-churrr," accompanying the note with a flirt of its expanded tail. Its flight is direct and strong but under ordinary circumstances it seldom flies far.

Oreicola ferrea.

Key to Subspecies.

A. Darker above and more grey below at all seasons ..... *O. ferrea ferrea*, p. 36.

B. Paler above and purer white in summer and less grey in winter below ..... *O. ferrea harmptoni*, p. 38.

The females are not separable.

(502) Oreicola ferrea ferrea.

THE WESTERN DARK-GREY BUSH-CHAT.

Saxicola ferrea Gray, Cat. M. & B. Nepal, pp. 71, 153 (1846) (Nepal).
Oreicola ferrea, Blanf. & Oates, ii, p. 66.

Vernacular names. *Sarrak-chak-pho* (Lepcha).

Description.—Adult male in winter. A narrow supercilium from the forehead to the nape white; lores, cheeks, ear-coverts and sides of neck black; whole upper plumage ashy-grey; the feathers of the head to lower back with broad black centres; some birds have rusty fringes to the feathers of these parts, some hardly any; tail brownish black, the feathers increasingly edged with white, the outer webs of the outermost pair being entirely white; wing-coverts and quills black, edged with grey, often nearly white on the inner secondaries; inner coverts next the back pure white; chin, throat and generally a line behind the black sides of the neck white; remainder of lower parts ashy-white, darkest across the breast and on flanks.

Male in summer loses the grey edges to the feathers of the upper plumage, these parts becoming nearly black; the underparts become purer white.

Colours of soft parts. Iris dark brown; bill black; legs brown to blackish brown.

Measurements. Total length about 150 mm.; wing 66 to 69 mm.; tail 55 to 60 mm.; tarsus 20 mm.; culmen 11 mm.

Female. The whole upper plumage rufous or rufous ashy, with dark centres which become more prominent as the feathers become abraded in summer; upper tail-coverts dark bright chestnut; tail brown, broadly edged with chestnut, the outermost feathers paler; a pale grey supercilium; lores, sides of head, ear-coverts and sides of neck reddish brown, darkest in front of and under the eye; chin and throat almost white: remainder of lower plumage ashy rufous, darkest on the breast and brightest and more rufous on the posterior abdomen, vent and under tail-coverts.

Colours of soft parts and **Measurements** as in male.

The young bird is rufous-brown above, the feathers of the head and nape with fulvous central streaks; those of the neck with pale centres and blackish edges. On the underparts, the lower throat, breast and flanks are edged with dark brown or blackish. As soon as the wing and tail quills appear the male can be distinguished from the female, the former having these black and the latter brown, edged in both sexes with the same colours as the adult birds.

Distribution. The Western Himalayas from Chitral and the borders of Afghanistan to Eastern Assam, North and South of the Brahmaputra.

Nidification. The Dark-grey Bush-Chat breeds throughout its range at all heights between 4,000 and 9,000 feet, perhaps even 1,000 feet higher than this. The nest is a fairly well-made cup of grass, roots, a few leaves and a little moss, lined with grass, fur or hair, sometimes with all three mixed, sometimes with fur or hair alone. They may be placed in almost any natural hollow in a bank, under a bush or thick tuft of grass, in among the roots of a tree, in a hole among the stones and boulders of a retaining wall or even on the ground in open grass-land in a slight depression. They breed from early April to early July and, according to Hume, generally have two broods which they rear in the same nest. The eggs number four or five. In colour the ground varies from a bluish white to a blue as deep as that of a Thrush's egg; the markings in some are very sparse consisting of an ill-defined ring or cap of faint reddish specks, in others these caps and rings are well and strongly defined and in yet others the whole surface is faintly freckled with reddish, generally in addition to a well-marked ring and the whole aspect of the egg is more reddish than blue. The texture is stout and fine but not highly glossed and the shape is a broad oval. One hundred eggs average 17·9 × 14·2 mm.: maxima **19·3 × 15·0** and 18·1 × **15·1** mm.; minima **16·1 × 13·2** and 18·0 × **13·1** mm.

Habits. There is little to note on this bird's habits which are

profusely rufous; rest of lower plumage rusty ferruginous, deepest on the upper breast and palest on the abdomen; often a few spots of black on the fore-neck and upper breast; under tail-coverts fulvous-white; axillaries and under wing-coverts white with black bases.

In summer the pale fringes are worn off the upper parts which become wholly black; the spots on the fore-neck and breast also seem to disappear.

Colours of soft parts. Iris deep brown; bill and legs black.

Measurements. Total length about 162 to 166 mm.; wing 83 to 92 mm.; tail 49 to 54 mm.; tarsus 27 mm.; culmen 13 mm.

Female. Upper plumage and wings brown, edged with dull fulvous; upper tail-coverts dull ferruginous; tail brown, edged paler; forehead and faint supercilium fulvous; below pale rusty fulvous, darkest on the throat and breast which are sometimes lightly spotted; sides of neck, throat and breast generally brownish. The greater coverts of the wing are not white, nor is there any white wing-patch as in the male, but the fulvous margins to the greater and median coverts form two broad wing-bars.

A young male has the upper plumage of the male and the lower that of the female.

Distribution. Occurs in winter on the plains of Northern India from Cawnpore to the Bhutan Doars. Mandelli obtained this Chat in the lower hills of Sikkim and the Bhutan Doars in April but the breeding-grounds are still unknown.

Nidification. Unknown.

Habits. Beyond the fact that this Chat is found in flat, open country thickly dotted with cane-fields nothing is recorded about it.

Genus **OREICOLA.**

Bonap., Comp. Rend., xxxviii, p. 6 (1854).

Type, *O. melanoleuca.*

This genus differs from *Saxicola* in having a longer and much more graduated tail.

Key to Species.

A. Whole upper plumage, wings and tail black.	*O. jerdoni*, ♂, p. 35.
B. Upper plumage ashy and black; wing-coverts largely white; tail margined white.....	*O. ferrea*, ♂, p. 36.
C. Upper plumage rufous-brown or rufous-ashy.	
a. With no supercilium.....	*O. jerdoni*, ♀, p. 35.
b. With a supercilium	*O. ferrea*, ♀, p. 37.

Oreicola ferrea has been divided into two races by Hartert and I think rightly, though his chief character for separating them, length of tail, is of no use. There are very fine series of both forms in the British Museum and these show that whilst the tails of *O. f. ferrea* range from 55 to 60 mm., those of *O. f. haringtoni* range from 51 to 63 mm. On the other hand, when two rows are laid out, one of the Western form, *ferrea*, and one of the Eastern form, *haringtoni*, the latter is obviously a much whiter bird below and quite easy to distinguish. The eggs laid by the two races contrast well with one another.

(501) Oreicola jerdoni.

JERDON'S BUSH-CHAT.

Oreicola jerdoni Blyth, Ibis, 1867, p. 14 (India, Purnea); Blanf. & Oates, ii, p. 66.

Vernacular names. *Dao tisha-gashim* (Cachari).

Description —Adult male. Whole upper plumage, wings and tail glossy blue-black; whole under plumage white; under wing-coverts black sometimes tipped with white.

Colours of soft parts. Iris dark brown; bill and legs black.

Measurements. Total length about 150 to 155 mm.; wing 67 to 69 mm.; tail 61 to 69 mm.; tarsus 23 mm.; culmen 11 mm.

Female. Whole upper plumage brown, tinged with rufous on the lower back and rump; upper tail-coverts rufous; wings brown edged with the colour of the back; chin and throat white; remainder of lower plumage pale fulvous, darkest on breast and flanks.

Colours of soft parts as in male.

Measurements a trifle less than the male, wing 64 to 68 mm.

A young male is like the female but darker and broadly marked above and on the breast with dark edges to the feathers.

Distribution. The sub-Himalayan Terai and adjoining plains from Eastern Behar and Eastern Bengal, through Assam and a great part of the Chin, Kachin Hills and lower hills of Central Burma to Prome.

Nidification. I found this Chat breeding in great numbers in the vast plains of sun-grass, or thatching-grass, on the North bank of the Brahmaputra in the Lakhimpur District. Stevens found them breeding right under the foot-hills in the same district and they occur as far West as the grass-plains in the Northern parts of the Kamrup District but in much smaller numbers. They also breed in some of the upland grass-plains in the Chin Hills. The nest is very hard to find, being tucked away amongst the roots of the grass and quite invisible until these are torn apart. It is well built of roots and black fibrous materials, lined with fine grass and in shape it is a compact, stout little cup. They lay from early April to the end of May, but principally in the last week in April. The eggs number three or four, sometimes two only being incubated In colour they are a bright hedge-sparrow blue, only in

quite typical of the sub-family. It is essentially a bird of open grass-lands, not, as a rule, frequenting even open bush and scrub jungle. It is plentiful in winter in the elephant and ekra reeds on the borders of all the waterways in Assam and Eastern Bengal and in Behar may be found more often in cultivated country. In the non-breeding season it sometimes collects in considerable numbers but is not gregarious in the true sense of the word.

(503) Oreicola ferrea haringtoni.

THE EASTERN DARK-GREY BUSH-CHAT.

Oreicola ferrea haringtoni Hartert, Vög. Pal. Fauna, i, p. 711 (1910) (Moupin).

Vernacular names. None recorded.

Description. Only differs from the Western Dark-grey Bush Chat in being whiter below at all seasons of the year, in summer the breast and abdomen are almost pure white.

Measurements. Wing 64 to 68 mm.; tail 51 to 63 mm. If the tail is measured from the base this adds four or five mm. to the length and makes them agree with Hartert's for both species included.

Distribution. Hills of China, Yunnan, Kachin, and Chin Hills. The birds from South Assam are *O. ferrea ferrea* and they only breed occasionally on that side of the Brahmaputra, nearly all of them crossing the river to breed to the North in Nepal and Sikkim etc.

Nidification. Similar to that of *Oreicola ferrea ferrea* but the eggs, taken as a series, are very different. The ground-colour is a brighter, deeper blue and, whilst in many eggs the markings are entirely absent, in none are they numerous enough, or sufficiently well defined, to make the eggs look anything but bright blue. Forty eggs average 18·4×14·4 mm.: maxima 19·8×14·5 and 19·1×15·0 mm.; minima 17·1×14·2 and 18·2×14·0 mm.

The principal breeding months are April and May.

Habits. Those of the preceding race but the Eastern form seems to be found more often in scrub and thin bush cover than is the Western.

Genus ŒNANTHE.

Œnanthe Vieill., Analyse, p. 40, 1816.

Type, *Motacilla œnanthe* Linn.

As already explained, the name *Saxicola* cannot be used for the Wheatears, as in 1827 Swainson designated *Motacilla rubicola* as the genotype, thus anticipating Gray who did not give *Motacilla œnanthe* as the type of *Saxicola* until 1841. The next oldest name is Vieillot's *Œnanthe*, 1816, type by tautonymy *Motacilla œnanthe* Linn.

The genus *Œnanthe* contains a large number of species which are essentially birds of deserts and waste lands, and they are most developed in the dry parts of South-Western Asia and Northern

Africa. The majority of the species are migratory and only winter visitors to India but others are resident and breed within our area. The sexes are usually dissimilar and both sexes undergo a seasonal change of plumage which in some species causes a very great alteration in their appearance.

In *Œnanthe* the bill is about half the length of the head, slender and not widened at the base; the rictal bristles few and weak; the wing is pointed, the first primary being about one-third the length of the second; the tail is shorter than the wing and nearly square; the tarsus is rather long but slender.

The young of *Œnanthe* are typically Saxicoline, having the plumage both above and below barred and spotted, giving a mottled appearance. This juvenile plumage is moulted in the first autumn into one similar to that of the adult.

Key to Species.

A. Tail white or buff and brown; the lateral feathers immaculate or obliquely marked with black..... *Œ. monacha*, p. 40.

B. Tail white and black; the laterals with a broad band at the tip.

a. Band on lateral tail-feathers not exceeding 25 mm. in breadth.

a'. Second primary shorter than sixth.

a''. Sexes alike, plumage black and white ..... *Œ. alboniger*, p. 40.

b''. Sexes different; males black and white, females brown.

a³. Abdomen white, crown black. *Œ. picata*, ♂, p. 42.

b³. Abdomen and crown both white ..... *Œ. capistrata*, ♂, p. 43.

c³. Abdomen black ..... *Œ. opistholeuca*, ♂, p. 44.

d³. Throat and breast dark brown, contrasting with the pale abdomen .... *Œ. picata*, ♀, p. 42.

e³. Throat and breast buff, blending into the paler buff abdomen ..... *Œ. capistrata*, ♀, p. 43.

f³. Throat, breast and upper abdomen sooty-brown .... *Œ. opistholeuca*, ♀, p. 45.

b'. Second primary between sixth and fifth; sexes different; chin and throat black.

c''. Back and scapulars of the same colour ..... *Œ. leucomela*, ♂, p. 45.

d''. Back buff, scapulars black .... *Œ. melanoleuca*, ♂, p. 47.

c'. Second primary equal to or longer than fifth; chin and throat never black .....

e''. Sexes different; bands on tail about 22 mm. ....

g³. Under wing-coverts black edged with white ..... *Œ. œnanthe*, ♂, p. 48.

It is very bold and fearless; tame with human beings but resenting and at once driving away bird-intruders to its domain whether of its own or other species.

(506) Œnanthe picata.

THE PIED CHAT.

Saxicola picata Blyth, J. A. S. B., xvi, p. 131 (1847) (Sind); Blanf. & Oates, ii, p. 71.

Vernacular names. None recorded.

Description.—Male. The whole head and neck all round, back, scapulars and wings, under wing-coverts and axillaries deep black; remainder of lower plumage with the rump and upper tail-coverts white; tail white, except the terminal half of the middle pair of feathers and a broad band at the tip of the others, black; there is hardly any difference between the summer and winter plumage.

Colours of soft parts. Iris brown; bill and legs black.

Measurements. Total length about 170 mm.; wing * 89 to 99 mm., but 73 per cent. are between 91 and 94 mm.; tail about 65 to 70 mm.; tarsus about 25 mm.; culmen about 13 mm.

Female. Upper plumage brown; rump and upper tail-coverts white; tail as in the male but the black replaced with brown; wing brown, all the feathers broadly edged with *rufous*: chin, throat and breast dark ochraceous brown to dark brownish black; remainder of the lower parts very pale buff or pinkish white.

Measurements. "72 per cent. measure, wing 87–89 mm." (*Ticehurst*).

The young resemble the female but have the feathers of the breast and flanks edged with dark brown; the crown and back are concolorous.

Distribution. Breeding occurs throughout South-East Persia, Baluchistan, Afghanistan and the Afghan–N.W. Frontier of India, boundaries as far North as Samana and possibly as far North as Chitral and Gilgit. In winter it is found abundantly over extreme South-East Persia, Baluchistan, Sind and Rajputana, less frequently but regularly and in some numbers in the West and South-West of the United Provinces; in the Punjab it is much less common, its place being taken by the next bird, though Whitehead records this as breeding there. In Kashmir proper apparently only *picata* breeds and not *capistrata*, though the latter is also found there occasionally.

Nidification. The Pied Chat breeds in considerable numbers in the Quetta district and both Whitehead and Rattray found it breeding in the Kurram Valley at about 5,000 feet, whilst

* See Ticehurst, 'Ibis,' 1922, p. 153.

Lieut. Kinchin took its nest about 1,000 feet lower. Betham describes the nests as being made "of roots and bents and lined with hair, wool or any soft material that may be handy" and says that the favourite nesting-sites are holes in steep river-banks or under rocks and stones on the hills; it also sometimes nests in old stone walls or in ruined and deserted mud and stone buildings. Barnes found its nest in Afghanistan built in a hole in a tree. The eggs number four or five and vary from almost white to a pale skim-milk blue sparsely marked with tiny freckles and a few small blotches of reddish brown. These are nearly always confined to the larger end where they sometimes form a faint ring. The texture is fine and close, fairly glossy but fragile and the shape is a broad blunt oval. Forty eggs average 20·0 × 15·6 mm.: maxima **21·5 × 16·4** mm.; minima **18·0 × 14·4** mm. They breed principally in late April and May and Betham found no eggs after the third week in the latter month.

To what extent this bird breeds in Persia I do not know: Ticehurst says that it is "the breeding bird of Eastern Persia" but Currie in three seasons at Kerman and Shiraz never came across it, though he often obtained it during the cold weather at Bunder Abbas.

Habits. This Chat is normally a bird of comparatively low levels, *i.e.* from 4,000 to 6,000 feet. In winter it is found throughout the plains of the North-West. They are typical Wheatears in their habits, keeping entirely to open desert country, preferably to areas that are particularly stony and rough. Where cultivated country adjoins waste lands the Pied Chat will resort to it for the sake of the ample insect-food it there obtains but it is apparently never found in thick scrub or heavily grassed lands. It has a very sweet, but low, song.

(507) Œnanthe capistrata.

THE WHITE-HEADED CHAT.

Saxicola capistrata Gould, B. of Asia, iv, pl. 28 (1865) (Sind); Blanf. & Oates, ii, p. 72.

Vernacular names. None recorded.

Description.—Male. Differs from *picata* in having the head and nape Isabelline-grey or French-grey wearing to pale grey or almost pure white in winter.

Gould's birds probably came from Sind and this may therefore be designated the type-locality.

Colours of soft parts. Iris brown; bill, legs and feet black.

Measurements. On the average a larger bird than *picata*; "wing 90 to 99 mm., 80 per cent. 94 or more" (*Ticehurst*). The British Museum series bears out Ticehurst's figures.

Female. Differs from that of the Pied Chat in never having the throat so dark, nearly always a fulvous with no brown or

black in it; the upper plumage is a sandy brown rather than a dark brown.

Measurements. "70 per cent. *capistrata* measure wing 90 mm. and upwards" (*Tickhurst*).

Distribution. Breeding in Turkestan, Afghanistan and the North-West Frontier of India, *Gilgit*. In winter it is found principally in the North-West Province and the Punjab wandering into Rajputana, Kashmir, and, very rarely, into Sind.

Nidification. Whitehead and Rattray both obtained this bird in the Karram Valley and at Parachinar both this and the last bird were breeding *together*. According to the former it breeds between 4,500 and 6,500 feet and rarely up to 9,000 feet. "The nest, a neat grass structure, is usually placed in a hole in the bank of a nullah or under a stone in the bed of the nullah, occasionally in a cairn of stones. The eggs are pale blue, varying a good deal in shade, marked with red spots also varying much in shade and distribution, and average 0·79 in. × 0·53 in. The full



Fig. 6. Head of *Œ. capistrata*.

clutch is five. Two broods at least are reared in the season." The spots I may add are always few and sometimes very scanty. Twenty-five eggs, including Whitehead's, average 20·0 × 15·0 mm.; Whitehead's eggs are nearly all in my possession and his breadth of 0·53 in. is probably a misprint for 0·58. Fulton found it breeding up to 11,000 feet in Chitral. The breeding month is early May.

Habits. Quite indistinguishable from those of the last species.

(508) Œnanthe opistholeuca.

STRICKLAND'S CHAT.

Saxicola opistholeuca Strickland, Jardine's Con. Orn. p. 60 (1849) (Northern India, Punjab); Blanf. & Oates, ii, p. 73.

Vernacular names. None recorded.

Description.—Male. Rump, upper and lower tail-coverts white; central tail-feathers white at the base, black on the terminal four-fifths; lateral tail-feathers white with broad brownish-black tips; wing-quills dark brown; remainder of plumage black, but not very glossy.

Colours of soft parts. Iris brown; bill, legs and feet black.

Measurements. Total length about 165 mm.; wing 90 to 95 mm.; tail 62 to 65 mm.; tarsus 25 mm.; culmen 14 mm.

Female. Above, the black of the male is replaced by light brown. The ear-coverts are bright hair-brown; the chin, throat and breast are brownish, often with a buff tinge, changing to albescent on the abdomen.

In the British Museum collection are many birds sexed female which differ from the adult female in being very dark brown above; they are all probably young males.

Distribution. Breeding in Turkestan, Afghanistan, Baltistan, probably Gilgit, and, certainly, all along the North-West Frontier of India as far South as Thull. In winter it migrates to the lower hills and plains as far South as Sind, in Bombay to Khandesh and to Nagpur and the whole of the North-West Province.

Nidification. Fulton found this the most common of all the Chats in Chitral, breeding between 6,000 and 10,000 feet and both Rattray and Kinchin took nests at Parachinar, Kurram Valley, at about 4,500 feet. These they describe as grass cups lined with a few feathers, grass and hair, and placed well inside holes in rocks.

The eggs, now in my collection, are like those of the two preceding Chats in shape, texture, size and colour.

Habits. Quite similar to those of other Wheatears and Chats, which keep to stony wastes and deserts.

(509) Œnanthe leucomela leucomela *.

THE PIED CHAT.

Motacilla leucomela Pall., Nov. Comm. Petrop., xiv, p. 584 (1770) (Samara, Russia).
Saxicola pleschanka. Blanf. & Oates, ii, p. 73.
Saxicola villata. Blanf. & Oates, ii, p. 75.

Vernacular names. None recorded.

Description.—Male in summer. Forehead to nape white, tinged with rufous to a varying extent, sometimes pure white; rump and upper tail-coverts pure white; rest of head, throat and upper breast, back, scapulars and wing-coverts black; quills dark brown edged black; central tail-feathers black with white bases, lateral tail-feathers white, marked with blackish brown in a band, or in patches, at the tip, the outermost pair nearly always

* Lepechin, whose name *pleschanka* for this bird appears on p. 503 of the same work as that in which Pallas' name, *leucomela*, occurs, was not a consistent binomialist and therefore his names, fortunately but few in number, cannot in my opinion be accepted.

The average of 75 eggs (41 Hartert) is 19·3 × 15·2 mm.: maxima **20·8** × 15·2 and 20·6 × **16·9** mm.; minima **17·1** × 14·9 and 18·5 × **13·5** mm.

They breed from the end of April to early June, most eggs being laid during the first week in May.

Habits. This Chat is said to frequent, by preference, the most arid and desolate of deserts and rocky hills, keeping aloof from all cultivation or any kind of vegetation. It is one of the most shy and retiring of the Chats.

(511) Œnanthe œnanthe œnanthe.

THE WHEATEAR.

Motacilla œnanthe Linn., S. N., i, p. 186 (1758) (Sweden).
Saxicola œnanthe. Blanf. & Oates, ii, p. 76.

Vernacular names. None recorded.

Description.—Male in summer. Forehead and a broad supercilium white; crown, nape, back and scapulars pale slaty-grey; rump and upper tail-coverts white; central tail-feathers white on the basal third and black on the terminal two-thirds; lateral feathers with two-thirds white and one-third black; lores, cheeks and ear-coverts black; wings black; chin, throat and upper breast bright buff paling to white on centre of abdomen; under tail-coverts bright buff.

In winter the grey upper parts are fringed with rufescent, the ear-coverts are mixed with rufous; the wing-coverts and quills have broad rufous or whitish margins and the underparts are more buff.

Colours of soft parts. Iris brown; bill black; legs and feet dark horny-brown to almost or quite black, the soles paler and claws always black.

Measurements. Total length about 165 mm.; "wing 93 to 99, rarely to 104 mm; culmen 16 to 19 mm." (*Meinertzhagen*). Tarsus about 28 mm.

Female. Above rufous-brown, forehead and faint supercilium pale rufous; lores and upper parts of ear-coverts brown; lower parts of ear-coverts rich buff; below buff, richer on throat and breast; rump and upper tail-coverts white; wings dark brown, all the feathers basally edged with rufous.

Nestling above brown, the feathers pale-centred; rump and upper tail-coverts yellowish white; below dull buff, the feathers of breast and flanks edged with brown.

Distribution. Practically the whole of Europe except Crete; all Western Asia to Turkestan, Persia and Mesopotamia, Afghanistan and Baluchistan, wandering across the boundaries of the last two places into the extreme N.W. Provinces, Gilgit and Northern Kashmir.

Meinertzhagen ('Ibis,' 1922, pp. 14–18) recently reviewed the races of *Œnanthe œnanthe* and has come to the conclusion that the supposed Eastern form *argentea* cannot be maintained. He seems to have based this conclusion on the material in the Tring Museum and a very large number of Western species available from other sources. There are, however, a good series of Persian and Turkestan males in the British Museum which certainly confirm Lönnberg's description of *argentea* and vary from typical *œnanthe* in being somewhat larger but particularly in having the forehead very broadly white. In one or two specimens the white band runs back as far as the back of the eyes and in several others it is nearly as broad. If there is a Turkestan and Persian breeding Wheatear which consistently shows this characteristic it would certainly have to be separated and bear Lönnberg's name of *argentea* (*Saxicola œnanthe argentea*, Arkiv f. Zool., v., p. 22, 1909: Bura, South of Lake Baikal).

As regards our Indian birds two from Quetta appear to belong to this Persian form, whereas the rest are nearer the true *œnanthe* from Europe and Western Asia.

Nidification. The breeding of the Common Wheatear is almost too well known to require description. Its nest of grass, roots and scraps of vegetable rubbish is placed inside a hollow in a rock, cliff or pile of stones, often inside a deserted rat or rabbit burrow, or even in the burrow of a Sand-Martin. The lining is either of finer grass and roots or of fur, wool or hair. The eggs number four to six and, rarely, seven and are a very pale skim-milk blue in colour, occasionally with a few faint freckles of pale reddish at the larger end. The average of 100 eggs (Hartert) is 20·7 × 15·5 mm.: maxima **23·0** × 16·1 and 22·0 × **16·5** mm.; minima **19·0** × 14·5 and 19·3 × **14·0** mm.

The breeding-season is from the end of April to early June, varying according to locality.

Habits. Like all the Wheatears this bird is a frequenter of open country, preferably such as is barren and stony but also that which is under cultivation. It captures all its food from some point of vantage on a rock or cliff, dashing from time to time on any unfortunate insect which may cross the ground within its sight and then returning to its original perch. Its flight is undulating but fairly strong and when frightened it flies fast and level until it finds itself in fancied safety. It runs quickly for a pace or two on the ground and occasionally attempts to catch insects on the wing. Its song is sweet but short and rather feeble.

(512) Œnanthe isabellina.

THE ISABELLINE CHAT.

Saxicola isabellina Cretzschm., Atlas zu Rüpp. Reise, Vög. p. 52 (1826) (Nubia); Blanf. & Oates, ii, p. 77.

Vernacular names. None recorded.

with a broad band of black; below from breast to under tail-coverts pure white.

In winter, after the autumn moult, the feathers of the head are fringed with dull rufous, obscuring the white; the upper black parts are broadly fringed with rufous and the throat, breast and sides of neck very narrowly fringed with white or very pale rufous.

Colours of soft parts. Iris hazel or brown; legs and feet black.

Measurements. Total length about 160 to 170 mm.; wing 92 to 99 mm.; tail 58 to 61 mm.; tarsus 24 mm.; culmen 12·5 to 13·5 mm.

Female in summer. Upper parts brown, slightly rufous, rump and upper tail-coverts white; tail as in the male but brown instead of black, an indistinct pale rufous supercilium; ear-coverts brown; lower plumage dull greyish white, darker and rather buff on the chin, throat and breast.

In winter the upper parts are more broadly fringed with rufous; the wing-feathers have broad rufous edges and the lower parts are paler, almost white on the abdomen.

Distribution. South Russia, the Caucasus, Transcaspia, Turkestan, Persia, Afghanistan, Tibet, East Siberia, North China and into Gilgit and North Kashmir.

Nidification. Biddulph took this Chat's nest at Astor on the 26th June, Oates records it as breeding numerously in N. Kashmir and Ward states that it breeds in the "side valleys" of Kashmir. Beyond this there is nothing on record of its breeding within Indian limits and probably it is only a casual and not regular breeder in N. Kashmir and Gilgit.

The nest is the usual cup of grass and roots, lined with grass often mixed with hair, fur or wool and sometimes wholly of one or more of these materials. It is placed in a hole in a wall or in amongst loose stones, more rarely in a hole in a trunk of a tree and is generally well concealed. The eggs number four to six and differ from those of any of the preceding species of *Œnanthe* in being a much darker blue in ground-colour and also in being more boldly marked. The average size according to Dresser is 18·1 × 14·2 mm. but a series in my own collection from Russia, Asia Minor and Transcaspia average a good deal bigger, *i.e.*, 18·8 × 14·8 mm.

They appear to breed in late May and June.

Habits. This Chat is said to differ from others in its habit of frequenting bushes and even small trees as well as perching on rocks and stones. It captures its insect-prey in the usual manner by making little dashes to the ground and then returning to its observation-point. Its song is sweet and low but not strong.

(510) Œnanthe melanoleuca melanoleuca.

BARNES' CHAT.

Muscicapa melanoleuca Güldenst., Nov. Comm. Petrop., xix, p. 468 (1775) (Georgia).
Saxicola barnesi Oates, Avifauna, ii, p. 75 (Kandahar) (part.).

Vernacular names. None recorded.

Description.—Male in summer. A narrow frontal line, lores, round the eye, cheeks, ear-coverts, sides of neck, chin and throat black; central tail-feathers white at the base, black elsewhere; the lateral tail-feathers white with broad black tips; remaining plumage white.

Colours of soft parts. Iris brown; bill black; legs and feet dark brown or horny-black.

Measurements. Total length about 175 mm.; wing 85 to 92 mm.; tail 53 to 58 mm.; tarsus 25 to 26 mm.; culmen 13 to 14 mm.

Male in winter has the whole upper parts so heavily fringed with grey-buff that they appear to be entirely of this colour, except on the pure white upper tail-coverts; the black of the chin and throat is barred with narrow rufous fringes; the wing-coverts and quills are edged with pale rufous.

Female. Above sandy-brown, rump and upper tail-coverts white; tail as in the male; below sandy-white, the darker bases to the feathers showing through on throat and breast.

Distribution. From Georgia and Transcaspia through to Afghanistan and Baluchistan and North-West Indian frontier. It also breeds in Persia.

This bird is separated from *Œ. m. finschi* of Palestine and Asia Minor by not having the black of the throat and chin connected with the black axillaries but separated therefrom by a line of white. All the Indian birds are of this race with the one exception of the specimen selected by Oates as the type of *barnesi* and this one unfortunately seems to be much nearer *finschi* than to the typical form. It is probably merely an aberrant specimen but it might possibly be an individual which has wandered across out of its usual beat. It was killed at Kandahar.

Nidification. Barnes' Chat makes a typical Wheatear nest of grass and roots lined with hair, fur, wool or any other soft material available near the site. It may be placed in a hole in almost any position—bank, wall, heap of stones or even in a stone or mud building. Sometimes they are placed so far in that they cannot be got at at all, less often within a few inches of the entrance. They lay normally five eggs, sometimes four only and less often six. These are typical Wheatear's eggs but dark like those of the last species, from which they are not distinguishable.

Description.—Male in summer. Head to back and scapulars sandy-brown; warmer and slightly buff on lower back and scapulars; longest feathers of the rump and upper tail-coverts white; middle pair of tail-feathers white at the base for about one-third of their length, black on the terminal two thirds; lateral feathers white on two-thirds of their length, black on one-third only, all narrowly edged and tipped with white or pale fawn; wings dark brown, each feather narrowly edged with fulvous; a narrow white supercilium from the nostrils to the ear-coverts; a line through the eye dark brown or black; ear-coverts fulvous, the colour extending down the sides of the neck; chin and centre of throat whitish; rest of lower plumage buff albescent on centre of abdomen, warmer and more fulvous on breast and flanks.

In winter the edges to all the feathers are broader and affect the general colour to a greater extent.

Colours of soft parts. Iris deep brown; bill, legs and feet black.

Measurements. Total length about 180 mm.; wing 96 to 100 mm.; tail 53 to 56 mm.; tarsus 30 to 31 mm.; culmen about 15 mm.

Female like the male, but has the lores duller brown and the supercilium sometimes less distinct.

Distribution. Breeding from the South Russian Steppes, Asia Minor, Palestine, Afghanistan, Baluchistan, Persia and Tibet to East Siberia and N.W. China. It breeds in British Baluchistan, N.E. Kashmir and in Ladak, and winters in the plains of North-West India.

Nidification. The Isabelline Chat breeds within our limits practically all along the Baluchistan and Afghanistan frontiers. Betham and Marshall found many nests round about Quetta, and Rattray obtained others near Thull at about 4,500 feet. The nests taken by Betham and Marshall were all in rat-holes in the ground, and the former describes the nest as "composed of wool, hair, roots, feathers, cotton, coir, rags, or any other soft material available; a conglomerate mass with a depression in the centre in which the eggs were deposited. Often toads and beetles share the burrow with the birds, though they may not occupy the nest-chamber itself." Rattray found the nest in holes under stones.

The eggs are four or five in number, and are generally a very pale spotless blue in colour, occasionally there are a few pale freckles at the larger end. In shape they are broad, rather blunt ovals.

Seventy-five eggs (Hartert 55) average 21·9 × 16·4 mm. Indian eggs are rather small, averaging only 21·3 × 16·1 mm.: maxima **25·1 × 17·3** mm.; minima **19·5 × 15·6** and 20·0 × **15·2** mm. The breeding-season is from the beginning of April to the middle of June.

Betham notes that "during the breeding-season the male makes himself very conspicuous by his quaint antics. He jumps up into the air, uttering a curious guttural note, and floats through it, with his tail spread and his rump arched showing up spotlessly white against the black. He gradually ascends some thirty or forty feet and then descends slantwise to the ground, but always on to some raised mound, never on to the flat ground."

Habits. Those of the genus. Buxton remarks on its partiality for salt desert with scanty vegetation, which it shares with *Sylvia nana*.

Œnanthe deserti.

Œnanthe deserti Temm. Pl. Col. pl. 359, fig. 2 (1825).

Type-locality: Egypt.

Key to Subspecies.

A. Inner webs of wing-quills with a little white only on the base ..... *Œ. d. atrogularis*, p. 51.
B. Inner webs of wing-quills very largely white ..... *Œ. d. oreophila*, p. 52.

(513) Œnanthe deserti atrogularis.

GOULD'S DESERT-CHAT.

Saxicola atrogularis Blyth, J. A. S. B., xvi, p. 131 (1847) (Agra).
Saxicola deserti. Blanf. & Oates, ii, p. 78.

Vernacular names. None recorded.

Description.—Male in summer. Frontal line and broad supercilium buffy-white, forehead to rump buff, more grey on the head, richer and brighter buff on lower back and scapulars; rump paler and upper tail-coverts creamy fulvous-white; tail black with white base; wings brownish black edged with white, the innermost secondaries with fulvous-white; inner wing-coverts next the back so broadly edged with white as to form a large white wing-patch; lores, cheeks, sides of head and neck, throat and upper breast black; remainder of lower plumage pale buff, brightest on the breast; axillaries and under wing-coverts black, tipped with white; bases of inner webs of wing-quills white, varying in extent from mere narrow margins to nearly half the web.

In winter the black parts are fringed with white, the supercilium is less distinct and the back is more dusky.

Colours of soft parts. Iris brown; bill, legs and feet black.

Measurements. Total length about 170 mm.; wing 93 to 102 mm.; tail 55 to 63 mm.; tarsus 26 mm.; culmen 14 to 15 mm.

This form differs from typical *Œ. d. deserti* in being darker and greyer above and more brown on the breast. It also has a much smaller bill, although it is a bigger bird.

Œnanthe x. xanthoprymna has the head and the throat much darker blackish.

Distribution. Breeding in South Turkestan, South and East Persia to Baluchistan. In winter in North-West India, West of the Jhelum River, Sind, Cutch, Northern Guzerat and Rajputana as far East as Jodhpur.

Nidification. According to Mr. A. J. Currie this Chat breeds freely in South Persia at 6,000 feet upwards, and he found it comparatively common both at Sheraz and at Kerman. It apparently nests twice, first in March and April and again in the end of May and June, as he found fully fledged young in May and took fresh eggs in June. The nest Mr. Currie describes as like that of *E. albonigra*. He writes: "This Chat first fills the nest-hole to the required dimensions with small pebbles and then behind this rampart and supported by it is the true nest, composed of twigs and grass and lined with finer grass. The nest takes 5 or 6 days to build."

The eggs number five and are broad obtuse ovals; pale sea-green or bluish white, either quite spotless or with a few faint brown specks about the larger end. They measure about 19·9–22·4 × 16·2–16·9 mm.

Habits. The Red-tailed Chat frequents rocky gorges which run up into the higher hills and appears to be found between 5,000 and 9,000 feet in summer, descending to the foot-hills and adjacent plains in winter. In the Kurram and other valleys of the North-West Frontier it is found even higher and certainly ascends as high as 11,000 feet or over. It is said to be a quiet unobtrusive bird, with a feeble song of poor quality. Its alarm-note is a long-drawn single pipe.

Genus **CERCOMELA**.

Bonap., Comp. Rend., xlii, p. 766 (1856).

Type, *C. melanura*.

The genus *Cercomela* is represented by one species within Indian limits, and is very closely allied to *Œnanthe*.

In *Cercomela* the bill is like that of *Œnanthe*; the wing is rather blunter than in that bird, and the first primary is large, about equal to half the second; the tail is much shorter than the wing and is of one colour; the tarsus is rather short.

(516) **Cercomela fusca.**

THE BROWN ROCK-CHAT.

Saxicola fusca Blyth, J. A. S. B., xx, p. 523 (1851) (Muttra).
Cercomela fusca. Blanf. & Oates, ii, p. 80.

Vernacular names. *Shama* (Cen. Prov.).

Description. Upper plumage brown, fringed with rufous after the autumn moult; upper tail-coverts darker and tail very dark brown; wings dark brown, each feather edged with rufous in fresh plumage; sides of head and neck and lower plumage dull rufous.

There is considerable individual variation in the colour of this Chat due to abrasion and bleaching; in some the rufous tinge is quite absent and in a few birds the upper plumage is quite a dark brown.

Colours of soft parts. Iris dark brown; bill, legs and feet black.

Measurements. Total length about 165 to 170 mm.; wing 84 to 93 mm.; tail 64 to 69 mm. tarsus about 20 mm.; culmen 13 to 15 mm.

Distribution. Resident in Central India. It is found practically throughout the United Provinces, the South of the Punjab, the extreme North-East of the Central Provinces, Rajputana East to Cutch. Whistler found it to be fairly common in the small hills round about Yakuwala in the Jhang district of the Punjab.

Nidification. The Brown Rock-Chat breeds wherever found within the limits given above. The nest is a roughly made shallow cup, often little more than a pad, of grass, roots, wool, hair, etc., much mixed together but, generally, with the latter materials as a lining. It may be placed in a hole in almost any position: a bank, cliff, stone wall, well or empty building and very often in houses which are occupied. In these they not only place their nests in holes but under the eaves, on the rafters or on any other convenient ledge. The eggs generally number three only, sometimes four and very rarely five. They are typical Wheatears' in colour, shape and markings. The ground is a pale blue or bluish green, sometimes almost or quite spotless but in nine eggs out of ten with a fairly well-marked ring of reddish specks and small blotches at the larger end. In shape they are usually a broad obtuse oval, less often a longer oval with the small end well pointed.

Fifty eggs average 20·5 × 15·5 mm.: maxima 22·3 × 16·5 mm.; minima 19·0 × 14·7 mm.

The breeding-season lasts from April to July or even later; two broods are nearly always reared in the year, sometimes three, the birds using the same nest for both or all three broods.

Habits. In its ways, flight, food and voice this bird is a quite typical Wheatear but, unlike practically all species of *Œnanthe*, the Brown Rock-Chat is one of the tamest, boldest and most confiding of birds. When breeding it seems to lose all fear of man and will build in rooms and offices which are continually in use, passing in and out of them quite regardless of the numerous human beings within. It is found both round about and in villages and towns and also in arid stony wastes, rocky hills and cultivation.

Female. Upper parts like the male but greyer, wings and tail a lighter brown; ear-coverts rufous-brown; supercilium very indistinct; below from chin to under tail-coverts whitish-buff, the breast and flanks darker and brownish.

Young like the female, but both upper and lower parts very dull and fringed with greyish, giving a mottled appearance.

Distribution. Breeding in Western Central Asia, Kirghis Steppes, South Caucasus to East Persia, Afghanistan, Baluchistan and N.E. Kashmir. A winter visitor to the plains of North-West India.

Nidification. Gould's Chat does not breed within the limits of the area dealt with in this work, but nests both in Baluchistan and the hills of Eastern Mesopotamia. The nests are similar to those of other Wheatears, and the eggs, which number four or five, vary from pale spotless blue to pale blue with a well-defined ring of small blotches of red at the larger end. Twenty-four eggs (7 Jourdain) average 19·6 × 15·4 mm.: maxima **20·6 × 15·5** and 20·0 × **16·1** mm.; minima **19·0 × 15·0** and 19·5 × **14·7** mm.

Habits. According to Ticehurst this Chat is partial to the vicinity of scrub and cover, often settling on small bushes. This probably only refers to its winter resorts, for during the breeding-season it is found, as a rule, in the most stony and bare deserts.

(514) Œnanthe deserti oreophila.

THE TIBETAN DESERT-CHAT.

Œnanthe deserti oreophila Oberholser, Proc. U.S. Nat. Mus., xxii, p. 221 (1901) (S.W. Tibet).
Saxicola montana. Blanf. & Oates, ii, p. 78.

Vernacular names. None recorded.

Description. Both male and female differ from Gould's Desert-Chat in having more white on the inner webs of the secondaries and primaries. The white patch on the wing-coverts is larger.

Colours of soft parts as in the last race.

Measurements. This bird *averages a trifle larger* than the last; wing 96 to 106 mm.; tail 67 to 71 mm.; culmen 15·5 to 17 mm.

Distribution. Breeding in Kashmir, Ladakh and Tibet. In winter it occurs in Sikkim, and may breed there. It occurs in Assam, North of the Brahmaputra, where Coltart and I obtained it at Margherita, and in North Cachar South of the river.

Nidification. The Tibetan Desert-Chat breeds from Ladakh throughout Tibet at heights between 12,000 and 14,000 feet during June and the last week of May. Usually it places its nest in amongst the stones of the boundary-walls or in stone cairns and the broken walls of deserted buildings but, occasionally at all events, it also places it in the burrows of the Mouse-Hare. The nests seem to be made of almost any material, but the lining is always of fur, hair or wool mixed with a few feathers. The eggs are five in number and are exactly like those of the last race. Eleven eggs in my collection average 22·2 × 15·9 mm. In Kashmir it has been found breeding at 16,000 ft.

Habits. In summer the Tibetan Desert-Chat occurs from 10,000 to 17,000 feet and in winter wanders lower down to some 3,000 or 4,000 feet in Sikkim, Bhutan and the hills of Northern Assam, rarely also straggling into the higher hills South of the Brahmaputra.

In Tibet it inhabits country where there is a considerable amount of cultivation as well as stony deserts. It is also found in considerable numbers on the Gyantse plateau between 12,000 and 14,000 feet, where there is a good deal of coarse short grass and an endless growth of a stubbly thorny bush, which the goats and sheep graze down to about a foot or eighteen inches high. Its actions, flight, food and voice are all typical of the genus. It has the same display during the breeding-season as that of *Œ. isabellina* already described.

Œnanthe xanthoprymna.

Saxicola xanthoprymna Hemp. & Ehrenb., Symb. Phys. Av., fol. dd (1833).

Type-locality: Nubia.

(515) Œnanthe xanthoprymna chrysopygia.

THE RED-TAILED CHAT.

Drymoïca chrysopygia De Filippi, Arch. Zool. Genova, ii, p. 381 (1863) (Demavend, Persia).
Saxicola chrysopygia. Blanf. & Oates, ii, p. 79.

Vernacular names. None recorded.

Description. Forehead to back and scapulars pale grey-brown, more tinged with rufous or chestnut on lower back; rump chestnut; upper tail-coverts very pale chestnut; tail bright chestnut, the middle pair of feathers black on the terminal halves, the lateral ones with a broad black subterminal band; wing-coverts brown edged with grey, very broadly so on the lesser coverts; quills brown edged with rufous-grey; supercilium dull greyish white; lores dark grey-brown; ear-coverts hair-brown; chin and throat nearly white, remainder of lower parts pale vinaceous ashy, albescent on the centre of the abdomen, deeper on the breast and flanks and buffy on the vent and under tail-coverts.

Colours of soft parts. Iris blackish brown; bill, legs and feet black.

Measurements. Total length about 170 mm.; wing 89 to 97 mm.; tail 55 to 59 mm.; tarsus 26 to 27 mm.; culmen about 13 mm.

Subfamily ENICURINÆ.

The members of this subfamily consist of three genera of birds with an extraordinary superficial resemblance to Wagtails, *i. e.*, they are black and white birds with long tails, which they are always wagging, and they run along in front of one in waterways and forest-paths. Structurally they are very different, having ten primaries well developed and a much stronger bill.

They differ from the members of the *Phœnicurinæ*, with which Oates placed them, in the unusual shape of the tail, which is very deeply forked, yet has the outermost feathers shorter than the next pair.

The sexes are alike and the young go through two colour-phases before they assume the adult plumage.

The bill is strong and fairly stout, the lower mandible being bulged in the middle; the rictal bristles are well developed, the wing is long and the first primary is about half the length of the second.

Key to Genera.

A. Tail much longer than wing; middle rectrices one-third the length of longest	ENICURUS, p. 56.
B. Tail about equal to wing; middle rectrices about half the length of tail	HYDROCICHLA, p. 63.
C. Tail shorter than wing; middle rectrices reaching nearly to end of tail	MICROCICHLA, p. 65.

Genus ENICURUS.

Enicurus Temm. Pl. Col. iii, pl. 113 (1824).

Type, *E. leschenaulti*.

Characteristics those of the subfamily. The tail is very long, much longer than the wing, and is very deeply forked, the central tail-feathers being rarely a third the length of the penultimate pair, which are longest. The outermost pair vary in length, even in the same species, but are always shorter than the next. Like all other genera in this subfamily the two outermost pairs of tail-feathers are always white.

The bill is fairly stout and straight and the tarsi are long and slender and always very pale in colour.

Key to Species.

A. Back spotted	*E. maculatus*, p. 57.
B. Back plain.	
a. Chin and throat black, breast white.	
a'. Back slate-coloured	*E. schistaceus*, p. 59.
b'. Back almost or quite black	*E. immaculatus*, p. 61.
b. Chin, throat and breast black	*E. leschenaulti*, p. 61.

Enicurus maculatus.

Key to Subspecies.

A. Spots on back large and lunate on lower back; breast also marked with white....	*E. m. maculatus*, p. 57.
B. Spots on back smaller and round; breast unspotted black	*E. m. guttatus*, p. 58.

(517) Enicurus maculatus maculatus.

THE WESTERN SPOTTED FORKTAIL.

Enicurus maculatus Vigors, P. Z. S., 1830, p. 9 (Himalaya, restricted to Simla).
Henicurus maculatus. Blanf. & Oates, ii, p. 83.

Vernacular names. *Khanjan* (N.W. Fron.).

Description. Forehead and anterior crown white; whole head neck and breast black, generally with a bronze sheen on the crown; back, breast and scapulars black with bold white spots so numerous on the hind-neck as to form a collar and on the lower



Fig. 7.—Head of *E. m. maculatus*.

back reduced to broad fringes, lunate in shape; rump and upper tail-coverts white; tail black, the bases and tips white and the two outermost pairs wholly white; wings black, the greater coverts white-tipped forming a broad bar; inner secondaries white at the base and with white spots at the tips; lower plumage white.

Colours of soft parts. Iris dark brown; bill black, legs and feet white to pale fleshy-white, sometimes pinker and darker on the joints.

Measurements. Total length about 270 to 280 mm.; wing 10(to 112 mm.; tail about 135 to 145 mm.; tarsus 29 to 30 mm. culmen 19 to 21 mm.

The young have the head, back and breast a dark rich brown sometimes immaculate (probably the older birds) and sometime with indistinct pale centres to the feathers above and strongl marked streaks on the breast.

The nestling is dark grey above; chin, throat and breast grey with broad white centres; wings and tail as in the adult but with very broad white edges and tips.

Distribution. The Himalayas from the extreme North-West Frontier to Nepal, at all heights between 2,000 ft. and 12,000 ft.

Description. A frontal line running back to the eye pure white, lores and next the nostril, chin, cheeks, upper throat and sides of neck black; crown to lower back slaty blue-grey; rump and upper tail-coverts white; tail-feathers black with white tips and bases and the two outermost pairs pure white; lesser wing-coverts black broadly edged with slate-colour; median and greater coverts black, the latter broadly tipped with white forming a wing-bar; quills black, all but the first two primaries with a white patch at the base of the outer web; innermost secondaries broadly tipped with white; below from lower throat to under tail-coverts pure white.

Colours of soft parts. Iris brown to blackish brown; bill black; legs practically white to pale fleshy or livid fleshy; claws whitish.

Measurements. Total length about 250 mm.; wing 89 to 101 mm.; tail 101 to 128 mm.; tarsus 27·5 to 28·5 mm.; culmen 18 to 19 mm.

The young birds have the black upper parts replaced by rich brown, and the breast and flanks with rufous-brown edges and indefinite bars.

The Nestlings have the upper parts from forehead to rump ashy-brown; the chin, throat, breast and flanks smoky-brown with pale centres giving a mottled appearance.

Distribution. From Kumaon (*Hume*) to Eastern Assam, both North and South of the Brahmaputra, practically the whole of Burma, Siam, Shan States, Yunnan and the greater part of Southern China.

Nidification. The nest of the Slaty-backed Forktail is exactly like that of the Spotted Forktails, though it averages somewhat smaller and possibly has more leaves and roots worked into the body of the nest. The sites selected are also the same as those chosen by these birds. The eggs, which number three or four, are of two types: firstly, very much like small, washed out eggs of *E. m. guttatus*; secondly, and more often, pure white eggs, or with only the faintest tinge of green or cream, quite boldly spotted and speckled with reddish brown, with others underlying them of violet and pale reddish lavender. In Eastern Assam, where the bird is very numerous, the eggs were nearly all of this type; in Sikkim, West and South Assam, they are more often of the former type. One hundred eggs average 21·4 × 16·3 mm.: maxima **24·0 × 17·0** mm.; minima **20·0** × 16·0 and 21·1 × **15·3** mm. They are early breeders, commencing to lay in the second week in April and few laying after May.

Habits. Those of the genus. The Slaty-backed Forktail is found principally between 1,000 and 5,000 feet ascending some two thousand feet higher, whilst in winter it is found right down to the foot-hills and plains adjacent to them.

(520) Enicurus immaculatus.

THE BLACK-BACKED FORKTAIL.

Enicurus immaculatus Hodgs., As. Res., xix, p. 190 (1836) (Nepal).
Henicurus immaculatus. Blanf. & Oates, ii, p. 85.

Vernacular names. *Iuruidiba gajeba* (Kacha Naga).

Description. Forehead, short supercilium and round the back of the eye white; rest of head, chin, throat, back and wing-coverts black; rump and upper tail-coverts white; tail black with broad white bases and tips, the two outer pairs pure white; tips of greater coverts and bases of quills white forming a broad wing-bar; tips of secondaries white, broadly so on the innermost; below from lower throat to under tail-coverts white.

In many specimens the head and upper back have a faint slaty tinge, but this appears to be purely individual and in no way a geographical variation.

Colours of soft parts. Iris dark brown; bill black; legs and feet white, fleshy white or yellowish white.

Measurements. Wing 85 to 94 mm.; tail 100 to 118 mm.; tarsus 26 to 27 mm.; culmen 16 mm.

Distribution. Sub-Himalayas from Garhwal to Assam, Chin Hills, Burma South to the Malay Peninsula.

Nidification. Similar to that of the Slaty-backed Forktail. It breeds at low elevations in April and May, making a nest quite typical of the genus but generally laying only three eggs. These vary much but are typically pale and rather sparsely marked with bright pale reddish brown. I have one clutch with a pale green ground and another which is densely marked all over with small specks of dark reddish brown. Twenty-five eggs average 20·8 × 15·8 mm.: maxima **21·6** × 16·0 and 21·2 × **16·3** mm.; minima **20·0** × 15·5 and 20·3 × **15·1** mm.

Habits. Those of the genus. In Assam we found them principally on the larger hill-streams close to the Plains, but where the current was still rapid. They remain below 2,500 feet and are more common below 1,000 feet than above that level.

Enicurus leschenaulti.

Turdus leschenaulti Vieill., Nouv. Dict. d'Hist. Nat., xx, p. 269 (1818).

Type-locality: Java.

Key to Subspecies.

A. Outermost pair of tail-feathers less than 25 mm. shorter than the next pair ..... *E. l. indicus*, p. 62.
B. Outermost pair of tail-feathers much more than 25 mm. shorter than the next pair .... *E. l. sinensis*, p 63.

Nidification. The Western Spotted Forktail breeds throughout its range between 3,000 and 9,000 feet, principally between 4,000 and 7,000 ft. It makes a very neat cup-shaped nest of living green moss very tidily lined with skeleton leaves or, according to Hume, with fine roots. It is always placed near water, generally on or in between boulders on the sides of hill-streams. Occasionally it may be built amongst the roots of trees on the banks of a stream and often it may be found on and under boulders in mid-stream. The eggs number three or four and in shape are long ovals, often rather pointed. The ground-colour is pale greenish, dull pinkish or pale stone-colour and the markings consist of numerous small blotches, freckles and spots of reddish brown, sometimes scattered boldly all over the eggs, at other times feeble and indistinct though equally numerous. Thirty eggs average about 25·3 × 17·8 mm. The breeding-season is from April to early July, later in the higher hills, earlier in the lower ranges and valleys.

Habits. Superficially our Indian Forktails remind one very much of the Wagtails. When wandering along some shady forest-path, or scrambling along the bed of a half dried up stream one catches sight of a black and white bird running rapidly away, for a second or two it stops, jerks and wags its tail up and down, not sideways, and then flits away a hundred yards or so before again settling. This may be repeated three or four times and then the bird slips away on one side through the forest and emerges again just behind you. Their flight is fairly fast but dipping and singularly graceful, as indeed are all the actions of the Forktail. They are not shy and one can watch them indefinitely if remaining reasonably quiet. Like the Wagtails they scuttle about hither and thither after insects, their little white legs carrying them with great rapidity but, unlike the Wagtails, they will sometimes submerge themselves entirely under water as they pursue their prey. Their note is a single shrill cry uttered both on the wing and when at rest.

(518) Enicurus maculatus guttatus.

THE EASTERN SPOTTED FORKTAIL.

Enicurus guttatus Gould, P. Z. S., 1865, p. 664 (Sikkim).
Henicurus guttatus. Blanf. & Oates, ii, p. 84.

Vernacular names. *Oong-sam Ching-pho* (Lepcha); *Chuka-leka*, (Bhut.).

Description. Differs from the Western form in having no white spots on the breast and in having those on the back smaller and rounder, with no terminal white bars on the lower back.

Colours of soft parts as in the last bird.

Measurements. Decidedly smaller than the last; wing 96 to 103 mm.; tail 118 to 132 mm.; tarsus 28 to 30 mm.; culmen 18 to 19 mm.

The Young and **Nestling** only differ from those of the Western Forktail in being smaller.

Distribution. Sikkim, through Assam, North and South of the Brahmaputra, to Siam, Shan States and Yunnan. The Chinese bird is a much bigger race, the wing measuring 106 to 117 mm. and has been named *E. m. omissus* by Rothschild, whilst the Annam bird is equally large but has very few and small spots on the upper plumage. This is my *E. m. robinsoni* (Bull. B. O. C., xliii, p. 19, 1922). Bangs' Yunnan bird, *Henicurus bacatus*, is nothing but *Enicurus m. guttatus.*

Nidification. The Eastern Forktail breeds between 2,000 ft. and 8,000 ft. during the months April to July and I have seen eggs in August. The nest is, like that of the Western bird, a very neat but massive cup of living green moss, nearly always very wet and mixed with roots and some mud which make it very heavy. The lining in nine nests out of ten consists entirely of several layers of skeleton leaves; in the tenth it may be all roots or roots and a dead leaf or two mixed together. It is generally placed on a ledge of rock, or in between boulders on the banks of streams but sometimes it may be built in amongst the roots of a tree or even in a hollow under the shelter of a bush. Nor is it always on the banks of a stream, for more than once I have taken it from banks inside forest a little way, perhaps fifty yards, from a stream, though even in these instances the site chosen was always a very damp one.

The eggs number three or four in a full clutch and are like those of the last bird but average decidedly smaller and, on the whole, are less boldly marked. A reddish egg with almost brick-red spots is not uncommon, a type I have not seen laid by the Western bird but which is very commonly laid by Leschenault's Forktail. One hundred eggs average 24·9 × 17·3 mm.: maxima **26·3 × 18·1** and 25·9 × **18·2** mm.; minima **23·5 × 16·5** and 25·8 × **16·0** mm.

Habits. The Eastern Spotted Forktail differs in no way from its Western brother. It is extremely common on the hills South of the Brahmaputra and its fascinating little black and white person may be seen flitting and heard calling on every stream and damp forest-path near water from one year's end to another. It is very sedentary and each pair seems to have a well-defined area for nesting and feeding purposes, which they keep to winter and summer alike except in the highest portions of its range.

(519) Enicurus schistaceus.

THE SLATY-BACKED FORKTAIL.

Enicurus schistaceus Hodgs., As. Res., xix, p. 189 (1836) (Nepal).
Henicurus schistaceus. Blanf. & Oates, ii, p. 84.

Vernacular names. *Inruidiba* (Kacha Naga).

(521) Enicurus leschenaulti indicus.

LESCHENAULT'S INDIAN FORKTAIL.

Enicurus leschenaulti indicus Hart., Vog. Pal., i, p. 700 (1909) (Assam, Margherita).
Henicurus leschenaulti. Blanf. & Oates, ii, p. 86.

Vernacular names. *Iuruidiba gadiba* (Kacha Naga).

Description. Forehead and anterior crown white; rest of head, back and breast black; lower back, rump and upper tail-coverts white; tail black with broad white bases, two outer tail-feathers white; wing-coverts black, the greater tipped with white forming a broad wing-bar; quills black, the inner secondaries with white bases and tips; below from breast to under tail-coverts white.

Colours of soft parts. Iris dark brown; bill black; legs and feet fleshy white, rarely a livid white.

Measurements. Total length about 280 mm.; wing 98 to 114 mm.; tail 138 to 150 mm.; tarsus about 30 to 32 mm.; culmen about 21 to 23 mm.

The Young have no white forehead, and the head and back varies from brown to chocolate-brown and the underparts from chin to abdomen are brown with central pale streaks. The younger the bird the more prominent the streaks.

Nestling. The underparts are greyer and more mottled than streaked.

Distribution. Sikkim to Eastern Assam, Burma South to Tenasserim and East to the Kachin Hills. There is also one specimen of typical *indicus* from North-West China, and it is possible that this bird and *Enicurus l. sinensis* should rank as species rather than subspecies.

The type-form from Java differs in having the white feathers of the crown elongated and covering nearly the whole crown. *E. l. borneensis* is a very closely allied race.

Nidification. This Forktail seems to breed in heavier forest and on smaller streams than do any of the preceding birds of this genus. It is very common in Eastern Assam and here nearly all the nests are built among rocks, roots of trees, etc., on the tiniest of streams, entirely covered overhead by the meeting boughs of trees. They commence to build the first week in May or last week in April and few eggs are laid after May. The nest is like that of the Spotted Forktails but bulkier and heavier with more leaves and roots in its composition and it is lined sometimes with skeleton leaves, sometimes with roots and sometimes with the two combined.

The eggs, three or four in number, are more richly coloured than those of any other Forktail. The ground is generally a warm cream or reddish clay and they are freely and boldly speckled all over with reddish brown. Forty eggs average 24·6 × 19·7 mm.: maxima 26·1 × 17·4 and 25·7 × 18·9 mm.; minima 23·6 × 17·5 and 24·5 × 17·0 mm.

They breed at all levels from a few hundred feet up to about 2,000 feet.

Habits. Leschenault's Forktail is a bird of the lower levels and in winter extends well out into plains country wherever there are streams and waterways running at a fair pace through heavy forest. It seems to be a more shy bird than most Forktails and when put up it generally dives at once into the forest and does not settle again and again just in front of one as do the Spotted Forktails: Dr. Coltart and I both found it far more frequently on narrow forest-paths than on the streams. The feathers of the crown are semi-erectile, a feature I have noticed in no other Forktail.

(522) Enicurus leschenaulti sinensis.

LESCHENAULT'S CHINESE FORKTAIL.

Enicurus sinensis Gould, P. Z. S., 1865, p. 665 (Shanghai).

Vernacular names. None recorded.

Description. Differs from the Indian form only in having the outer tail-feathers much shorter, 40 to 65 mm., than the penultimate pair. I can see no other constant difference. The forehead and about half the crown are white and on the average extending further back than in the Indian bird.

The Young and **Nestling** as in the last form.

Distribution. Practically the whole of South Central China, Yunnan and Shan States.

Nidification. Breeds in Central Fohkien in May. La Touche and Rickett describe the nest as a "mere hollowed pad of dead and skeleton leaves, dry grass and roots with a few bamboo leaves." The eggs are exactly like those of the Indian form.

Habits do not differ from those of *E. l. indicus*.

Genus HYDROCICHLA.

Sharpe, Cat. B. M. vii, p. 318 (1883).

Type, *H. ruficapilla*.

This genus only differs from the last, *Enicurus*, in having a much shorter tail, which is about equal to the wing in length; the middle tail-feathers are about half the length of the tail.

There are two species of this genus found in India, in one of which the sexes are alike and in the other dissimilar.

Key to Species.

A. Crown of head white; nape black..... *H. frontalis*, p. 64.
B. Crown of head and nape chestnut ..... *H. ruficapilla*, p. 64.

(523) Hydrocichla frontalis.

THE WHITE-CROWNED FORKTAIL.

Enicurus frontalis Blyth, J. A. S. B., xvi, p. 156 (1847) (Sumatra).
Hydrocichla frontalis. Blanf. & Oates, ii, p. 87.

Vernacular names. None recorded.

Description. Forehead, anterior crown, rump and upper tail-coverts, abdomen and under tail-coverts white; wings black, tips of greater coverts and bases of secondaries white forming a wing-bar, inner secondaries also tipped with white; tail-feathers black with broad white bases and white tips, the outer two pairs pure white; remainder of plumage black.

Colours of soft parts. Iris brown to black; bill black, legs and feet almost white.

Measurements. Total length about 220 mm.; wing 85 to 93 mm.; tail 67 to 79 mm.; tarsus 28 mm.; culmen 20 to 21 mm.

Distribution. Sumatra and Borneo extending North through the Malay Peninsula to Siam and the extreme South of Tenasserim.

Nidification. Nothing recorded.

Habits. This is a bird of forests of the plains and lower hills but practically nothing has been recorded as to its habits or even in regard to the elevation to which it ascends. It appears to keep to rivers in evergreen forest and to have the voice, flight and action of the commoner Forktails.

(524) Hydrocichla ruficapilla.

THE CHESTNUT-BACKED FORKTAIL.

Enicurus ruficapillus Temm., Pl. Col., iii, pl. 534 (1832) (Pallambang, Sumatra).
Hydrocichla ruficapillus. Blanf. & Oates, ii, p. 87.

Vernacular names. None recorded.

Description.—Adult male. Forehead white, surrounded by black; crown, nape and sides of neck chestnut; rest of head, chin, throat, back and wings black; a broad white band formed by the tips of the greater coverts and bases of secondaries; the latter also tipped with white; tail black with white tips and broad white bases, the outer two pairs pure white; breast and flanks white, the feathers boldly fringed with black; remainder of lower plumage white.

Colours of soft parts. Iris brown to black; bill black, legs and feet white to fleshy-white. In this bird as in all the other Forktails, the joints are often more pink or livid in colour than the rest of the leg.

Measurements. Total length about 200 mm.; tail 85 to 93 mm.; tail 67 to 79 mm.; tarsus 28 mm.; culmen 20 to 21 mm.

Female. The chestnut extends nearly all over the back and on to the wing-coverts, otherwise as in the male.

The Young are like the female but duller and very heavily marked below.

Nestling has the lower parts dull white, fringed with dull brown.

Distribution. From Borneo, through the Malay Peninsula to South-West Siam and Tenasserim to Mt. Nwalabo.

Nidification and **Habits.** Nothing recorded.

Genus MICROCICHLA.

Sharpe, Cat. B. M. vii, p. 322 (1883).

Type, *M. scouleri.*

This genus only differs from *Hydrocichla* in having a very short tail, little more than half the length of the wing. It is also remarkable in not having the two outer feathers pure white; the middle pair reach very nearly to the end of the tail.

There is only one species known and the sexes are alike.

(525) Microcichla scouleri scouleri.

THE LITTLE FORKTAIL.

Enicurus scouleri Vigors, P. Z. S., 1831, p. 174 (Himalayas, Simla).
Microcichla scouleri. Blanf. & Oates, ii, p. 88.

Vernacular names. None recorded.

Description. Forehead white, rump white with a broad band of black across it; upper tail-coverts white; wings black with a broad white band formed by the tips of the greater coverts and the bases of the secondaries; bases of primaries and edges of outer webs of secondaries white; below from lower breast to under tail-coverts white, marked on the flanks and breast with blackish; central tail-feathers black with white bases, lateral pairs more and more white until the outermost pair has only a small patch of dark brown or black at the tip; remainder of plumage black.

Colours of soft parts. Iris brown or black; bill black; legs and feet white or fleshy-white.

Measurements. Total length about 125 mm.; wing 73 to 79 mm.; tail 41 to 49 mm.; tarsus about 24 to 26 mm.; culmen 12 mm.

Young birds have the black replaced by dark brown; there is no white forehead and the underparts are white, the feathers of the breast and flanks fringed with brown.

Distribution. The Himalayas from Chitral and Gilgit to Eastern Assam, Hills of Northern Burma and Shan States.

Nidification. Breeds throughout its range between 3,500 ft. (*Rattray*) and 8,000 ft. (*Dodsworth*). The nest is made of moss lined with skeleton leaves but varies a good deal. Rattray describes it as loosely made and falling to pieces when handled, whilst Osmaston calls it a compact and massive little cup. The only nest I have seen was very well put together. This pretty little Forktail seems nearly always to place its nest actually under a waterfall, the one taken by myself being so close to the water that it was constantly wet from the mist of the spray. Three seems to be the full clutch. In appearance they are not unlike the spotted type of egg of *Enicurus schistaceus* but are nothing like the normal eggs of *E. maculatus*. Mr. P. Dodsworth took a pure white clutch but normally they are white sparingly speckled and spotted at the larger end with pale reddish or brown.

Fifteen eggs average 20·4 × 14·6 mm.: maxima **21·3** × 15·1 and 20·3 × **15·3** mm.; minima **19·4** × **14·4** mm.

Habits. This little bird, in spite of its short tail, is a typical Forktail in every way, except that, perhaps, it moves vertically with the seasons more than do the species of the genus *Enicurus*. Stevens and Coltart both obtained it in Winter in the foot-hills of Assam whilst in Summer it is found up to 12,000 feet in Tibet and possibly breeds at this elevation.

It haunts the fastest and most turbulent of small hill-streams and the cessation of rapids and falls when the streams reach the plains also marks the limits of its excursions to the Plains. It is an active little bird both on land and in the water and spends more time actually under water than any of the other Forktails.

Subfamily PHŒNICURINÆ.

This Subfamily differs from the last in having the tail square or rounded. With few exceptions its species are migratory, whereas the Forktails are invariably resident and whilst the Redstarts and Robins are essentially Palæarctic forms the Forktails are essentially tropical or sub-tropical. Both subfamilies, however, have much the same form of bill and wings; they have their feet and tarsi formed for running on the ground and the plumage of the nestlings is somewhat similar.

Key to Genera.

A. Tail in both sexes largely chestnut *.
  a. Tail considerably longer than twice tarsus.
    a'. Tail nearly square; sexes different .... PHŒNICURUS, p. 68.
    b'. Tail much rounded; sexes alike..... CHAIMARRHORNIS, [p. 79.
  b. Tail about twice the length of tarsus.
    c'. Rictal bristles very long and strong .... RHYACORNIS, p. 81.
    d'. Rictal bristles weak or obsolete ..... CYANOSYLVIA, p. 83.

B. Tail without any chestnut.
  c. First primary shorter than one-third of second.
    e'. Difference between wing and tail less than tarsus ..... LUSCINIA, p. 87.
    f'. Difference between wing and tail twice tarsus ..... GRANDALA, p. 88.
  d. First primary longer than one-third of second.
    g'. Tail equal to or shorter than wing.
      a''. Outer tail-feathers short of tip by less than half length of middle toe.
        *a*³. Bill straight and Thrush-like; rictal bristles strong.
          *a*⁴. Tail about twice tarsus in length.
            *a*⁵. Throat of male brilliantly coloured ..... CALLIOPE, p. 90.
            *b*⁵. Throat of male like rest of underparts ..... TARSIGER, p. 95.
          *b*⁴. Tail considerably more than twice tarsus.
            *c*⁵. Tail uniform in colour.
              *a*⁶. Tips of tail-feathers mucronate IANTHIA, p. 97.
              *b*⁶. Tips of tail-feathers rounded. ADELURA, p. 104.
            *d*⁵. Tail largely white ..... NOTODELA, p. 105.
        *b*³. Bill slender and curved; rictal bristles obsolete ..... [p. 108. SAXICOLOIDES,
      b''. Outer tail-feathers short of tip by at least the length of middle toe.
        *c*³. Tail of one colour..... CALLENE, p. 107.
        *d*³. Tail black and white ..... COPSYCHUS, p. 111.
    h'. Tail much longer than wing ..... KITTACINCLA, p. 116.

* The only exception is the female of *Rhyacornis fuliginosa*.

Nidification. This Redstart breeds from Afghanistan to W. China between 8,000 and 15,000 feet, making a moss and grass cup lined with hair which it places in a hole or crevice in a rock or under a stone. Mr. S. L. Whymper says that it also builds in holes in banks and in low juniper-scrub. The eggs are three or four in number, a pale dull greyish pink, profusely but very finely stippled with very pale reddish. The majority of eggs unless closely examined appear to be a pale dull pinkish grey. Twenty-four eggs average 19·8 × 14·6 mm.: maxima **21·4** × 14·6 and 19·5 × **15·1** mm.; minima **11·1** × **14·2**.

The breeding-season everywhere is from the end of May to early July.

Habits. In Winter the Blue-fronted Redstart descends to some two thousand feet in Assam South of the Brahmaputra and right into the foot-hills North of it. In the West it is found in the plains close to the hills but apparently in unusually severe cold seasons only. It is a lively little bird generally found in pairs, haunting the banks and beds of hill-streams and feeding, like the Wheatears, from some convenient rock or prominent stone, catching its prey both in the air and on the ground.

(527) Phœnicurus schisticeps.

THE WHITE-THROATED REDSTART.

Ruticilla schisticeps Hodgs., Cat. Mamm. & B. Nep., p. 69 (1840) (Nepal); Blanf. & Oates, ii, p. 92.

Vernacular names. None recorded.

Description.—Male. Forehead and crown cobalt-blue, darkening on the nape; a frontal line, head, throat, neck, back and scapulars black; the longest scapulars tipped with chestnut; rump, upper tail-coverts and base of tail chestnut, rest of tail black; inner wing-coverts pure white; outer coverts and quills brown, the inner secondaries broadly edged with white; a bold white patch surrounded with black on the lower throat; underparts rich chestnut fading to albescent on the centre of the abdomen.

Colours of soft parts. Iris dark brown; bill and legs black.

Measurements. Total length about 150 to 160 mm.; wing 84 to 87 mm.; tail 68 to 70 mm.; tarsus about 24 mm.; culmen about 12 mm.

Male in Winter has the feathers of the head and back fringed with rufous, and the feathers of the breast very narrowly edged with fulvous.

Female. Above olive-brown tinged with rufous, rump and tail like that of the male but paler; wings like the male but a paler brown; below fulvous-ashy; a white patch on the throat; the abdomen and posterior flanks paler and tinged with rufous.

Distribution. Nepal and Sikkim, through Tibet and Eastern

Assam to Kansu. In winter is found in Assam South of the Brahmaputra, Eastern Bengal and Behar and parts of Burma.

Nidification. Pleske found its nest in Kansu, a cup made of moss and lined with hair and feathers, on the 11th May. The four eggs he describes as reddish pink, spotted faintly with light brown. In length they measured 19·5 to 20 mm.; and in breadth from 14·5 to 15·5 mm.

Habits. This is a bird of high elevations, in summer between 10,000 and 15,000 feet wandering up to 17,000 feet, in the winter frequenting the lower hills and valleys between 2,000 and 5,000 feet. It is common in the hills of Assam South of the Brahmaputra in winter and Dr. Coltart and I obtained it several times in the foot-hills about Margherita at between 700 and 1,000 feet.

It is generally seen in pairs and is a bird of forest and scrub rather than open streams, though it is often seen on such as well as on those which run through heavy jungle. In all its actions it is a typical Redstart.

(528) Phœnicurus auroreus.

THE DAURIAN REDSTART.

Motacilla aurorea Pall., Reis. Russ. Reichs, iii, p. 695 (1776) (Selenka, Lake Baikal).
Ruticilla aurorea. Blanf. & Oates, ii, p. 93.

Vernacular names. None recorded.

Description.—Male in Summer. Forehead to mantle slaty-grey; sides of head and neck, throat, upper breast and back black; rump, upper tail-coverts and remainder of lower plumage chestnut; central tail-feathers black, chestnut at the base, lateral tail-feathers all chestnut; median and innermost greater wing-coverts white.

In Winter the grey parts are edged with dull rufous; the black parts are fringed with rufous above and rufous-grey below; the wing-feathers edged with pale fulvous.

Colours of soft parts. Iris dark brown; bill black or, *fide* Hume, dark brownish yellow or yellowish at gape and sometimes on base of lower mandible; legs and feet black.

Measurements. Total length about 150 to 160 mm.; wing 70 to 77 mm.; tail 58 to 60 mm.; tarsus 23 mm.; culmen 10 to 11 mm.

Female. Above olive-brown; lores and a ring of feathers round the eye almost white; rump, tail and wings as in the male but the black replaced by brown; below fulvous-brown, paling to fulvous on the vent and under tail-coverts.

Young male. Like the female but darker and browner above and tinged with chestnut on breast.

Nestling. Above fulvous, each feather boldly edged with dark brown; rump and tail as in the adult; below dull ashy-white, the breast and flank-feathers edged with brown.

Genus **PHŒNICURUS** Forster, 1817.

Forster's name *Phœnicurus* for this genus dates from 1817 (Syn. Cat. Brit. Birds, 1817, p. 17), antedates *Ruticilla* (C. L. Brehm, Isis, 1828, p. 1280) and must therefore be used.

The type of the genus is *P. phœnicurus* Linn. S. N. i, p. 335 (1766).

The genus *Phœnicurus* contains the true Redstarts, which may be recognized by their rather long tail, which is more than twice the length of the tarsus and nearly, or quite, square at the tip; the tail is largely chestnut and the sexes are not alike.

The bill is short, slender and black and the rictal bristles moderate or short; the wing is sharply pointed and the first primary less than half the second; the tarsus is rather long.

Nestlings have the plumage streaked above and squamated below but the tail-pattern is similar to that of the adult, rendering identification fairly easy. Like the Chat the seasonal change caused by the abrasion of the feathers in summer is very great.

Key to Species.

A. Tail-feathers, except middle pair, abruptly tipped with black ..... *P. frontalis*, p. 69.
B. None of the tail-feathers tipped.
  a. A large white patch on throat..... *P. schisticeps*, p. 70.
  b. No white patch on throat.
    a'. Middle tail-feathers different to lateral. Wing under 100 mm.
      a''. Secondaries with white on both webs..... *P. auroreus*, p. 71.
      b''. No white on inner webs of secondaries.
        *a*³. Terminal portion of shafts of all tail-feathers black ..... *P. erythronotus*, p. 73.
        *b*³. Shafts of lateral tail-feathers entirely chestnut.
          *a*⁴. Throat and breast black.
            *a*⁵. Secondaries with broad white edges..... *P. hodgsoni*, ♂, p. 74.
            *b*⁵. Secondaries with no white .. *P. ochruros*, ♂, p. 75.
          *b*⁴. Throat and breast buff or ashy-brown.
            *c*⁵. Lower plumage chiefly ashy-brown ..... *P. hodgsoni*, ♀, p. 75.
            *d*⁵. Lower plumage buff or orange-buff ..... *P. ochruros*, ♀, p. 75.
    b'. Middle tail-feathers similar to lateral ones. Wing over 100 mm. ..... *P. erythrogaster*, p. 78.

(526) Phœnicurus frontalis.

THE BLUE-FRONTED REDSTART.

Phœnicura frontalis Vigors, P. Z. S., 1831, p. 172 (Himalayas) (restricted to Garhwal).
Ruticilla frontalis. Blanf. & Oates, ii, p. 91.

Vernacular names. *Tak-tirriri-pho* (Lepcha).

Description.—Male in Summer. Forehead and short, broad supercilium brilliant blue; remainder of head, throat and extreme upper breast, back, lesser and median wing-coverts deep, rather dull blue; rump, upper tail-coverts and rest of lower plumage rufous-chestnut; central tail-feathers blackish, chestnut at the extreme base, lateral feathers chestnut with broad black tips; wings brown, the greater coverts and quills edged with light rufous.

After the Autumn moult the feathers of the blue parts are fringed with rufous and the wing-feathers are also broadly edged with the same.

Colours of soft parts. Iris deep brown; bill, legs and feet black.

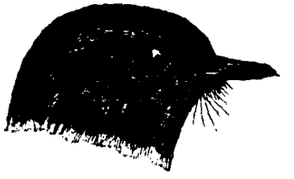


Fig. 8.—Head of *P. frontalis*.

Measurements. Total length about 160 mm.; wing 83 to 92 mm.; tail 58 to 68 mm.; tarsus about 24 mm.; culmen about 10 mm.

Female. Sides of head and neck fulvous-brown; head, back and scapulars darker fulvous-brown; rump and tail as in the male; wings brown, all the feathers edged with fulvous; chin fulvous; throat and breast fulvous-brown, paler than the back, but shading into this on the neck and sides of breast and turning to orange-brown on the abdomen and orange on the vent and under tail-coverts.

Young. Rump, tail and wings as in the female; head, back and breast blackish brown, each feather with broad, pointed fulvous marks, smallest on the back and largest on the breast; abdomen and posterior flanks rich fulvous.

Distribution. Breeding in the Himalayas from Afghanistan and Gilgit to Eastern Assam North of the Brahmaputra, Tibet, Chin and Kachin Hills, N. Shan States to Western China. They winter in the sub-Himalayas, Dooars, Assam South of the Brahmaputra and lower Chin and Kachin Hills.

Distribution. Hartert accepts three races of this Redstart, *i. e.*:—

Phœnicurus auroreus auroreus: type-locality, Lake Baikal. (=*Phœnicurus reevesii*, 1851: Cantor [Gray's Zool. Misc. 1832, China].)

Phœnicurus auroreus filchneri, 1907: Kintschai and Pinling, N.E. China.

Phœnicurus auroreus leucopterus, 1843: Malacca.

I cannot separate these races. The breeding-area of the species *auroreus*, as far as is known at present, extends from Lake Baikal through East Siberia, Mongolia, Manchuria, Korea to Japan and also to extreme North-East China. In Winter they migrate South to South China, Formosa, some of the Islands of Malaysia and the Indo-Chinese countries as far West as Assam. The winter birds throughout the whole of this area are identical in size and coloration; thus in the huge series in the British Museum Collection we have the following wing-measurements:—Siberia, 70 to 76 mm.; China, 70 to 72 mm.; Japan, 70 to 75 mm.; Corea, 71 to 75 mm.; Assam, 70 to 76 mm.; Sikkim (1), 76 mm.; Yunnan (5), 76 mm. As regards colour there is a small series of five birds in non-breeding plumage which are rather pale but these are matched by individuals from Assam to Chi-hli. Hartert says that there is a dark form found in winter from Malacca to Burma and Assam of which the breeding-haunts are not yet known. I can, however, see no difference between specimens from these countries and those from South China which are, presumably, migratory birds from Transbaikalia and Eastern Siberia etc. La Touche's breeding birds from North-East Chi-hli are identical with Assam birds taken in March and April, all of which are in full breeding-dress. Under the above circumstances I do not attempt to split *P. auroreus* into races.

Nidification. La Touche says that this Redstart is common in North-East Chi-hli breeding in the hills during May, June and July. He describes the nests as pads or rough shallow cups made of moss, soft grass-strips and feathers always placed in holes in walls and rocks. The eggs he took were of two different types, one with a white to pink ground-colour, speckled, stippled or blotched with pale burnt sienna and with underlying spots of reddish violet. These markings generally form a ring or cap at the larger end and are sparse elsewhere. The other type has the ground-colour a pale green. Thirty-seven eggs average 19·0 × 14·1 mm.

Habits. There is little on record about the habits of this Redstart but they appear to be quite typical of the genus. It breeds in the Chinese mountains from 5,000 feet upwards and is common in South China, the Indo-Chinese countries and Assam in winter. According to Stevens it is a familiar bird frequenting compounds, gardens and cultivation rather than forest and jungle.

(529) Phœnicurus erythronotus.

EVERSMANN'S REDSTART.

Sylvia erythronota Eversm., Add. ad Pall. Zoog. Rosso-As., ii, p. 11 (1841) (Altai).
Ruticilla erythronota. Blanf. & Oates, ii, p. 94.

Vernacular names. None recorded.

Description.—Adult male in Summer. A frontal line, lores, cheeks, point of chin and sides of neck black produced round the back of the neck as a not very distinct collar; crown, nape and hind neck pale ashy-blue, the nape and hind neck almost always with the ashy-grey fringes of the winter plumage still obscuring the blue; back, scapulars, throat, breast and flanks chestnut, to some extent fringed above with grey and below with white; rump chestnut, tail the same but with the central pair of feathers and the tips of the outermost pair dark brown; wings dark brown, the quills edged with grey, the greater and median coverts broadly edged with pale fulvous; the inner coverts pure white forming a very conspicuous wing-patch; the primary-coverts are also broadly edged with white; abdomen and under tail-coverts fulvous-white to almost pure white.

After the Autumn moult the blue of the head is completely concealed by ashy-grey fringes; the chestnut of the back and the black collar hardly show and the fringes on the black parts of the head and on the chestnut breast are broader and obscure the other colours.

Colours of soft parts. Iris dark brown or blackish brown; bill and feet black, the mouth yellowish or flesh-colour.

Measurements. Total length about 163 to 167 mm.; wing 84 to 89 mm.; tail 64 to 70 mm.; tarsus about 23 mm. (to 26, *Whistler*); culmen about 10 to 12 mm. ("culmen from skull 14 to 16·5 mm.," *Whistler*).

Adult female. Upper parts, sides of head and neck and wings brown; the winglet mostly white, the median coverts with broad fulvous edges and a white patch but much smaller than in the male and much mottled with brown; rump, upper tail-coverts and tail as in the male; an indistinct ring of white feathers round the eye; lower plumage pale grey-brown, tinged here and there with rufous-orange and paler on abdomen and vent; lower tail-coverts pale fulvous.

Measurements. The female is practically the same size as the male; wing 82 to 88 mm.

The Young have the dark feathers of the upper parts streaked with fulvous and the breast mottled.

Distribution. Breeding in Turkestan, Trans-Caspia and East Persia, and wandering in winter to South Persia, Afghanistan and Kashmir. Marshall found it common near Quetta, Whitehead

at Kohat and Kurram. Kotokhai in the Himalayas still remains the most Eastern point at which it has been obtained, but to the South its previously recorded limit has been greatly extended by Mr. H. Whistler, who found it to be a common winter visitor to the Jhang District in the Punjab.

Nidification. Eggs sent me from Turkestan and also some described by Nehrkorn are very like the eggs of *Saxicola torquata indica* in coloration, but in shape are more narrow and pointed, and in texture harder and more glossy. The reddish markings are scattered all over the eggs and do not form definite rings as in the Bush-Chat's eggs. They measure about 18·4 × 13·9 mm.

The nest was said to have been built in an old wall and to have been made of grass, moss and roots lined with wool

Habits. Eversmann's Redstart is said to frequent open spaces in well-wooded country, and to be a land-haunter rather than one of streams and rivers. Whitehead says that its call sounds like a croaking "gre-er" and Whistler says that its ordinary call-note is a softer edition of this sound. The latter also refers to its habit, common to both sexes, of flirting the tail up and down above the level of the back, whereas in the common Redstart it is only shivered.

(530) Phœnicurus hodgsoni.

HODGSON'S REDSTART.

Ruticilla hodgsoni Moore, P. Z. S., 1854, p. 26, pl. lviii (Nepal); Blanf. & Oates, ii, p. 95.

Vernacular names. *Thar-capni* (Nepal).

Description.—Adult male in Summer. Forehead, lores, sides of head and neck, chin, throat and upper breast black; crown, nape, back and scapulars ashy, the feathers next the forehead and above the lores and eyes paler, in some instances almost white; lower rump, upper tail-coverts and tail chestnut, the central tail-feathers are only chestnut on the base and blackish brown elsewhere; wing-coverts black, broadly edged with ashy; quills brown, the innermost secondaries broadly edged with white on the basal halves of the outer webs, forming a visible patch of white; lower plumage chestnut, darkest on the lower breast, palest on the vent and lower tail-coverts.

Colours of soft parts. Iris dark brown; bill black, the gape ashy-yellow; legs and feet black or dark brown, the soles yellowish.

Measurements. Total length about 150 to 155 mm.; wing 82 to 87 mm.; tail 66 to 68 mm.; tarsus about 20 mm.; culmen about 11 mm.

In Winter the feathers of the breast and fore-neck are fringed with grey, but these fringes soon wear off.

Female. Upper plumage and wings light brown tinged with ashy; rump and tail as in the male; wing-coverts and quills edged paler; a ring of pale feathers round the eye; under tail-coverts pale chestnut; remainder of under plumage pale ashy-brown, albescent and tinged with rufous on abdomen, posterior flanks and vent.

Measurements. Rather smaller than the male; wing 79 to 82 mm.; tail 62 to 64 mm.

Young are like the female, but the chin, throat and whole breast ashy-grey with pale centres and dark margins, the latter extending on to abdomen and posterior flanks.

Distribution. Breeds in South and Eastern Tibet, West China and possibly North Central China. In Winter it is found in the lower hills from Nepal to Assam, Manipur, Chin and Kachin Hills.

Nidification. This Redstart breeds in great numbers in South-Eastern Tibet, making a nest either just a flat pad or a shallow cup of grass, roots, moss, leaves, etc., lined with hair, fur or wool. In the majority of cases it is placed in holes under stones and boulders on hill-sides but it may also be found in walls, buildings, banks and cliffs. They breed during May and June, odd nests still containing eggs in July and August are possibly second broods. They lay four or five eggs which are a skim-milk blue much paler than those of *P. phœnicurus* but decidedly darker on the whole than those of *P. ochrurus*.

Fifty eggs average 20·4 × 14·7 mm.: maxima 22·3 × 14·5 and 21·2 × 16·0 mm.; minima 19·1 × 14·5 and 21·0 × 14·0 mm.

Habits. Hodgson's Redstart is found during the breeding-season from about 10,000 to 17,000 feet but breeds principally between 12,000 and 14,000, whilst in Winter it descends right into the Plains of Assam, Northern Bengal and Behar, though not nearly as commonly in the two latter as the former. In Summer it is found frequenting streams and stony hill-sides as well as grass and scrub-covered plateaux. In its winter haunts it keeps more exclusively to the stony beds of rivers but even at this season may occasionally be found in scrub and grass-land. It is a very tame and confiding bird and frequents at all times cultivation and the open lands round villages and towns.

Phœnicurus ochrurus.

Motacilla ochrura Gmelin, Reis. Russl., iii, p. 101 (1774).

Type-locality: Persia.

Key to Subspecies.

A. Crown always grey, paler	*P. o. phœnicuroides*, ♂, p. 76.
B. Crown black in summer, darker ..	*P. o. rufiventris*, ♂, p. 77.
C. Above fulvous-brown, paler below..	*P. o. phœnicuroides*, ♀, p. 76.
D. Above darker brown tinged rufous, darker below	*P. o. rufiventris*, ♀, p. 77.

Nidification. The Eastern Redstart breeds in very great numbers in South, Central and Eastern Tibet from 10,000 to 15,000 feet, making a nest similar to that of the Western bird and placing it in exactly the same kind of place. A curious nest found in a heap of stones just outside the town of Gyantse in Tibet was composed entirely of scraps of rice-paper with a lining of goat's hair. The eggs number four to six, most often five, and are indistinguishable from those of the last bird. One hundred eggs average 20·0 × 14·6 mm.: maxima **22·0 × 15·0** and 21·0 × **15·4** mm.; minima **18·4 × 13·8** mm.

The breeding-season lasts from May to August and probably many birds rear two broods.

Habits. The Eastern Indian Redstart seems to be more a forest-bird than its Western cousin. In the Assam hills it may be found in any small open space, however hemmed in by forest, and it is very partial to bamboo-jungle bordering streams. This bird sometimes jerks its tail right over its back, semi-spreading it as it does so, at other times it "shivers" it or flirts it gently up and down. The first action is nearly always accompanied by movements of the feet, but the second is not. From October to March it wanders out far into the plains of Assam and Burma, whilst in Summer it is found up to 17,000 feet, and Wollaston records it at 20,000 feet when migrating past Mt. Everest.

Phœnicurus erythrogaster.

Motacilla erythrogastra Güldenstädt, Nov. Com. Petrop. xix, p. 469 (1775).

Type-locality: Caucasus.

(533) Phœnicurus erythrogaster grandis.

GÜLDENSTÄDT'S REDSTART.

Ruticilla grandis Gould, P. Z. S., 1849, p. 112 (1850) (Afghanistan).
Ruticilla erythrogaster. Blanf. & Oates, ii, p. 97.

Vernacular names. None recorded.

Description.—Adult male in Summer. Crown, nape and hind neck pure white, the latter with a few ashy-grey margins; forehead, back, scapulars, wing-coverts, sides of head and neck, chin, throat and breast black; quills brownish black, the primaries and outer secondaries with broad white bases; remainder of plumage deep chestnut, the tips of the central tail-feathers brownish.

In Winter the white feathers of the crown are fringed with grey and the black portions of the plumage, more especially the lower breast, are also fringed to some extent with ashy-grey.

The chestnut parts in this race are not nearly so rich or deep in colour as they are in true *erythrogaster*.

Colours of soft parts. Iris brown; bill, legs and feet black. According to Hume the bill is yellow at the gape.

Measurements. Wing 102 to 111 mm. (in one case 97 mm.); tail 70 to 76 mm.; tarsus about 26 mm.; culmen about 13 mm.

Female. Upper plumage and wings light ashy-brown, sometimes with an almost vinous tinge; edges of wing-feathers dull fulvous-white; rump to tail as in the male, but duller and paler and the central tail-feathers more brown; below fulvous-grey, sometimes albescent on throat and more fulvous on abdomen and vent; under tail-coverts pale fulvous-rufous.

Measurements. Wing 95 to 99 mm.; tail 62 to 68 mm.; culmen 12 to 13 mm.

The young bird is like the female, but has the feathers of the head and back with dark edges and of the underparts with pale centres and dark margins.

Distribution. Kashmir and the extreme N.E. Frontier to Sikkim, Tibet and Kansu. It is also found in East Turkestan, the Altai and the Trans-Baikal Country.

Nidification. That of the genus. The eggs are pure blue and measure about 22·0 × 15·5 mm. The breeding-season is June. Whistler took its nest in Lahul at 16,000 feet.

Habits. In Summer this bird is found up to at least 16,000 feet frequenting the vicinity of water, both running and still, and also low, open hill-sides. In Winter it is found down as low as the foot-hills and adjoining Plains.

Genus CHAIMARRHORNIS.

Hodgs. in Gray's Zool. Misc. p. 82 (1844).

Type, *C. leucocephala*.

The genus *Chaimarrhornis* consists of one species, which is a true Redstart, but almost aquatic in its habits like the Forktails and *Rhyacornis*.

The sexes are alike, the nestlings mottled; the tail is well rounded, the wing long but with large first primary, equal to half the length of the second; the tarsus is long and strong.

(534) Chaimarrhornis leucocephala.

THE WHITE-CAPPED REDSTART.

Phœnicura leucocephala Vigors, P. Z. S., 1830, p. 35 (Himalayas).
Chimarrhornis leucocephalus. Blanf. & Oates, ii, p. 89.

Vernacular names. *Gir-chaondia* (Hind.); *Kali-pholia* (Mohun Ghat); *Mati-yap-pho* (Lepcha); *Ohulia-mati* (Bhut.).

Description. Crown and nape white; rest of head, back and wings glossy blue-black; rump, upper tail-coverts and lower parts from breast rich chestnut; tail, basal two-thirds chestnut, rest black.

(531) Phœnicurus ochrurus phœnicuroides.

THE KASHMIR REDSTART.

Ruticilla phœnicuroides Moore, P. Z. S., xxii, p. 25 (1855) (Shikarpore, Sind).
Ruticilla rufiventris. Blanf. & Oates, ii, p. 95 (part.).

Vernacular names. *Thir-thira, Thirter-kampa* (Hind.); *Phir-ora, Lal-girdi* (Beng.); *Nune-buli-gadu* (Tel.).

Description.—Adult male in Winter. Forehead, sides of head and neck, chin, throat and breast black, the feathers more or less fringed with grey; crown, nape, hind neck, back and scapulars ashy-grey often tinged with rufous; rump and upper tail-coverts bright chestnut; central tail-feathers brown with chestnut bases and very narrow chestnut edges; lateral tail-feathers chestnut; wing-coverts black edged with ashy; the greater coverts and quills brown edged with rufous; abdomen, flanks, vent and under tail-coverts deep orange-brown.

Male in Summer. The broad grey edges to the feathers of the upper parts wear off leaving these parts a deep blackish grey, occasionally a pure black; the fringes to the breast and throat entirely disappear and the rufous edges to the wing-feathers and central tail-feathers also nearly wear away. The crown is always more or less grey.

Measurements. Total length about 155 mm.; wing 81 to 88 mm.; tail 58 to 60 mm.; tarsus 24 mm.; culmen 11 mm.

Female. Whole upper plumage pale brown, tinged with fulvous; the forehead generally rather paler; rump, upper tail-coverts and tail as in the male but paler; a ring of pale feathers round the eye; lower surface buffy brown, darkest on the breast, palest on the abdomen and tinged with orange on the flanks and abdomen; under tail-coverts pale orange-fulvous.

Colours of soft parts. Iris dark brown; bill black; mouth yellowish; legs and feet very dark brown to black.

Measurements. Wing 78 to 83 mm.; tail 56 to 58 mm.; tarsus 24 mm.; culmen 11 mm.

Young. Have the upper parts barred with dark brown; the rufous margins to the wing-feathers very broad; rump and tail like the adult; the underparts are almost white, tinged with orange-rufous on breast and flanks and the feathers edged with blackish brown.

Distribution. Breeding in Persia, Turkestan, Afghanistan, Baluchistan, Kashmir and Ladak but not, apparently, South in the Simla States and Garhwal. In Winter it is found throughout the Western plains and hills of India to Travancore, the Nilgiris and Madras. In the East its place is taken by the next bird.

Nidification. The Kashmir Redstart's nest has been taken often in Northern and North-Western Kashmir. It also breeds throughout the North-Western Frontier from Baluchistan to Gilgit above 10,000 feet. The nests are of the usual Redstart type, roughly put together shallow cups of roots and grasses, a little dry moss or a few leaves, with a lining of any fur, hair or wool, sometimes mixed with a few feathers. It is placed in a hole in almost any position, a bank or cliff, a roadside cutting or side of a stream, under a boulder or heap of stones, a mud or stone building or even a hole in a tree. The eggs number four to six and in colour range from almost white to a pale blue-green. They are as a whole the palest, yet the most glossy of all the Redstarts' eggs. Thirty eggs average 19·7 × 14·2 mm.: maxima 20·2 × 15·0 and 20·1 × 15·1 mm.; minima 18·2 × 13·0 mm.

Habits. The Kashmir Redstart is a most familiar little bird in most parts of India during the cold-weather months frequenting gardens and the open surroundings of houses and cultivation just as much as bare stony hills and open wastes. Like the Chats it often perches on bushes and shrubs, flirting its tail and making little rallies to the ground after insects and its funny little croaking cry, typical of the Redstarts yet so unusual for a bird, is familar to everyone in India. It is one of the earliest birds to commence feeding in the morning and in the fast-settling dusk of the tropical evening it may often be seen, a flitting shadow in the bed of some forest-stream, feeding on the insects which emerge in the twilight. Yet, in spite of its crepuscular habits it also feeds in the blazing midday sun, perched on some half-baked stone in the hottest of deserts.

(532) Phœnicurus ochrurus rufiventris.

THE EASTERN INDIAN REDSTART.

Œnanthe rufiventris Vieill., Nouv. Dict. d'Hist. Nat., Nouv. ed., xxi, p. 431 (1818) (Bengal).
Ruticilla rufiventris. Blanf. & Oates, ii, p. 95 (part.).

Vernacular names. *Phir-ora, Lal-girdi* (Beng.).

Description.—Adult male in Winter. Similar to the Western bird, but richer chestnut below and darker grey above.

In Summer the head becomes wholly black, the grey crown not being retained as in *P. o. phœnicuroides.*

Colours of soft parts as in the preceding bird.

Measurements. Wing 86 to 89 mm.; tail 58 to 62 mm.; tarsus 25 mm.; culmen 12 mm.

Female much darker both above and below than the last bird; the upper parts browner and with a stronger rufous tinge.

Measurements. Wing 82 to 87 mm.

Distribution. Tibet, very rarely Sikkim and Nepal, East to the Mountains of Central and North China and South Mongolia. In Winter it is common in Assam, Manipur, Burma and South-West China. It occurs also, but is not common, in Bengal and Behar and extends to Orissa but not to Madras.

Measurements. Wing about 70 to 73 mm.; tail about 45 to 50 mm.

Nestlings are brown above, each feather with a fulvous central spot; below they are fulvous, the feathers edged with blackish; abdomen and vent whitish; tail as in the female.

Distribution. Himalayas from Afghanistan and Baluchistan to Eastern Assam and Tibet; Northern Burma and the Burmese Hills to Tenasserim, Northern Siam, Yunnan, Central and South China and Hainan, but not Formosa where it is replaced by Ogilvie-Grant's *R. f. affinis*.

Nidification. The Plumbeous Redstart breeds from 4,000 to 12,000 feet, and possibly up to 14,000 feet on the Tibetan plateaux, during April, May and the early part of June, sometimes having a second brood in the end of June and in July. Stoliczka found it breeding at 13,000 feet in the Spiti Valley, and Macdonald sent me nests from between 13,000 and 14,000 feet above Rhamtso. The nest is a lovely little cup made principally of living green moss, sometimes mixed with roots, a few leaves and fern-rachides. The lining is normally of fine roots and hair-like fibres, but occasionally hair or wool is employed. It is placed in almost any kind of natural hollow beside a stream; the site may be a hole amongst the roots or in the trunk of a tree, in amongst boulders and rocks or just in a sloping bank. Wherever placed it is almost always well concealed.

The eggs vary from three to five, generally four. The ground-colour is a pale greenish or yellowish stone, sometimes almost a pure pale sea-green. The markings consist of specks and small blotches of reddish brown, sometimes tiny and sparsely scattered all over the surface, sometimes larger and more numerous and then generally disposed in a ring or cap at the larger end.

One hundred eggs average 18·7 × 14·5 mm.: the maxima are 20·2 × 14·9 and 20·0 × 15·5 mm.; minima 17·2 × 14·1 and 19·0 × 13·5 mm.

Habits. The Plumbeous Redstart is a typical Redstart in all its ways, but keeps practically entirely to the beds of streams and rivers. It is a most active energetic little bird, everlastingly flicking its tail as it perches on some convenient stone in the middle of the stream. From this it makes little sallies after insects, sometimes catching them on the wing like a Flycatcher, sometimes pursuing them with tiny, rapid steps, over stones and shallows. It will enter comparatively deep water after water-insects and occasionally disappears underneath altogether.

It is probable that this little Redstart does not always acquire adult plumage the first spring, for birds in female plumage always number several to every bird in male plumage and, at least twice, I have seen males actually breeding in female plumage.

This little Redstart often sings in winter, and two males will fight if they meet or will dance to one another as in the

of some mountain torrent, wings and tail wide outspread, for two or three minutes at a time before returning to the stone from which they started. They are very crepuscular in their habits.

Genus CYANOSYLVIA.

Brehm, Isis, 1828, p. 920.

Type, *C. suecica* Linn.

The genus *Cyanosylvia* contains two species of Blue-throats found in India, birds which are allied to the Robin, though, like the Redstarts, they have a good deal of red on the base of the tail. The males have the chin and throat a brilliant blue, but the females are plain brown birds with less bright colouring.

In *Cyanosylvia* the tail is short, only twice the length of the tarsus, the rictal bristles are not well developed though present and the bill is slender.

The name *Cyanecula*, used by Oates in the 'Avifauna,' cannot be used, as in the 'Isis' on an earlier page Brehm had already given this bird as the type of *Cyanosylvia*.

Until recently the *Red-spotted* and *White-spotted* Blue-throats have generally been considered geographical races of the same species, but as Ludlow and Osmaston have obtained the two forms breeding in the same area they must either be given the status of species or rank merely as dimorphic forms of the same species.

Key to Species.

A. Throat blue with a chestnut spot in the centre	*C. suecica*, ♂, p. 84.
B. Throat either wholly blue or with a white spot in the centre.....	*C. cyanecula*, ♂, p. 86.
C. Throat whitish or buff with a gorget of black spots	[p. 84. *C. cyanecula* and *suecica*, ♀,

Cyanosylvia suecica.

Key to Subspecies.

A. Throat darker blue, red spot paler ..	*C. s. suecica*, p. 83.
B. Throat paler blue, red spot more rusty.	
a. Upper parts paler, red tinge wanting.	*C. s. pallidogularis*, p. 85.
b. Upper parts darker, red tinge obvious	*C. s. robusta*, p. 85.

(536) Cyanosylvia suecica suecica.

THE WESTERN RED-SPOTTED BLUE-THROAT.

Motacilla suecica Linn., S. N., i, p. 187 (1758) (Sweden).
Cyanecula suecica. Blanf. & Oates, ii, p. 99 (part.).

Vernacular names. *Hussení Pidda* (Hind.); *Nil-kunthe* (H. in the N.); *Gunpigera*, *Gurpedra* (Bengali); *Dumbak* (Sind).

Colours of soft parts. Iris deep brown or hazel; bill black, gape fleshy; legs and feet dark brown, claws black.

Measurements. Total length about 190 mm.; wing 85 to 102 mm.; tail 68 to 77 mm.; tarsus 29 to 31 mm.; culmen 13·5 to 14·5 mm.

Chinese birds seem rather large, wing 93 to 102 mm. as against extremes of 85 to 99 mm. in N.W. Indian birds.

Young. Have the feathers of the crown edged with blackish brown; the black parts of the adult more brownish, especially below; the feathers of the upper parts are spotted with fulvous-brown and below are fringed with rufous; the brown of the breast extends on to the abdomen, where it is much suffused with rufous, which blends into the chestnut of the under tail-coverts. Tail as in the adult.

As the rufous margins wear off the plumage becomes much blacker, but does not seem to acquire the blue-black of the adult until after the first spring moult.

Distribution. From Afghanistan and Baluchistan, Gilgit and Cashmere to extreme Eastern Assam, North and South of the Brahmaputra, Tibet, Setchuan to the Yangtse. The Northern Burmese Hills, North Siam, Shan States and Yunnan.

Nidification. The White-capped Redstart breeds from Afghanistan to Western China at all heights between 6,000 and 16,000 feet, but generally between 8,000 and 14,000 feet. It makes a deep and rather massive cup-shaped nest, which it generally places in a crevice, or on a ledge, of rock on the banks of a river or hill-stream. At other times it may be placed under a stone or the roots of a tree on a bank and occasionally in a hole in a bank or even in tree-trunks. Most nests are placed beside or near water, but it may also be built at a considerable distance from it. It is made of moss, leaves, roots and grass lined with fur, wool or hair, or any one or more of these mixed with grass.

The eggs number three or four, very rarely five. The ground-colour is a pale blue or blue-green, rarely with a pinkish tinge and the marks consist of specks and spots of reddish brown with others underlying them of grey and neutral tint. In the majority of eggs the markings are fairly numerous over the whole surface, in others they are very small and sparse and in a very few bold and large, forming caps.

Fifty eggs average 24·6 × 16·8 mm.: **maxima 25·2 × 16·7** and 23·8 × **17·3** mm.; minima **22·2** × 17·0 and 22·3 × **15·9** mm.

The breeding-season is May and June, but nests have been taken in August, and many birds probably have a second brood.

Habits. This Redstart is essentially a bird of rivers and streams, seldom being found away from them. They feed principally on insects which they catch on the shingle on river-banks or on islands in the river, and they are much more active on their legs than most Redstarts and not so prone to haunting one particular

starting- or observation-point. They extend down to the foot-hills and plains adjacent to them in winter and in summer wander up to nearly 18,000 feet.

Genus **RHYACORNIS.**

Blanf., J. A. S. B., xli, 2, p. 51 (1873).

Type, *R. fuliginosa*.

The genus *Rhyacornis* contains one species only, which extends from the Eastern Himalayas to Formosa and which is remarkably constant in coloration throughout nearly the whole of this area. It is closely allied to both *Phœnicurus* and *Chaimarrhornis*. From both of these, however, it differs in the shorter tail and in the strong rictal bristles; from the latter also it differs in the sexes being totally different in colour, the female being practically all grey with no red on the tail.

The Formosan form has been separated by Ogilvie-Grant under the name of *R. f. affinis*.

(535) **Rhyacornis fuliginosa fuliginosa.**

THE PLUMBEOUS REDSTART.

Phœnicura fuliginosa Vigors, P. Z. S., 1831, p. 35.
Rhyacornis fuliginosus. Blanf. & Oates, ii, p. 98.

Vernacular names. *Saradum parbo-pho* (Lepcha); *Chubbia nukki* (Bhutea).

Description.—Adult male. Whole plumage dull cyaneous the lores almost or quite black and the ear-coverts and sides of the neck often darker than the upper plumage; wings black edged cyaneous and the greater coverts sometimes tipped with white specks; upper and lower tail-coverts, tail and vent bright chestnut.

Colours of soft parts. Iris dark brown; bill black; legs and feet dark brown.

Measurements. Total length about 140 mm.; wing 72 to 81 mm.; tail 46 to 52 mm.; tarsus about 24 mm.; culmen about 11 mm.

Adult female. Whole upper plumage bluish ashy-brown; wing-coverts and inner secondaries brown edged with fulvous-rufous and with a white spot at the tip; greater coverts, primaries and outer secondaries brown with pale edges; upper and lower tail-coverts white; tail dark brown with broad white bases, the white increasing on the outer feathers until it covers all but the tip and edge of the outer web of the outermost; whole lower plumage ashy-blue, each feather with a bold white bar; the chin and throat are generally tinged with rufous, the same colour extending to the cheek and round the eye.

Colours of soft parts as in the male.

Description.—Adult male. Whole upper plumage brown, the feathers of the forehead and fore crown with dark centres, and the rump, upper tail-coverts and wing-coverts sometimes slightly tinged with rufous; wing-quills, tail and longest tail-coverts blackish brown edged with rufescent; outer tail-feathers rufous on the basal two-thirds; chin and throat bright blue; lower throat chestnut surrounded with blue; this is succeeded by a broad band of black and a still broader band of chestnut, the two more or less separated by a white band; lores blackish; a supercilium from the nostrils to the ear-coverts buff; cheeks, ear-coverts and behind the eye mixed fulvous and dark brown; from breast to vent fulvous, albescent on the centre of the belly; under tail-coverts buff.

Colours of soft parts. Iris brown, eyelids plumbeous; bill black, horny or fleshy at the base; legs and feet fleshy brown, light brown or rather dark brown.

Measurements. Total length about 150 mm.; wing 71 to 78 mm.; tail 54 to 58 mm.; tarsus about 27 to 28 mm.; culmen 12 to 13 mm.

Female. Similar to the male above but duller and with a white instead of a buff supercilium. Below, the chin and throat is a buffy white; a gorget of dull black spots extends from the corners of the lower mandible down the sides of the neck and across the breast and occasionally a little rufous shows on the breast below and above this gorget; the remainder of the plumage is dull buffy white darker on the flanks.

Nestling. Above dark brown streaked with fulvous, below dull fulvous, each feather edged with black.

Distribution. Breeding from Lapland and Sweden through the North-East of Europe and North-West of Asia to the Yenissei. In Winter it wanders South to North Africa, South-East Europe and North-West India. As this race has always been confused with the Eastern form, *pallidogularis*, it is impossible to say how far South and East the records refer to it.

Nidification. The Western Red-spotted Blue-throat breeds throughout its Northern habitat from the end of May (in the more Southern areas) to early July (in the most Northern). It makes a nest of grass, leaves and roots, lined with grass and placed in among the roots of grass or bushes on a bank or piece of swampy ground. The eggs vary from four to six in number and are a light greenish or brownish olive, sometimes, according to Dresser, mottled or clouded with darker at the larger end. One hundred eggs average 18·5 × 14·0 mm. and the extremes are: maxima 20·7 × 14·0 and 19·3 × 15·0 mm.; minima 17·0 × 14·2 and 17·3 × 12·8 mm.

Habits. This bird is said to be very like a Hedge-Accentor in its habits; creeping quietly and unobtrusively about bushes and long grass, feeding on insects and, less often, on seeds. In the non-breeding season when it visits India it seems to be less

secretive and may be often seen perched on some twig of a bush, flirting and expanding its tail like a Redstart. It has a short but rather fine song in the breeding-season which Whitehead syllabifies as, "Pray did he then" constantly repeated. With us it is seldom that anything but its rather loud metallic "chic chic" is heard. It seems always to prefer damp or swampy ground, where it keeps low down in the reeds, sometimes feeding on the ground in the drier parts.

(537) Cyanosylvia suecica pallidogularis.

THE EASTERN RED-SPOTTED BLUE-THROAT.

Cyanecula suecica pallidogularis Sarudny, Mat. z. Kennt. d. Fauna & F. d. Russ. Reichs, pp. 171 and 312 (1897) (Orenburg).
Cyanecula suecica. Blanf. & Oates, ii, p. 99 (part.).

Vernacular names. The same as for the last bird.

Description. Similar to *C. s. suecica* but with the throat paler and the red spot large and rusty-red; the upper parts are a trifle paler than in the typical form.

Colours of soft parts and **Measurements** as in the last bird.

Females taken by Osmaston breeding in Ladakh show a great deal of blue on the throat.

Distribution. According to Hartert this form breeds in West Turkestan to East Trans-Caspia and to the Southern Urals, wandering as far as North-West India etc. in Winter. The birds from the Altai and Eastern Turkestan he separates as *discessa* (Mad.), said to be a slightly smaller and still paler form. From the material available in the British Museum I cannot distinguish between these forms and birds killed in India in Winter range from the smallest and palest to specimens equal to the darkest Western European specimens.

In India this Blue-throat is found practically all over India and Ceylon.

Nidification. Ludlow (Journ. B. N. H. S. xxvii, p. 143) writes that he obtained a nest with four eggs of this Blue-throat at Mulbek in Ladak with four eggs measuring 19·75–20·25 × 14·75–15·0 mm. At Bhet Kharta, a day's march distant, he found two nests of the Eastern White-spotted Blue-throat. More recently Osmaston has found both species breeding together in the same country.

Habits. Those of the preceding race.

(538) Cyanosylvia suecica robusta.

THE CHINESE RED-SPOTTED BLUE-THROAT.

Cyanecula suecica robusta Buturlin, Psoveia i Ruzh. Okhotc. (1907) (Kolyma Delta).
Cyanecula suecica. Blanf. & Oates, ii, p. 99 (part.).

Vernacular names. *Gunpigera, Gurpedra* (Beng.).

Description. An altogether darker bird in every respect than the two preceding races and differs generally in having more of a red tinge on the rump and upper tail-coverts.

Colours of soft parts as in the other races.

Measurements. Wing 68 to 79 mm., with the smallest and biggest birds occurring in China; culmen about 13, rarely 15 mm.

Distribution. Apparently breeding in Eastern Siberia and wintering in South China, Burma, Assam, and Eastern Bengal to Nepal and Sikkim. Two specimens from the Andamans are of this form.

Nidification and **Habits.** Those of the species. Stevens found this race common in the plains of North Lakhimpur in Winter, haunting the grass-lands and vast swampy reed-beds of that district.

Cyanosylvia cyanecula.

Sylvia cyanecula Wolf, Taschenb. i. p. 240 (1810).

Type-locality: Anhalt, Germany.

The only race of this bird found in India is *C. c. abbotti*, which differs from the typical form in being darker and rather redder on the upper parts and in having a less distinct supercilium.

(539) Cyanosylvia cyanecula abbotti.

THE EASTERN WHITE-SPOTTED BLUE THROAT.

Cyanecula abbotti Richmond, Proc. U.S. N. Mus., xviii, p. 484 (1895) (Nubra Valley, Ladak).
Cyanecula wolfi. Blanf. & Oates, ii, p. 100.

Vernacular names. The same, where found, as for the White spotted birds.

Description. Differs from *C. s. suecica* and its geographical races in having a white spot instead of a red on the centre of the throat; occasionally the throat is wholly blue.

Frequently there is a little red showing on the centre of the white spot and sometimes there is a small spot entirely red.

Colours of soft parts as in the other forms of *Cyanosylvia*.

Measurements. Wing 71 to 74 mm.; tail 53 to 55 mm.; tarsus about 28 mm.; culmen 14 to 15 mm. (from edge of forehead 16·7 to 17·5 mm., *Hartert*).

Distribution. Pamirs, East Turkestan, Kashmir, Ladak and Western Tibet. I have received eggs of a *Cyanosylvia* from Tibet taken near Gyantse, but the skins sent were too bad to enable the race to be determined.

In Winter it is found South in Kashmir and Garhwal and occasionally in the plains of the North-West, Behar and even in Assam.

Nidification. Ludlow found two nests at Bhot Karba on 24th June, 1919, the first of which contained four hard-set eggs and the second four young. The nests are described as cup-shaped, made of dry grass and placed on the ground among long grass and low bushes. The eggs were "*sage-green suffused* with reddish brown" and they "measured 19·75–20·25 × 14·75–15·0 mm."

Habits. This bird is far less of a wanderer than the Red-spotted Blue-throat and though it has not nearly so far to travel is never found far out in the plains as that bird is. It breeds between 12,000 and 14,000 feet in Northern Kashmir and North-East Ladak, probably a good deal higher also and possibly down as low as 10,000 feet. In winter it comes down as low as 6,000 feet, but often stays throughout the winter at heights much above this. It is not rare in Assam at about 3,000 feet and is found thence all along the outer, lower ranges of the Himalayas between 2,000 and 9,000 feet from September to April. It has been obtained in the plains of Cachar, Assam and Behar but such occurrences are very rare.

In actions, food, voice, etc., it differs in no way from its White-spotted cousin and it is the same quiet skulker as that bird. It does not, however, seem to be so much addicted to swampy wet ground, though it is most common in the vicinity of rivers and lakes, such as the Shiek, Tsomorari, etc.

Genus LUSCINIA.

Forster, Syn. Cat. Brit. B., 1817, p. 14.

Type, *L. megarhyncha*.

The genus *Luscinia* is very close both to the preceding genus *Cyanosylvia* and the next one *Calliope* but differs from both of these in having the two sexes alike. The first primary, though varying considerably in length, is always very short, measuring less than a third of the second primary which is long. The tail is long and the tarsus rather long and stout.

Luscinia megarhyncha.

Luscinia megarhynchos Brehm, Vög. Deutschl. p. 356 (1831).

Type-locality: Germany.

The only race of this species ever found in India is *L. m. golzii*, the Persian Nightingale, easily distinguished from all its Western cousins by its very long tail and longer bill.

(540) Luscinia megarhyncha golzii.

THE TURKESTAN NIGHTINGALE.

Lusciola golzii Cabanis, Jour. f. Orn., 1873, p. 79 (Turkestan).
Daulias golzii. Blanf. & Oates, ii, p. 101.

Vernacular names. *Sandwas* (Tartar); *Sochak* (Armenian).

Description. The whole upper plumage and the margins of the wing-feathers russet-brown; brighter on the upper tail-coverts and tail; wings brown; lores, cheeks and the whole lower plumage pale buff, palest and often almost white on the chin, throat and centre of the abdomen and rather more buff on the under tail-coverts.

Colours of soft parts. Iris hazel; bill dark horny-brown, paler below; legs and feet light brown to rather dark horny-brown.

Measurements. Total length about 185 to 195 mm.; wing 91 to 97 mm.; tail 76 to 81 mm.; tarsus about 28 mm.; culmen about 14 mm.

The Eastern or Turkestan Nightingale can be separated at once from other races by its long tail which in the European and West Asiatic birds only runs up to about 65 mm. (measured from external base of feathers). The first primary is about equal to the primary coverts in our form, whereas in the British bird it is much longer. Variations in these latter measurements are, however, somewhat numerous. The true Persian Nightingale is a still larger, darker bird, *L. m. africana* (F. & R.).

Distribution. Breeding from Turkestan, the Kirghis Steppes, Trans-Caspia to the Tian-Schan. In Winter it migrates to South Arabia and has wandered twice into India, two specimens having been obtained in Oudh.

Nidification. The Turkestan Nightingale breeds during May and June making a cup-shaped nest of grass, dead leaves, etc., which it places either on the ground or, preferably, in a tangle of rose-bush and briars, a foot or two above it.

It lays four or five eggs of the same deep olive-brown as those of the European Nightingales, some more brown, some more green, which measure about 22·5 × 16·1 mm.

Habits. The habits of all the Nightingales are much the same wherever found. They are shy, secretive birds, feeding much on the ground and amongst dense bushes and briars etc., but they also have the same beautiful song, even if the Eastern birds' notes are not quite so full and sweet as those of its European cousin. This race is much more a frequenter of gardens than our English bird is, perhaps because so many of the gardens are so much bigger and wilder.

Genus **GRANDALA.**

Grandala Hodgs., J. A. S. B., xii, p. 447 (1843).

Type, *Grandala cœlicolor*.

The genus *Grandala* contains one bird of remarkable form whose true affinities are not easy to determine. It was placed by Seebohm with the Thrushes, by Jerdon with the *Saxicolinæ* and by Oates with his *Phœnicurinæ*. Its nearest relations are possibly *Notodela*, differing from this genus principally in its very long wing and small first primary. This character, the long wing, is alone sufficient to separate it widely from the short-winged *Brachypterygineæ* which Oates suggests as an alternative position.

The plumage of the nestling is like that of the female which is streaked, but the streaks are larger, bolder and more numerous and may be considered quite typical of the *Turdinæ*.

In *Grandala* the bill is about half the length of the head and rather slender; the nasal membrane is clothed with plumelets to its middle and the rictal bristles are rather long; the wing is very long, the first primary minute and the second reaches to the tip of the wing; the tail is square and rather longer than half the wing; the tarsus is slender, smooth and fairly long. The sexes are differently coloured and the plumage is rather soft and copious.

In general appearance, this bird is not unlike species of the genera *Myiophoneus* and *Arrenga* and eventually it may have to be removed to a position close to them among the *Turdinæ*.

(541) Grandala cœlicolor.

HODGSON'S GRANDALA.

Grandala cœlicolor Hodgs., J. A. S. B., xii, p. 447 (1843) (Nepal); Blanf. & Oates, ii, p. 110.

Vernacular names. None recorded.

Description.—Adult male. Wings, with the exception of the lesser and median wing-coverts, winglet and tail black, the feathers

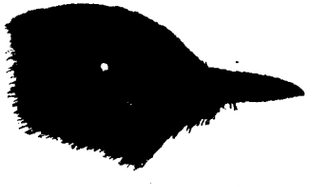


Fig. 9.—Head of *G. cœlicolor*.

edged with deep blue; remainder of plumage bright purple-blue, brighter below and still brighter and more ultramarine on the upper tail-coverts.

Colours of soft parts. Iris dark brown; bill, legs and feet black.

Measurements. Total length about 220 mm.; wing 136 to 143 mm. (W. China); 143 to 150 mm. (India); tail 82 to 87 mm.; tarsus about 28 to 29 mm.; culmen 16 to 17 mm.

Female. Whole plumage brown, darker above and paler below, with a tinge of slaty-blue on scapulars, rump, and upper tail-coverts; chin dull fulvous; crown, nape, upper back, throat, breast and abdomen streaked with pale, dull fulvous or fulvous-white; a patch of white on the outer web of the inner primaries connecting

with another similar patch on the lores of the secondaries, the innermost of which are also tipped with white.

Young. Like the female but more broadly and profusely streaked with pale fulvous or white, the streaks on the throat and breast becoming broad, triangular spots.

Young males acquire the dark wings and tail of the adult at the first Autumn moult as well as a considerable amount of blue. The fully adult plumage is attained at the first Spring moult.

Distribution. Garhwal, Nepal, Sikkim, Tibet and mountains of Western China. The Western Chinese birds are brighter and rather smaller and may eventually have to be separated.

Nidification. Whymper found two nests in the middle of July with well-grown young above the snow-line in Garhwal at about 16,700 feet and his collector took a nest with two eggs in June at about the same place. A nest is described as "placed under a ledge of rock at the top of a snow-bank, neatly built of fine moss with a lining of feathers, a rather large nest, 9 inches across, internally 3¼ inches."

The eggs are typical Thrushes' eggs, not unlike many of those of *Geocichla*, the ground-colour is a pale greenish white and they are plentifully blotched and spotted all over with primary markings of reddish brown and secondary markings of neutral tint and purplish grey. They measure 26·9 × 20·5 and 28·4 × 18·9 mm.

Habits. The *Grandala* is a bird of the very highest altitudes, apparently breeding above 16,000 feet only and certainly wandering up to 20,000, whilst, in Summer, it seems seldom to venture below 14,000 and even in Winter not below some 10,000 feet. They consort in large flocks, Wollaston mentions flocks of 50, which do not altogether disperse in the breeding months, the birds continuing to collect together when feeding. As far as is known, they are entirely insectivorous, feeding much on a small white moth. The flight is described by Wollaston as like that of a Starling but according to Whymper it is exactly like that of the faster-flying Thrushes.

Genus **CALLIOPE**.

Gould, B. of Europe, pl. 118 (1837).

Type, *Erithacus calliope*.

This genus is very doubtfully separable from *Cyanosylvia* and like that genus the males have brilliantly coloured throats, only scarlet instead of blue, whilst the females are plain-coloured. The first primary is comparatively long, and the tarsus is also long and suited for the birds' terrestrial habits. All the species are migratory.

Key to Species.

A. No white on the tail-feathers ..... *C. calliope*, p. 91.
B. Base or tip of tail, or both, white.
  a. Sides of cheeks black ..... *C. pectoralis*, p. 92.
  b. A broad white moustachial streak ..... *C. tschebaiewi*, p. 94.

(542) **Calliope calliope.**

THE COMMON RUBY-THROAT.

Motacilla calliope Pall., Reise Russ. Reichs, iii, p. 697 (1776) (Yenesei).
Calliope camtschatkensis. Blanf. & Oates, ii, p. 102.

Vernacular names. *Gunpigora* (Beng.); *Gangula* (Nep.).

Description.—Adult male. Whole upper plumage olive-brown, the feathers of the head faintly edged paler and centred darker, but as a rule the upper parts appear unicoloured; tail brown edged with olive-brown; wings brown, the feathers edged with rufous olive-brown; a line from the forehead to the eye and a broad cheek-stripe white; lores and under the eye blackish; chin,



Fig. 10.—Head of *C. calliope*.

throat and fore-neck ruby-scarlet surrounded by a narrow black line; in fresh plumage the red feathers have a tiny white speck at the tip which soon becomes abraded; upper breast brownish grey, shading to buff-grey on lower breast and flanks and to almost white on the abdomen and under tail-coverts; axillaries buff.

Colours of soft parts. Iris brown; bill light to dark brown, paler at the base and almost white at the gape; legs and feet pale plumbeous or horny brown; claws darker.

Measurements. Total length about 155 mm.; wing 70 to 83 mm.; tail about 55 to 65 mm.; tarsus 30 to 32 mm.; culmen 13 to 16 mm.

Female differs from the male in having no scarlet or black on the chin and throat; the former is white and the latter shades into the buffy brown of the breast; the lores and cheeks are dark brown and the moustachial streak dull.

Nestlings are mottled and moult into the plumage of the adult female in the first autumn, many young males, however, obtaining a trace of red on the throat.

Distribution. Breeding practically throughout the whole of Northern and North Central Asia, from West Siberia to Behring Island, the Kuriles, North-East China, etc. In Winter it is found throughout Northern India, as far South as Bombay, Raipur and Orissa, Burma South to Tenasserim, Siam, Shan States, Yunnan, South China, Hainan, Formosa and the Philippines.

Nidification. The Ruby-throat breeds during June and July, making a domed nest of grass lined with finer bits of the same

deeper-coloured above and below; the tail is nearly always a blackish brown and the upper parts a deeper slaty, whilst the fore crown is blackish over a wider area.

Colours of soft parts as in the preceding bird.

Measurements. Wing 68 to 75 mm.; tail 57 to 62 mm.

Distribution. Eastern Himalayas from Sikkim to the extreme East of Assam North of the Brahmaputra and South Tibet. In winter it is found throughout Assam, Manipur, Cachar and Sylhet.

Nidification. Nest and eggs appear to be exactly like those of *Calliope calliope*. Eggs taken by Capt. Steen, I.M.S., on the 22nd June near Chumbi Valley, Tibet, are larger, measuring 22·2 × 15·4 mm. The nest was found on the ground in a hollow under the shelter of a bush.

Habits. Those of the genus. This seems to be a bird of very high levels breeding from 10,000 ft. up to at least 14,000 ft. In winter it does not wander into the plains, though it is common in and adjacent to the foot-hills in the Cachar and Sylhet districts.

(545) Calliope tschebaiewi.

THE TIBET RUBY-THROAT.

Calliope tschebaiewi Przewalski, Mongol i. Stran. Tang., ii, p. 44 (1876); Blanf. & Oates, ii, p. 104.

Vernacular names. *Daogulugajao* (Cachari).

Description. Differs from all races of *pectoralis* in having a broad white moustachial streak; the forehead is black or only narrowly white, and the white supercilium, though narrower, extends to the back of the ear-coverts; the white on the base of the lateral tail-feathers is not so wide; the upper parts are generally more olive-brown, less slaty.

Colours of soft parts as in the other species.

Measurements. Total length about 160 mm.; wing 73 to 81 mm.; tail 58 to 66 mm.; tarsus 33 mm.; culmen 14 to 15 mm.

Distribution. Breeding Ladakh, Tibet and Kansu; Sikkim, Bhutan Dooars, Assam and North Burma. In Winter it extends throughout the Burmese Hills, Yunnan, Siam and into the plains of Bengal and Assam.

Nidification. The nests of this Ruby-throat are the usual domed, grass structures placed in hollows on the ground under shelter of tufts of grass or bushes. Eggs taken by Przewalski on the 17th May are like those of *C. calliope* and measure 20·5 × 15·0 to 15·5 mm. Eggs taken at Phoulbiang, Ladak, for Col. Ward and sent to me with a skin are very pale blue and measure about 24·1 × 16·2 mm. These were taken on the 11th June at about 12,000 feet.



LLIOPE TSCHEBAIEWI.
Tibet Ruby-throat. ♂
⅔ life size.

Habits. This bird appears to be less of a skulker than others of the genus. It is common in Assam in Winter and may then be seen much in the open and in thin scrub, hunting for its insect-prey quite as much amongst the grass and bushes as on the ground. It has the same funny little habit of running a few paces and then flicking its tail hard over its back. It has a sweet little song of four or five notes only, but may be heard singing this often before it leaves the plains in late Spring.

Genus **TARSIGER.**

Hodgs., P. Z. S., 1845, p. 28.

Type, *T. chrysæus.*

The genus *Tarsiger* contains but one species which is very closely allied to the last genus *Calliope*, from which it differs principally in colour-pattern, having no brilliant colouring on the throat. The tail differs somewhat in being mucronate, though the feathers are not so distinctly pointed as they are in the next genus, *Ianthia*, between which and *Calliope* it seems to form a connecting-link.

Tarsiger chrysæus.

Key to Subspecies.

A. Darker above; yellow below more golden-orange	*T. c. chrysæus*, ♂, p. 95.
B. Paler above; yellow below paler and less orange	*T. c. whistleri*, ♂, p. 97.
C. Above ruddy olive-brown on tail-coverts; below darker yellow	*T. c. chrysæus*, ♀, p. 96.
D. Above more greyish olive, more green, less ruddy on upper tail-coverts; below paler yellow	*T. c. whistleri*, ♀, p. 97.

(546) Tarsiger chrysæus chrysæus.

THE GOLDEN BUSH-ROBIN.

Tarsiger chrysæus Hodgs., P. Z. S., 1845, p. 28 (Nepal); Blanf. & Oates, ii, p. 104.

Vernacular names. *Manshil-pho* (Lepcha).

Description.—Adult male. Forehead to lower back olive-green; lores, a line on the forehead, cheeks and ear-coverts black; a narrow superciliium, lesser wing-coverts, scapulars and sides of the back, rump, upper tail-coverts and whole lower plumage bright orange, the feathers with very narrow edges of brown, sometimes obsolete or absent; central tail-feathers black occasionally, with narrow orange edges, lateral feathers orange with

which it places on the ground under the shelter of a bush or tussock of grass in thick cover. The eggs are four or five in number and are of a rather grey blue-green sometimes quite unspotted, at other times with a faint ring of reddish freckling about the larger end. In shape they are rather long ovals, often somewhat pointed. The surface is hard and slightly glossy and the texture very close.

Sixteen eggs taken by Taczanowski measure 20·4–22 × 15–16 mm.

Habits. This bird, like the other Ruby-throats, keeps much to wooded or scrub-jungle localities, especially to such as have water near. It feeds on insects, principally on the ground but also amongst the grass and reeds and low bushes. When on the ground it has a habit of flicking its semi-expanded tail over its back, but otherwise moves about very quietly. It has a sweet but rather monotonous little song which it sings perched on the upper twigs of some low bush.

Calliope pectoralis.

Key to Subspecies.

A. Upper parts dark slaty-grey, crown next forehead broadly blackish ..... *C. p. pectoralis*, p. 92.
B. Upper parts ashy slaty-grey, crown next forehead narrowly blackish..... *C. p. confusa*, p. 93.

(543) Calliope pectoralis pectoralis.

THE HIMALAYAN RUBY-THROAT.

Calliope pectoralis Gould, Icones Av., pt. ii, pl. iv (1837) (West Himalayas); Blanf. & Oates, ii, p. 103.

Vernacular names. *Duoqulugajao* (Cachari).

Description.—Adult male. Forehead and short supercilium white; whole upper surface slaty-grey, more or less tinged with ashy and darker next the white forehead; lores, sides of the head, chin and throat black; ear coverts and behind them greyer; wing-coverts like the back; quills dark brown edged with olive-rufous; tail dark brown, sometimes blackish, the lateral feathers white on rather more than the basal half and tipped white; chin and throat bright crimson; breast black, fringed with olive-brown or ashy-brown; remainder of lower parts white, the flanks suffused with grey or, occasionally, with olive-brown. In breeding plumage the upper parts are more ashy and the breast is wholly black or almost so.

Colours of soft parts. Iris dark brown or hazel; bill black, lighter at the tip; legs and feet brown, fleshy-brown or plumbeous brown.

Measurements. Total length about 155 mm.; wing 68 to 78 mm.; tail 56 to 64 mm.; tarsus about 30 mm.; culmen about 14 mm.

Female. Whole upper plumage olive-brown; wing-quills edg **with fulvous; tail-feathers** dark brown, the lateral feathers tipp **with white; lores, edge of forehead and short supercilium** ding **white; chin and throat** dull white; sides of head, chin and throa **breast and flanks** fulvous-brown fading to fulvous-white on th **abdomen.**

Colours of soft parts. Iris brown; bill and feet as in th **male.**

Measurements. A little smaller than the male, wing 68 t **72 mm.**

Nestling. Above brown, darker on the crown, each feather **with a fulvous** central streak; wing-coverts like the back; chin whitish; breast and flanks fulvous, the feathers edged with dark brown: centre of abdomen and under tail-coverts buffy-white.

The male from the earliest age has the base of the tail white.

The young male assumes the adult male plumage described above in the first autumn but does not attain the red and black breast until the following spring. A few individuals, however, retain the female upper plumage until the second autumn moult.

Distribution. The Himalayas from Afghanistan and Baluchistan, Kashmir, Ladak, Garhwal and the Simla States to Nepal. In winter it descends to the foot-hills and occasionally a short way into the adjacent plains of the North-West districts of India.

Nidification. The Himalayan Ruby-throat breeds on the N.W. Frontier of India between 9,000 and 14,000 feet during June; in Gilgit, Kashmir and N.W. Ladak in June and July between 11,000 and 14,000 feet. It makes a domed nest of grass, lined with the same, placed on the ground among thick tussocks of grass, scrubby bushes, etc., often on the banks of small streams, at other times far from any water. Both Whitehead and Col. A. E. Ward describe the nest as a very roughly-made untidy affair.

The eggs number from three to five, generally four, and are quite indistinguishable from those of the last bird. Thirty eggs average 21·5 × 15·3 mm.: the maxima are 23·2 × 16·3 mm., and the minima 20·4 × 15·0 and 20·8 × 14·5 mm.

Habits. Similar to those of *Calliope calliope*.

On the North-West Frontier this bird seems to be a favourite foster-parent for the Cuckoo (*C. canorus telephonus*).

(544) Calliope pectoralis confusa.

THE EASTERN RUBY-THROAT.

Luscinia pectoralis confusa Hartert, Vög. Pal. i, p. 741 (Sikkim).
Calliope pectoralis. Blanf. & Oates, ii, p. 103 (part.).

Vernacular names. *Duoqulugajao* (Cachari).

Description. Differs from *C. p. pectoralis* in being very much

(547) Tarsiger chrysæus whistleri.

THE SIMLA GOLDEN BUSH-ROBIN.

Tarsiger chrysæus whistleri Ticehurst, Bull. B. O. C., xlii, p. 121 (1922) (Simla).

Tarsiger chrysæus. Blanf. & Oates, ii, p. 104 (part.).

Vernacular names. None recorded.

Description.—Adult male. "Differs from typical *T. c. chrysæus* . . . not so dark above, paler olivaceous, with few or no black feathers to the mantle; golden colour everywhere paler." (*Ticehurst.*)

Colours of soft parts and **Measurements** as in the preceding bird.

Female. "Greener, almost with a greyish wash above; upper tail-coverts and tail's edge greener olive, less ruddy olive-brown; underparts paler yellow." (*Ticehurst.*)

Distribution. N.W. Himalayas to Garhwal.

Nidification. Nests and eggs taken by Rattray, Buchanan and others differ in no way from those of the Golden Bush-Robin.

Habits. The same as those of the preceding bird.

Genus IANTHIA.

Ianthia Blyth, J. A. S. B., xvi, p. 132 (1847).

Type, *I. rufilatus.*

The genus *Ianthia* differs from *Calliope* and *Tarsiger* in having much shorter, weaker feet and tarsi, and in having a comparatively longer tail. It also differs from both in having the

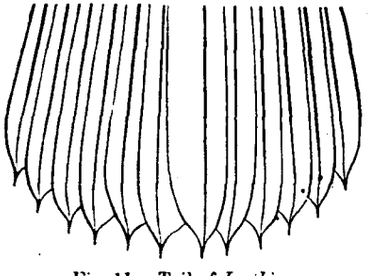


Fig. 11.—Tail of *Ianthia.*

tail-feathers more pointed at the tips, though this feature obtains to some extent in *Tarsiger.*

The genus contains four species of Indian birds, in which the males are very brightly coloured and the females are dull.

Hartert includes *Ianthia* in the genus *Tarsiger*, but the short tail of the latter and the weak feet of the former, together with their different habits, seem to divide them satisfactorily.

broad black tips, greater coverts and inner secondaries black broadly edged with orange, other quills narrowly edged with the same.

Colours of soft parts. Iris brown or black; bill dark horny-brown, commissure and lower mandible yellow; legs and feet pale fleshy, fleshy-yellow or olive-yellow.

Measurements. Total length about 155 mm.; wing 65 to 69 mm.; tail 49 to 53 mm.; tarsus 29 to 30 mm.; culmen 11 mm.

Female. Whole upper plumage and visible portions of wing olive-green; median pair of tail-feathers olive-brown; the lateral feathers golden-yellow tipped with brown and the outermost pair edged with brown on the outer web; forehead, lores and a line round eye mixed olive-green and yellow; cheeks and ear-coverts olive-brown with pale shafts; whole lower plumage yellow, orange and darker on breast, fore-neck and flanks.

Colours of soft parts as in male.

Measurements. Wing 62 to 68 mm.; tail 46 to 50 mm.

Nestling. Whole plumage dark olive-brown; above, each feather has a narrow central streak of golden-fulvous; below, the brown is reduced to a marginal band and the golden-yellow occupies the whole of the centre of the feather; the abdomen, vent and under tail-coverts are almost wholly yellow.

Distribution. Nepal, Sikkim to Eastern Assam North of the Brahmaputra; Khasia Hills and Cachar Hills South of that river, Manipur, Chin Hills, Yunnan, Annam and W. China.

Nidification. The Golden Bush-Robin breeds from May (Chin Hills) to the beginning of July (Sikkim) and on into August in Nepal. The nest is made principally of moss and moss-roots but at times a good deal of other material such as grass, leaves, etc., is incorporated with it. The lining is of fur, hair or wool. The nest may be placed in any kind of hollow, in a bank among overhanging moss, ferns or other cover, in a hole in rocky wall or between boulders or in among the roots of a tree. The eggs, four in number, are a beautiful skim-milk blue, the texture is fine and close but not hard or glossy and in shape they are broad ovals measuring about $20{\cdot}5 \times 15{\cdot}1$ mm. The eggs are not in the least like in character or in colour those of the last genus.

Habits. This is a quiet, retiring little bird so that in spite of its striking plumage it is very seldom seen. It keeps almost entirely to rather thick bush-jungle or evergreen forest, hopping quietly about on the ground occasionally uttering a soft little "chic chic." It is said to have a short sweet song in the breeding-season which it utters from the upper twigs of some low bush.

Key to Species.

A. Sides of body orange-chestnut contrasting with remainder of lower plumage ..... *I. cyanura*, p. 98.
B. Sides of body of same colour as remainder of lower plumage.
  a. A white supercilium ..... *I. indica*, p. 102.
  b. No white supercilium ..... *I. hyperythra*, p. 103.

Ianthia cyanura.

Key to Subspecies.

A. With a white supercilium ..... *I. c. cyanura*, ♂, p. 99.
B. With a blue supercilium.
  a. Darker above ..... *I. c. rufilata*, ♂, p. 100.
  b. Paler above ..... *I. c. pallidiora*, ♂, p. 101.
C. No distinct supercilium.
  c. Rump light greyish blue ..... *I. c. cyanura*, ♀, p. 99.
  d. Rump bluish green.
    a'. Above rufous olive-brown ..... *I. c. rufilata*, ♀, p. 100.
    b'. Above paler olive-brown ..... *I. c. pallidiora*, ♀, p. 101.

Thayer and Bangs in 1914 described in the Bull. Mus. Comp. Zool. (lviii, p. 292, Loukaochai) an *Ianthia*, from Yunnan, as new and state that it differs from *I. c. rufilata* in being darker, the shoulder-patch brighter and the bases of the superciliary stripe white instead of dusky. This so-called new species, *Ianthia practica*, so far as I can see, differs in no single respect from typical *rufilata* from Nepal to Assam and it is possible that the authors compared their specimens with birds from farther west, which are obviously much paler, more especially the females. There are very large series of these birds in the British Museum from Nepal, Sikkim, Upper Burma and Yunnan, and though these vary *inter se* to a slight extent, I can see no constant differences in plumage correlated to any special area. The shoulder-patch varies considerably individually but Yunnan specimens certainly do not have it brighter than Nepal birds—indeed, Rothschild (Nov. Zool. xxviii, p. 39) finds the reverse is the case. The bases of the superciliary feathers are dusky in some birds, white in others.

In trying to find differences between Nepal, Burmese and Yunnan birds I have, however, confirmed an opinion already expressed by Mr. N. Kinnear that the birds West of Nepal are much paler than the Eastern form, and I therefore here describe these birds as a new subspecies.

(548) Ianthia cyanura cyanura.

THE JAPANESE BUSH-ROBIN.

Motacilla cyanurus Pall., Reise Russ. Reichs, ii, p. 709 (1773) (Yenesei).

Vernacular names. None recorded.

Description.—Adult male. Sides of forehead and short broad supercilium white; whole upper plumage and wing-coverts pale slaty blue-grey, brighter and bluer above the supercilium and on the rump and upper tail-coverts; tail dark brown, suffused with blue on the outer webs; wing-quills brown edged with fulvous; lores and round the eye, cheeks and ear-coverts dark slaty-black; chin and throat white; flanks orange; under surface of body dull white tinged with creamy chestnut on breast and sides of abdomen. The black of the sides of the neck often meets in a gorget across the lower throat.

Colours of soft parts. Iris brown; bill black; legs and feet reddish brown.

Measurements. Total length about 150 mm.; wing 76 to 82 mm.; tail 56 to 57 mm.; tarsus about 23 mm.; culmen 10 mm.

Female. A ring of pale fulvous-white feathers round the eye; lores fulvous; upper plumage and wings olive-brown; rump and upper tail-coverts strongly suffused with greyish blue; tail brown, the outer edges bluish; flanks orange; chin and throat fulvous-white; breast pale olive-brown fading into albescent on the centre of the abdomen; under tail-coverts white or fulvous-white.

Colours of soft parts. Iris brown; bill horny-brown; legs light brown.

Measurements. Wing 73 to 80 mm.

The nestling is rufous-brown above, the feathers tipped black and with central fulvous streaks; below brownish white, the feathers edged with black, and those of the breast with pale centres.

Distribution. From Urals East through Siberia and Northern China to Japan. In Winter it moves South to South China, Yunnan, etc., and has once been found in the Indian Empire, a single bird, now in the Tring Museum, having been shot by me in North Cachar.

Nidification. Smirnoff, *in epistola*, decribes nest and eggs as like those of *I. c. pallidiora*.

Habits. This little Bush-Robin is said to be a bird of tame and confiding habits, frequenting the vicinity of gardens and orchards as well as woods and semi-wooded country. It has all the habits of a Robin, feeding on the ground as well as on bushes and low trees.

(549) Ianthia cyanura rufilata.

THE RED-FLANKED BUSH-ROBIN.

Nemura rufilatus Hodgs., P. Z. S., 1845, p. 27 (Nepal).
Ianthia rufilata. Blanf. & Oates, ii, p. 106.

Vernacular names. *Mangzhil-pho* (Lepch.).

Description.—Adult male. Lores, a line next the bill and round the eye black; forehead, a short broad supercilium, rump, upper tail-coverts and lower wing-coverts bright ultramarine-blue; upper plumage, sides of head, neck and breast deep purplish blue, almost black on breast and meeting across throat; wings like the back; tail-feathers brown edged with deep blue; centre of chin, throat and upper breast white; lower breast and abdomen ashy-white, purer on centre of abdomen, vent and under tail-coverts; flanks orange-chestnut; under wing-coverts and axillaries white.

Colours of soft parts. Iris brown; bill black; legs and feet dark brown.

Measurements. Total length about 155 mm.; wing 79 to 86 mm.; tail 57 to 61 mm.; tarsus about 25 mm.; culmen 10 to 11 mm.

Female. Upper plumage rufous olive-brown; the wing-feathers edged with rufous; lores and a faint ring round the eye paler and there are also faint traces of a bluish supercilium; rump dull greenish blue; tail dark brown, the feathers edged with blue; chin and throat white; sides of head and neck, breast and flanks



Fig. 12.—Head of *I. c. rufilata*.

olive-brown, changing to albescent on centre of abdomen, vent and under tail-coverts; centre of flanks orange-chestnut.

Colours of soft parts. Iris brown; bill dark brown, lighter at the base; legs pale brown to dark brown.

The nestling is brown above, each feather tipped with black and with a pale central streak; below white, more or less suffused with fulvous and the feathers margined with black.

Distribution. Nepal, Sikkim, the Hills North and South of the Brahmaputra, Chin and Kachin Hills, Shan States, N. Siam and Yunnan.

Nidification. The nest and eggs of this bird have apparently never been taken, but they are not likely to differ from those of the better-known race from the North-West of India. It is known to breed about Darjiling at 8,000 to 10,000 feet, and probably breeds throughout its range from the middle of May to the end of June up to some 14,000 feet. It does not, I think, ever breed in the hills South of the Brahmaputra, though it is a common winter visitor to them.

Habits. The Red-flanked Bush-Robin is found in Summer between 7,000 and 16,000 feet, and in winter down to 5,000, but

not often below this. The birds of this genus are forest-birds, haunting both pine and evergreen forests, providing they have sufficient undergrowth and they are especially fond of open spaces surrounded by cover. Here they flit about from ground to bush and from bush to ground very like the common Robin on the continent of Europe. They are not shy birds and will hunt about in front of one for insects provided no noise or abrupt movement is made. Whitehead syllabifies the call-note as "prot" and answer as "tee," both notes being used by either sex.

(550) Ianthia cyanura pallidiora, subsp. nov.

THE KASHMIR RED-FLANKED BUSH-ROBIN.

Vernacular names. None recorded.

Description.—Adult male. Similar to *I. r. rufilata*, but not quite so deep in colour above, and the rump often more a turquoise-blue.

Colours of soft parts and **Measurements** as in the Nepal *Ianthia*.

Females are very much paler than are birds from Nepal eastwards; above they are more olive-brown than rufous-brown, and below a trifle paler; the difference in the upper plumage is strikingly obvious.

Type-locality: Simla.

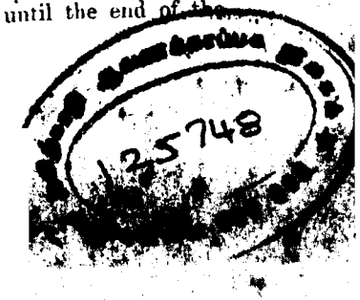
Type No. 86.4.1.2144, British Museum, ♀, Simla.

Distribution. From the extreme North-West of India, Afghanistan, Baluchistan—at all events, on the Indian Frontier—to Simla and Garhwal.

Nidification. The Kashmir Red-flanked Bush-Robin breeds from the middle of May to the end of June between 8,000 and 14,000 feet. The nest is made of grass and dead leaves, sometimes mixed with a few roots, and is lined with fine soft grass or more rarely, with hair. It is cup-shaped, generally very roughly and loosely put together and is placed in a hole in a bank, in among the roots of some forest-tree, or in a hole low down in some dead stump.

The eggs number three or four, though once Capt. R. I Skinner took seven eggs from one nest. These are, however evidently the product of two birds. In colour they are either spotless white or with a few specks and spots of pale reddish brown at the larger end. The shell is fragile and the texture rather soft. Twenty-five eggs average 18·0 × 13·6 mm., and the extremes are 18·4 × 14·1 mm.; 16·6 × 14·0 and 17·4 × 13·0 mm.

According to Davidson the nests are nearly always built in woods which are on the steepest of hill-sides. This *Ianthia* constantly breeds in immature plumage, and it is possible the majority of males do not acquire their full dress until the end of the second year.



Distribution. Sikkim Eastwards to Sadiya and South to the Khasia and Cachar Hills.

Nidification unknown.

Habits. Similar to those of the other species of *Ianthia*. In summer it is found between 6,000 and 10,000 feet, and in winter some 2,000 feet lower. It is certainly a forest-bird, but practically nothing has been recorded about it.

Genus **ADELURA**.

Bonap., Comp. Rend., xxxviii, p. 8 (1854).

Type, *A. cæruleocephala*.

This bird is very closely allied to the Redstarts structurally, though it has weaker, shorter tarsi and has no red on its tail-feathers and Oates was right in placing it in a separate genus. In habits it is undoubtedly far more Robin- than Redstart-like, and in this respect is very like *Ianthia*, from which it is at once easily separated by its rounded tail-feathers.

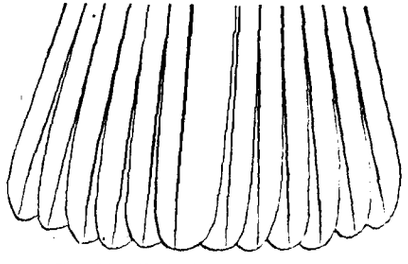


Fig. 13.—*Tail of A. cæruleocephala.*

(553) **Adelura cæruleocephala.**

THE BLUE-HEADED ROBIN.

Phœnicura cæruleocephala Vigors, P. Z. S., 1831, p. 35 (Himalayas).
Adelura cæruleicephala. Blanf. & Oates, ii, p. 108.

Vernacular names. None recorded.

Description.—Adult male in summer. Crown to nape bright smalt-blue; the median and inner greater wing-coverts are white, and the inner secondaries are broadly margined with white; abdomen, vent and under tail-coverts white; remainder of plumage black; axillaries black tipped with white.

In Winter the feathers of the crown, upper plumage and breast are all broadly margined with rufescent-brown, almost entirely concealing the blue: round the eye and on the lores the black remains almost immaculate.

Colours of soft parts. Iris dark brown; bill dark brown to jet-black; legs and feet black.

Measurements. Total length about 155 mm.; wing 81 to 85 mm.; tail 60 to 66 mm.; tarsus 23 mm.; culmen 11 mm.

Female. A ring of pale feathers round the eye; head, neck and back brown, sometimes with faint rufous or fulvous tinge, lower rump and upper tail-coverts ferruginous; tail darker brown edged with ferruginous; wings brown, the median and greater coverts broadly edged with fulvous-white forming two bold wing-bars and the inner secondaries with fulvous edges; below paler ashy-brown, more strongly tinged with fulvous; abdomen and vent almost pure white.

Measurements. Wing 77 to 80 mm.; tail 58 to 64 mm.; tarsus 22 mm.; culmen 11 mm.

Nestling. Above fulvous-brown, each feather edged with dark brown: below dull ashy-brown with pronounced blackish edges; abdomen, vent and under tail-coverts white, upper tail-coverts ferruginous; tail and wings in both sexes like the adult.

Distribution. Turkestan to Afghanistan and Baluchistan and the Himalayas to Sikkim and Bhutan.

Nidification. The Blue-headed Robin breeds in May and June between 8,000 and 12,000 feet and perhaps up to some 14,000 feet. The nest is cup-shaped, made of moss, mixed with twigs, leaves and roots and well-lined with hair or fur and a few feathers. It is placed in a hollow in a bank, amongst the roots of a tree, under a boulder or a fallen log but, wherever placed, is always well concealed. The eggs number three or four and in colour are a pale stone-grey or grey-buff with a ring of the finest pale reddish specks at the larger end. As a rule, the freckings are absent elsewhere, but occasionally are scattered all over the egg, giving it a reddish tinge, though the marks themselves are so fine they are hard to make out. In shape the eggs are broad ovals, somewhat pointed at the smaller end. They measure about 18·8 × 14·0 mm.

Habits. The Blue-headed Robin is far more a Robin than a Redstart in its actions and habits. It certainly does feed on the ground sometimes, but it also haunts bushes and scrub and may not seldom be found hunting about for insects in the higher branches of trees. It has a sweet but rather feeble little song in the breeding-season.

Genus **NOTODELA**.

Less., Compl. Buff., viii. p. 433 (1837).

Type, *N. albifrons* (=*diana*).

The genus *Notodela* contains one species which is widely distributed from the Simla Hills to Tenasserim. The sexes are very different, the male being blue and the female rufous, but both sexes have a large amount of white on the tail which is considerably longer than twice the tarsus.

Habits. Although this Bush-Robin, like others of the genus, frequents woods and rough country, they are not shy birds either during the breeding-season or at other times. They may be found either on the ground or on undergrowth and low trees. Like all the Robins they have a habit of flicking up their tails every now and then as they move about, often expanding it at the same time.

(551) Ianthia indica indica.

THE WHITE-BROWED BUSH-ROBIN.

Sylvia indica Vieill., Nouv. Dict. d'Hist. Nat. xi, p. 267 (1817) (India, Darjiling).
Ianthia indica: Blanf. & Oates, ii, p. 107.

Vernacular names. None recorded.

Description.—Adult male. Feathers next the nostrils and lores black; forehead and broad supercilium to the nape white; whole upper plumage slaty-blue; sides of head and neck blackish; wing-quills brown edged with golden-rufous; inner coverts slaty-blue, outer coverts edged with golden-rufous; tail black suffused with blue on the outer webs; lower plumage orange-rufous, richest on the breast, albescent on the centre of the abdomen, vent and under tail-coverts.

Colours of soft parts. Iris brown; bill black; legs pale horny-brown to light reddish brown.

Measurements. Total length about 155 mm.; wing 79 to 82 mm.; tail 64 to 72 mm.; tarsus 28 mm.; culmen 12 mm.

Female. Whole upper plumage dark olive-brown, the rump slightly fulvescent; a partially concealed white supercilium; wings and tail brown edged with olive-brown; a ring of pale fulvous feathers round the eye; sides of head and lores mixed brown and ochre; below dull rufous-ochre, paler on abdomen and vent.

Distribution. Garhwal (*Osmaston*), Nepal, Sikkim and the hills of Assam, East to the Shan States and Yunnan.

Nidification. I found this bird breeding in the Khasia Hills at and above 5,000 ft. and took the nests in April, catching the birds on the nest in both cases. These same pairs bred again in June quite close to their original nests. These latter were made of very soft grass and dead moss, the rather scanty lining being of grass and maiden-hair fern and roots. In addition to the grass one pair of birds made a foundation of leaves on which they placed the cup-shaped nest proper. Two nests were placed under stones and two amongst the roots of trees growing in a steep ravine running through pine-forest. The birds were extraordinarily tame and the male constantly displayed to the female as we watched them. He commenced by perching on a high stone or the top twig of a low bush and then dropping his wings

down to his feet and a little spread, he quivered them rapidly, at the same time expanding his tail and flicking it up with rapid little jerks. The performance lasted a couple of minutes, after which he indulged in a little restorative feeding. The female, as seems usual with all birds, treated his performance with the utmost contempt. The eggs, three or four in number, are not distinguishable from those of the Kashmir bird and measure about 17·6 × 13·3 mm.

Habits. The little I saw of these birds in the Khasia Hills proved them to possess the most confiding nature. When the nests were found nooses were set in the presence of the birds, who walked into them almost before we had time to hide, and even when released again after identification hardly seemed frightened. They kept exclusively to steep rocky ravines running through pine-forest, and though they selected ravines with bracken, bushes and other undergrowth, they kept quite as much to the open as to the cover. The only note uttered was a rather sweet little "Tuit-tuit" answered by a sharper note. The song, if one may call it so, was only a rapid repetition of this note on an ascending and descending scale. In Garhwal Osmaston found them common between 8,000 and 11,000 ft.

(552) Ianthia hyperythra.

THE RUFOUS-BELLIED BUSH-ROBIN.

Ianthia hyperythra Blyth, J. A. S. B., xvi, p. 132 (1847) (Darjiling) Blanf. & Oates, ii, p. 108.

Vernacular names. None recorded.

Description.—Adult male. Forehead and supercilium to the nape, lesser wing-coverts and upper tail-coverts bright ultramarine; ear-coverts, lores and cheeks black; sides of neck and head, upper plumage and exposed parts of wings and tail deep purplish blue; quills brown; below bright, deep chestnut; vent and under tail-coverts white; under wing-coverts pale chestnut.

Colours of soft parts. Iris dark brown or hazel-brown; bill black; legs dark brown.

Measurements. Total length about 150 mm.; wing 79 to 83 mm.; tail 54 to 56 mm.; tarsus about 25 mm.; culmen 10 mm.

Female. Whole upper plumage dark rufous olive-brown; rump and upper tail-coverts slaty-blue; tail blackish edged with deep blue; sides of head, throat and neck olive-brown; below rich ochraceous, chin and centre of throat paler and the upper breast more brown, centre of abdomen and under tail-coverts white.

Colours of soft parts. Iris brown; bill dark brown; legs dark brown.

Measurements. Wing 75 to 79 mm.; tail about 52 to 55 mm.; tarsus about 24 mm.; culmen 10 mm.

The bill is fairly stout, the rictal bristles ample. The tarsus is strong and well adapted both for perching and for ground work, though not very long.

(554) Notodela leucura.

THE WHITE-TAILED BLUE ROBIN.

Muscisylvia leucura Hodgs., P. Z. S., 1845, p. 47 (Nepal).
Notodela leucura. Blanf. & Oates, ii, p. 112.

Vernacular names. *Mangshia* (Lepcha).

Description.—Adult male. Forehead, eyebrow, and the smaller upper wing-coverts near the bend of the wing bright cobalt-blue; the whole upper plumage black suffused with blue; lores, sides of the head and neck, and lower plumage deep black, with a few of the feathers of the abdomen sometimes fringed with blue; a concealed patch of white on each side of the neck; wings black, the feathers edged with bluish; tail black, all the feathers except the middle and outermost pairs with a large patch of white on the outer web, increasing in size towards the midde of the tail; under tail-coverts fringed with white.



Fig. 14.—Head of *N. leucura*.

Colours of soft parts. Iris dark brown; bill, legs and feet black.

Measurements. Total length about 180 mm.; wing 91 to 100 mm.; tail 69 to 80 mm.; tarsus 27 to 28 mm.; culmen 15 mm. A male from Perak is very small, wing only 87 mm., smaller than any Indian, Burmese or Chinese females.

Female. The whole plumage rufescent-brown, the feathers of the wings and tail edged with bright ferruginous and a ring of this colour round the eye; on the tail the black of the male is replaced with brown; lores, chin, throat and sides of the head with pale shaft-stripes.

Measurements a little smaller than the male, wing 88 to 91 mm.

Young have the plumage reddish brown with bright shaft-streaks and rufous tips to the feathers. Tail like the adults in both sexes from the first.

Distribution. Simla (*Dodsworth*) through Nepal and Sikkim to the extreme East and South of Assam, Manipur, the hills of Burma and Malay States as far South as Perak and East to Yunnan, Annam, Shan States and Northern Siam.

Blyth's record from Mussoorie has never been confirmed.

Nidification. This Robin breeds principally in May and June, but I have taken eggs as early as April 4th and again as late as August. It is resident everywhere between 3,500 and 9,000 feet, making a nest of leaves and roots, more or less mixed with fern-leaves, grass, etc., and always with a good deal of moss on the outer part. When placed in an exposed situation it is domed, but when built, as is more usual, under a ledge of rock or stone, a fallen tree or in a hollow of tree, etc., it is merely deep cup-shaped. The eggs are three or four in number, very rarely five, and vary from a faint pinkish or clay-white to a deep salmon-clay, or pinkish café-au-lait. Some eggs appear to be quite spotless, whilst others are profusely covered with innumerable tiny freckles of a shade of colour darker than the ground. Some eggs are highly glossed, most are moderately so, but a few are glossless. The eggs cannot be separated from those of *Niltava grandis*.

One hundred eggs average 23·3 × 17·1 mm. and the extremes are: maxima **25·4** × 18·1 and 24·1 × **18·4** mm.; minima **20·1** × 17·4 and 21·4 × **15·9** mm.

Habits. The White-tailed Blue Robin is not migratory, but moves vertically according to the seasons, being found in summer between 3,500 and 9,000 feet, and in winter right down to the plains in Assam and to the foot-hills elsewhere. It is not nearly such a skulker as are most of the birds of the nearest genera, and though it feeds both on the ground and in bushes it also does so on the smaller trees, and when disturbed instead of skulking away into the undergrowth it flies up to the higher trees. It is fond of perching in the open on some twig or post, where it sits flirting its tail and, in summer, repeating its very sweet and powerful little song. It is often found in bamboo-jungle, though it prefers shady evergreen forest.

Genus *CALLENE*.

Blyth, J. A. S. B., xvi, p. 136 (1847).

Type, *C. frontalis*.

The genus *Callene* differs from *Notodela* in having a very much longer tail, of which the feathers are greatly graduated and without any white pattern. The tarsus also is much longer than in *Notodela*. It is represented in India by one species, of which very little is known.

(555) Callene frontalis.

„ THE BLUE-FRONTED CALLENE.

Cinclidium frontale Blyth, J. A. S. B., xi, p. 181 (1842) (Sikkim).
Callene frontalis. Blanf. & Oates, ii, p. 113.

Vernacular names. None recorded.

Description.—Adult male. Lores and feathers round the eye black; lesser wing-coverts, forehead and short eyebrow cobalt-blue; wing-quills and tail dark brown; remainder of plumage deep slaty blue, suffused with deep blue, fading to brown on the abdomen and posterior flanks and to whitish in the centre of abdomen and under tail-coverts; the feathers of the breast have pale blue edges.

Colours of soft parts. Iris brown: bill black; legs dark brown.

Measurements. Total length about 200 mm.; wing 83 to 91 mm.; tail 75 to 80 mm.; tarsus 37 to 38 mm.; culmen 14 to 15 mm.

Female. Whole plumage rufous-brown; the feathers of the chin and throat with white centres and a few black tips; a pale ring round the eye; centre of abdomen paler, vent and thigh-coverts almost or quite white.

Colours of soft parts. Iris brown; bill black; legs brown.

Measurements. Wing 81 to 82 mm.; tail 78 mm.; culmen 13 mm.

Young male is like the female, but acquires the dark throat, lores and cheeks and the blue forehead at the first moult.

Nestling. Dark rufous-brown, striped above with fulvous and with large white spots on breast, flanks and abdomen.

Distribution. Sikkim only, apparently between 6,000 and 10,000 feet.

Nidification and **Habits.** A forest-bird, but beyond this nothing is known.

Genus SAXICOLOIDES.

Saxicoloides Lesson, 1831.

Type, *S. cambaiensis* Lath.

The genus *Saxicoloides* contains but one species which, divided into two very well-marked geographical races, extends over the whole of India, South of the Himalayas and Ceylon.

Oates points out that this genus is somewhat aberrant from the true *Turdidæ* in that the tarsi are scutellated, a character found in no other form except the Accentors. The Accentors are themselves, however, very closely connected with the Thrushes in many ways, and the genus *Saxicoloides*, which is in all other respects a Robin, and nothing but a Robin, seems to form a connecting-link. It is this connecting-link, indeed, which induces me to keep the Accentors, *Prunellinæ*, a subfamily of the family *Turdidæ*.

The bill in *Saxicoloides* is slender and curved downwards and the rictal bristles are very small; the tarsus is well developed and Thrush-like in shape, but is scutellated; the wings are long and pointed.

Our Indian birds are resident wherever found, though they may move vertically with the seasons in the higher hills.

The generic name *Thamnobia*, by which these little Chats have been hitherto known in India, was unfortunately not published by Swainson until Feb. 1832, whilst *Saxicoloides* was published by Lesson before September 1831. The latter name therefore has priority and must be used.

Saxicoloides fulicata.

Key to Subspecies.

A. With white on wing-coverts.	
a. Upper plumage black or slaty-black.	*S. f. fulicata*, ♂, p. 109.
b. Upper plumage brown	*S. f. cambaiensis*, ♂, p. 111.
B. No white on wing-coverts.	
c. Darker and more brown above	*S. f. fulicata*, ♀, p. 109.
d. Paler and more grey above	*S. f. cambaiensis*, ♀, p. 111.

(556) Saxicoloides fulicata fulicata.

THE BLACK-BACKED INDIAN ROBIN.

Motacilla fulicata Linn., Syst. Nat. i, p. 336 (1766) (Philippines *in errore*. Ceylon).
Thamnobia fulicata. Blanf. & Oates, ii, p. 115.

Vernacular names. *Kalchuri* (Hind.); *Nalanchi* (Tel.); *Wannati-kuravi* (Tam.).



Fig. 15.—Head of *S. f. fulicata*.

Description.—Adult male in Winter. Lesser wing-coverts white; centre of abdomen and under tail-coverts deep chestnut; wing-quills brownish: remainder of plumage glossy black with a blue sheen.

After the moult the glossy edges to the feathers become abraded and the feathers themselves bleached so that by spring, or even earlier, the upper parts become a chocolate-brown.

Colours of soft parts. Iris brown to blackish brown; legs and feet black.

Measurements. Total length about 160 mm.; wing 70 to 80 mm.; tail 63 to 67 mm.; tarsus about 28 mm culmen 12 to 14 mm.

Female. Lores, forehead, chin and ear-coverts rufous-ashy; the latter with paler shafts; above dark brown, very slightly rufescent, the tail almost black; lower plumage ashy-brown; the centre of the abdomen, vent and under tail-coverts deep chestnut.

which is one of our best-known birds over the widest of ranges, known to all Europeans as the Dayal or Magpie-Robin.

The tarsus is stout and non-scutellated; the bill stout and straight and equal to rather more than half the head in length; the rictal bristles are well developed; the tail is almost equal in length to the wing, a feature which distinguishes it from all other genera in this subfamily.

The sexes have the same pattern in colour, but the black of the male is replaced by greys and browns in the females.

Copsychus saularis.

As might be expected in a species which extends from Ceylon and the extreme North-West of India to China and the Malay Islands, there are several geographical races all recognized as different by the older naturalists and named and later on suppressed when they were found not to constitute good species. Now, however, we realize what subspecies are, once they are more recognized.

It is curious that the females vary far more than do the males and it is principally through them that the forms are most easily recognizable.

Key to Subspecies.

A. Plumage all black and white.
- *a.* Three outer pairs of tail-feathers white, fourth pair almost or entirely so; culmen about 18 mm. — *C. s. saularis*, ♂, p. 113.
- *b.* Third pair of tail-feathers much marked with black, fourth pair almost or wholly black; culmen 19 to 20 mm. ..... — *C. s. musicus*, ♂, p. 114.
- *c.* Third pair of tail-feathers white, fourth pair heavily marked with black; culmen 16 to 17 mm. .. — *C. s. ceylonensis*, ♂, p. 115.
- *d.* Third pair of tail-feathers marked with black and fourth pair heavily marked; culmen 18 mm. ..... — *C. s. andamanensis*, ♂, p. 116.

B. Plumage grey, or brown, and white.
- *e.* Abdomen almost pure white.
  - *a'.* Four outer pairs of tail-feathers white or nearly so; culmen about 18 mm. ..... — *C. s. saularis*, ♀, p. 113.
  - *b'.* Third pair of tail-feathers marked with black, fourth pair almost or wholly black; culmen 19 to 20 mm. ..... — *C. s. musicus*, ♀, p. 114.
  - *c'.* Third pair lightly, fourth pair of tail-feathers heavily marked with black; culmen 16 to 17 mm. ..... — *C. s. ceylonensis*, ♀, p. 115.
- *f.* Abdomen heavily marked with rusty; culmen 18 mm. ..... — *C. s. andamanensis*, ♀, p. 116.

Size, except as regards the bill, does not help in any way to separate the species, as when large enough series are obtained the averages are much the same. Chinese and Ceylon birds average rather larger: Assam, Burmese and Hainan birds a little smaller.

(558) Copsychus saularis saularis.

THE INDIAN MAGPIE-ROBIN.

Gracula saularis Linn., Syst. Nat., i, p. 165 (1766) (Bengal).
Copsychus saularis. Blanf. & Oates, ii, p. 116.

Vernacular names. *Dayar* or *Dayal* (Hind. & Beng.); *Whil-Dayal* (E. Bengal); *Pedda nalauchi*, *Sarela-gadu* (Tel.); *Zannid-pho* (Lepcha); *Thapate-lway* (Burm.); *Uchinao* (Manipur); *Dao-gophu-gaschia* (Cachari).

Description.—Adult male. Lesser, median and outer greater wing-coverts and edges to the middle secondaries white; the abdomen and under tail-coverts white; outer four pairs of tail-feathers white, the fourth pair, from outside, sometimes having a



Fig. 16.—Head of *C. s. saularis*.

certain amount of black edging to the base; rest of plumage glossy blue-black.

Colours of soft parts. Iris bright hazel to deep brown; bill black; legs and feet dark horn-brown to plumbeous black.

Measurements. Total length about 230 mm.; wing 93 to 106 mm.; tail 80 to 102 mm.; tarsus 29 to 30 mm.; culmen 17 (rarely) to 18 mm.

Female. White parts as in the male; upper parts ashy-brown, darker on the rump and upper tail-coverts which are almost black; lores and cheeks mottled grey and white; sides of head, neck, chin, throat and breast grey.

Colours of soft parts. Iris brown; bill horny-black; legs and feet horny-plumbeous.

Measurements, only a mere trifle smaller than the male.

Nestling. White as in the adult; upper parts dark brown; below, the throat and breast are fulvous-brown, the feathers edged with blackish and with pale centres.

Distribution. The whole of India except extreme South-West Travancore, Burma to South Tenasserim, Shan States, Yunnan and China.

The Yunnan and Chinese birds, in addition to averaging rather larger, have the females decidedly paler on the upper plumage and breasts and these may have eventually to be separated.

Nidification. The Indian Magpie-Robin breeds from the Plains up to about 6,000 feet through April, May and June, and sometimes in July and August. It prefers the vicinity of human habitations when selecting a site for its nest, often building under the eaves of houses, holes in walls, on the rafters of stables and outhouses, etc. At other times it places its nest in holes in trees and banks, and occasionally builds a nest in bushes or on tree-stumps. I have seen one nest in a Cactus hedge, two or three in the first forks of trees like Mango trees and Banians, and frequently inside clumps of bamboos. The nest itself is made of grass, roots, leaves, dead moss and twigs, lined with grass and roots; outwardly it is shapeless, filling up the hole in which it is placed. It may be bulky or it may be of the flimsiest character, just a mere pad, but it is always very roughly and loosely put together.

The eggs are rather handsome, the ground-colour some shade of blue-green, whilst the markings consist of numerous blotches of different shades of reddish brown with a few underlying of neutral tint. In shape they are broad ovals.

One hundred eggs average 21·9 × 17·1 mm.: maxima **25·0 × 18·5** mm.; minima **18·1 × 15·3** mm.

Habits. The Magpie-Robin is one of the most familiar birds all over India; every garden, every cluster of village-huts and every patch of cultivation has its pair. Daily it will be seen hunting about for insects undisturbed by the presence of man, now singing its beautiful song perched on the top of a post in a fence, anon flitting from one to another, sitting for a few minutes on each whilst it expands its tail into a fan and jerks it up until it nearly meets its head. Then perhaps it will fly to a branch in a tree, high up, and again burst into song. It is one of our best songsters and sings almost through the entire year and morning, noon or evening are greeted alike.

(559) Copsychus saularis musicus.

THE MALAY MAGPIE-ROBIN.

Lanius musicus Raffles, Trans. Lin. Soc., xii, p. 147 (1820) (Sumatra).

Vernacular names. *Thapate-lway* (Burm.).

Description.—Adult male. Differs from the Indian form in having the outer tail-feathers broadly marked with black and the fourth pair wholly black; the under wing-coverts wholly or largely black. Both male and female frequently have the posterior abdomen much infuscated.

Colours of soft parts as in the Indian Magpie-Robin.

Measurements. Wing 93 to 104 mm.; tail 85 to 92 mm.; culmen 19 to 20 mm.

Distribution. The extreme South of Peninsular Burma, South of Siam, Malay Peninsula to Java, Sumatra and Borneo.

The Tenasserim bird is, as might be expected, somewhat intermediate but many specimens from the extreme South seem nearer to the Sumatran than to the Indian form, so it seems necessary to accept this former race as occurring within the limits of this work.

Nidification. Similar to that of the Indian bird. A series of eggs collected by Messrs. W. J. C. Williamson and E. G. Herbert are not distinguishable from those of that bird. Fifty average 22·5 × 16·7 mm. and the extremes are **29·1 × 18·1**, 23·0 × **18·3** mm. and **19·5 × 15·9** mm.

Two clutches taken by Mr. E. G. Herbert are a brilliant pale blue in colour with sparse and tiny specks of dark brown.

They breed in April, May and June in Siam and the Malay Peninsula, but in Borneo Mr. J. C. Moulton took eggs in the middle of March.

Habits. These differ in no way from those of the other subspecies. According to Davison this race does not ascend the hills to any height, and it is also more essentially a ground-bird than is the Indian form.

(560) Copsychus saularis ceylonensis.

THE CEYLON MAGPIE-ROBIN.

Copsychus ceylonensis Sclater, P. Z. S., 1861, p. 186 (Ceylon).

Vernacular names. *Pedda-nalanchi*, *Sarela-gadu* (Tel.).

Description.—Adult male. Only differs from the male of *C. s. saularis* in having much more black on the third and fourth outer pairs of tail-feathers and in having a shorter, more slender bill.

Colours of soft parts as in the Indian Magpie-Robin.

Measurements. Wing 97 to 105 mm.; tail 83 to 86 mm.; tarsus about 29 mm.; culmen 16 to 17 mm.

Female is much darker above and below than Indian or Burmese birds and has the black and white patterns on the tail-feathers the same as in the male.

Distribution. Ceylon and possibly the extreme South of Travancore.

Nidification. Similar to that of the other races, but this bird never lays more than four eggs and generally three only. They are indistinguishable from those of *C. s. saularis* but average bigger. Fifty eggs taken by Messrs. W. E. Wait and W. A. Phillips average 23·1 × 17·3 mm., with extremes of: maxima **25·4 × 16·3** mm. and 24·2 × **18·0** mm.; minima **20·1 × 17·1** and 21·4 × **16·0** mm.

Habits similar to those of the other races.

Colours of soft parts. Iris hazel to dark brown; bill dark horny-brown; legs tan-brown to blackish brown.

Measurements. Wing 68 to 72 mm.

Nestling like the female but with the upper parts obsoletely barred with darker and the lower surface paler, more fulvous and less ashy, and with each feather edged with dark brown.

Distribution. Ceylon. South India to Ahmadnagar on the West and the Godaveri on the East, and grading into the next at these points.

Nidification. This little Robin breeds in Ceylon practically throughout the year, probably often having two broods. In Southern India it breeds principally in April, May and June but very often both earlier and later and General Betham took its eggs at Poona as early as March the 7th and as late as July the 21st. The nest may be placed in practically any kind of hole provided it is not too high from the ground. In the open and more barren country a hole under a stone on the ground will suffice, or the bird will use a hole in a bank, railway-cutting or tree. More often, however, this Robin breeds round towns and villages and then finds sites to its liking in mud and stone walls, the eaves of low houses and similar places. It has little or no fear of man during the breeding-season, often building its nest in walls or roofs of inhabited houses but it is said to shun actual observation whilst entering it and to desert it at once if it is handled. The nest is cup-shaped internally but externally generally fills the hollow in which it is built. The eggs number two or three only. In ground-colour they are white or are just tinged with yellow, cream or pink, less rarely with green. Over the whole surface there are spots, specks and small blotches of reddish brown and yellowish brown, sometimes more numerous at the larger end where they occasionally form a rough ring or cup. In shape they are round ovals and sixty eggs average 20·7 × 14·8 mm. The extremes are: maxima **23·0** × 15·2 and 21·3 × **15·9** mm.; minima **18·5** × 14·5 and 20·6 × **14·0** mm.

Habits. This little Robin is one of the most familiar of birds in Ceylon and Southern India, much as is the Robin in England. It is found more in the drier areas than those where there is heavy wet forest, but wherever there are villages and towns and some open country it puts in an appearance. It ascends the hills to 6,000 feet at least, possibly a good deal higher in the Nilgiris and some of the adjoining hills and it is equally common in all suitable localities in the plains. It feeds much on the ground, hunting the grass or freshly turned soil for insects just like the Robin does but it also searches the leaves and branches of bushes and lower trees as well. It has a few cheerful little notes in the breeding-season which it fully believes to be a song and which it utters from the top of a bush, wall or stump.

(557) Saxicoloides fulicata cambaiensis.

THE BROWN-BACKED INDIAN ROBIN.

Salvia cambaiensis Lath., Ind. Orn., ii, p. 554 (1790) (Guzerat).
Thamnobia cambaiensis. Blanf. & Oates, ii, p. 114.

Vernacular names. *Kalchuri* (Hind.).

Description.—Adult male. Differs from the Black-backed Indian Robin in never acquiring the black back at the autumn moult. After this the upper parts become a dark sandy-brown or in some cases an almost rufescent-brown. In spring and summer abrasion of the lighter edges makes the general tint *darker* instead of *paler* as in *T. f. fulicata.*

When freshly moulted the black underparts are more or less fringed with paler, which soon wears off.

Colours of soft parts as in the last bird.

Measurements. Wing 69 to 78 mm.; tail 66 to 72 mm.; tarsus about 27 mm.; culmen about 12 to 14 mm.

Female. Similar to the female of the Black-backed Robin, but much paler and often very grey in general tint.

Measurements. Wing 70 to 75 mm.

Nestling like that of the Black-backed Robin but paler above and below. Above the bars are obsolete and below very faint.

Distribution. The whole of Northern India from Sind and the Punjab to the drier, less wooded portions of Eastern Bengal, Midnapore, Chota Nagpur, Western Behar; South to the Godaveri on the East and Ahmadnagar on the West.

Nidification. This differs in no way from that of the last bird. It is equally confiding and fearless of man, but is also equally cautious in its movements and equally ready to desert nests and eggs. It selects similar sites to those beloved of the Southern form and builds a similar nest of grass and roots, lined with hair, grass, fur, or anything suitable, often a piece of cast snakeskin. It, however, lays more eggs, generally three or four, Oates says six, which are not distinguishable from those of *T. f. fulicata.*

Forty eggs average 22·5 × 15·1 mm.: maxima **23·0** × **15·7** mm.; minima **20·4** × **14·8** mm.

The principal breeding-months seem to be April, May and June.

Habits. Just the same as those of the preceding bird. It ascends the outer ranges of the Himalayas up to some 5,000 feet and is found all over the plains.

Genus COPSYCHUS.

Wagler, Syst. Av. Note to Art. *Gracula* (1827).

Type, *C. saularis.*

The genus *Copsychus* contains in India a single species of Robin

(561) Copsychus saularis andamanensis.

THE ANDAMAN MAGPIE-ROBIN.

Copsychus andamanensis Hume, Str. Feath., ii, p. 231 (1874) (Andamans).

Vernacular names. None recorded.

Description.—Adult male. In this race the third pair of tail-feathers have a great deal of black on them, sometimes only the tips of these feathers are white and the fourth pair also have a considerable amount; the *under* wing-coverts are mottled dusky white and the underparts are much sullied with dull rufous.

Colours of soft parts as in the Indian bird.

Measurements. Wing 96 to 102 mm.; tail 87 to 91 mm.; tarsus 29 mm.; culmen about 18 mm.

Female. The abdomen and vent strongly suffused with dull rufous-brown and the upper plumage and breast darker than in *C. saularis saularis*. As Hume points out, this bird is nearer *C. saularis musicus* than it is to the Indian race but it is not as dark as the former bird and has the small bill of the latter.

Distribution. Andamans only.

Nidification. Breeds in the Andamans in April and May. Nothing has been recorded so far about either nest or eggs.

Habits. A very familiar bird in the Andamans as everywhere else and at Ross Island, the headquarters of the Islands, Davison says it shares with the Myna and the Crow the privilege of being the most common bird. It is said also to haunt open forests, the banks of streams and semi-cultivated tracts. It is a fine singer.

Genus KITTACINCLA.

Gould, P. Z. S., 1836, p. 7.

Type, *K. tricolor* Vieill.

The genus *Kittacincla* contains the Shamas, of which one species is found in India, represented by several races in various areas.

The names under which these races have hitherto been known have been very much confused. Sharpe ignored the name *macroura* altogether in the British Museum Catalogue though there can be no contention about the *Turdus macrourus* var. β of Gmelin (Syst. Nat., i, p. 820, 1788: Pulo Condore) being the first and proper name for the Shama. *Turdus tricolor* of Vieillot (Ois. d'Afrique, iii, pl. 114, 1802: ? Islands of the South Sea) is also beyond doubt a true Shama, and Sundevall (Krit. Framst. Levaill., p. 37) says: "This is *Turdus macrourus* ex Java and Malacca."

Turdus macrourus tricolor is therefore the name for the Javan bird, and Hartert's *omissa* (Nov. Zool., ix, p. 572, 1902: Java) becomes a synonym.

Gryllivora longicauda of Swainson is a synonym of *tricolor*.

Kittacincla macroura suavis (Sclater, P. Z. S., 1861, p. 186: Borneo) is the name which must be used for the Bornean race, to which the Sumatran race is closely allied.

This leaves no name available for the Indian bird, and I have therefore now named it *indica*.

The genus *Kittacincla* differs from *Copsychus* in having a long, more strongly graduated tail which considerably exceeds the wing in length. It appears to be the forest-representative of the civilization-loving Magpie-Robin.

Key to Subspecies.

A. Abdomen chestnut or chestnut-rufous.	
a. Upper plumage glossy black	*K. m. macroura*, ♂, p. 117.
b. Upper plumage dark grey-brown.	*K. m. indica*, ♂, p. 118.
a'. Darker both above and below ..	*K. m. macroura*, ♀, p. 117.
b'. Paler both above and below	*K. m. indica*, ♀, p. 118.
B. Abdomen nearly all white	*K. m. albiventris*, p. 119.

(562) Kittacincla macroura macroura.

THE MALAY SHAMA.

Turdus macrourus Gmel., Syst. Nat., i, p. 820 (1789) (Pulo Condore).

Cittocincla macrura. Blanf. & Oates, ii, p. 118 (part.).

Vernacular names. *Tai-tha-laik-Swe* (Burm.).

Description.—Adult male. Whole head, neck, breast, back and wings glossy blue-black; rump and upper tail-coverts white; tail, four central feathers black, the others diagonally black at the base and white on the terminal halves; inner webs of wing-quills and greater coverts dull blackish brown; abdomen, flanks, vent and under tail-coverts rich chestnut; thighs white or mixed chestnut and white.

Colours of soft parts. Iris dark brown; bill black; legs pale fleshy-white to fleshy-horny; claws a little darker.

Measurements. Wing ♂ 90 to 97 mm.; ♀ 85 to 89 mm.; tail ♂ 140 to 180 mm., ♀ 97 to 108 mm.; tarsus 25 to 27 mm.; culmen 16 mm.

Female. The black in the male is replaced by slaty-brown, rather more ashy on the throat and sides of the neck; the underparts are paler and duller, more rufous less bright chestnut.

Two females collected by Mr. E. G. Herbert at Tung Sung Pah and Klong Wah.p, Siam, have curiously pale underparts with the belly almost albescent.

Young male. Head brown, flecked with rufous; back black; rump and tail as in adult; below deep chestnut, the black showing through in patches on chin, throat and breast.

Nestling. Above dark brown with fulvous stripes and dark tips. low rich rufous, each feather barred with blackish brown, more ɔfusely on breast and flanks than on abdomen.

Distribution. Malay Peninsula, South Siam, Cochin China, Pulo ndore, Hainan. (I cannot separate *K. m. minor* and the measure- ents of specimens in the British Museum are no smaller than my from Bengal and Burma.)

Birds from Southern Tenasserim are undoubtedly nearer to is form than to the Indian bird.

Nidification. The Malayan Shama breeds in March, April and ay, placing its nest in holes in trees or in bamboo clumps. It is ways very roughly built of twigs, leaves and grass, lined with grass, d fits into the hollow in which it is built. The eggs number three four, and are very like those of the Dayal but usually much more ensely spotted and therefore more brown in general tint. The w eggs in the British Museum average about 22·6 × 17·4 mm.

Habits. This bird may be said to be the jungle representative the Dayal and is an even finer songster though not so constant singer. It is a bird of the plains and foot-hills not ascending uch above 1,500 or 2,000 feet and keeps to jungle, preferring amboo-jungle or secondary growth to evergreen forest though it found throughout the latter. It feeds both on the ground, n low bushes and on trees but, perhaps, principally on the first nd in its diet is exclusively insectivorous. Davison remarks on a abit all the races of this bird seem to have in common, a curious napping of the wings together above the body as the bird flies cross from one patch of jungle to another; it is made at all times f the day, but only, I think, in the breeding-season.

(563) **Kittacincla macroura indica,** nom. nov.

THE INDIAN SHAMA.

Cittocincla macrura. Blanf. & Oates, ii, p. 118 (part.).

Vernacular names. *Poda nalanchi*; *Tonka nalanchi* (Tel.): *Shama* (Hind. and Beng.); *Shama-sorai* (Assam); *Daobulip-rajah* (Cachari); *Tai-tha-laik-swe* (Burm.).

Description.—Adult male. Differs from the Malayan Shama only in being generally a richer chestnut below and often in having rather more black on the lateral tail-feathers.

Colours of soft parts as in *K. m. macroura*.

Measurements. Much the same for ♂ and ♀ as in *K. m. macroura*.

Female. Similar to the female of *K. m. macroura* but paler both above and below; the upper parts are more brown or less slaty.

Nestling and young male as in the Malayan Shama.

Distribution. Ceylon, practically the whole of India and Burma as far South as the North of Tenasserim: Siam, Yunnan and N. Cochin China.

The type of this race is in the British Museum, No. 86.10.1.829. Bhutan Duars, Dec. 1876, ♂.

Birds from N.W. China have the females rather pale but are hardly divisible from the Indian and Burma birds.

Nidification. Similar to that of the last bird but in the Assam Hills Dr. Coltart and I often found its nest built well inside bamboo-clumps among the rubbish which always collects there in masses. In these instances the nest was always flimsiest, just a little pad of grass on the dead bamboo-leaves and protected from above by the rubbish collected on the numerous twigs jutting over it. Occasionally the nest in these hills is made of moss but generally of dead leaves, bamboo and others, lined always with grass. The eggs number four or five and are just like those of the last bird. In shape they are not quite such broad ovals as those of the "Dayal" nor are they quite so highly glossed. Fifty-five eggs average 22·3 × 17·2 mm. and the extremes are: maxima **24·1** × 17·1 and 22·0 × **18·0** mm.; minima **20·2** × **16·7** mm.

Habits. This charming bird is an inhabitant of jungles and forests wherever there is broken ground or low hills up to some 2,000 feet and also the plains in their immediate vicinity. It is very partial to bamboo or mixed bamboo and tree forest, but may be found in almost any forest which is not too dense or which borders streams and open glades. Like the last bird it is a beautiful songster, with a fuller, more varied series of notes than the Magpie-Robin but it confines its singing almost entirely to the mornings and evenings. It is a very late bird and may sometimes be heard singing its loudest and sweetest as the rapid dusk of the tropical evenings fades into night. I have seen this Shama at heights over 4,000 feet but it is most common in Assam between the foot-hills and 2,500 feet.

(564) **Kittacincla macroura albiventris.**

THE ANDAMAN SHAMA.

Kittacincla albicentris Blyth, J. A. S. B., xxvii, p. 269 (1859) (Andamans).
Cittocincla albiventris. Blanf. & Oates, ii, p. 120.

Vernacular names. None recorded.

Description.—Adult male. Differs from *M. m. macroura* in having the abdomen white; the under tail-coverts and extreme posterior flanks are chestnut, this colour in a few instances encroaching on the abdomen.

Colours of soft parts. Iris brown; bill black; legs and feet fleshy.

Measurements. Total length about 230 mm.; wing 90 to 94 mm.; tail 108 to 113 mm.; tarsus 27 to 28 mm.; culmen 16 to 17 mm.

Female similar to the male but the throat and breast are less glossy.

Measurements. Wing 85 to 89 mm.; tail 91 to 105 mm.

Nestling. Dark brown above spotted with fulvous, below rich rusty, the feathers with broad black edges; belly albescent, under tail-coverts ferruginous.

Distribution. Andamans only.

Nidification. Not recorded.

Habits. The same as those of the other races.

Subfamily TURDINÆ.

The *Turdinæ* comprise the true Thrushes. These differ principally from the previous subfamilies in their larger size, in often being gregarious in the winter and in being both insectivorous and frugivorous in their diet, berries forming a considerable portion of their food.

The Thrushes are mostly migratory and a few only are resident whilst, even in these instances, they move vertically with the seasons and generally cover a very wide extent of country. The majority of them undergo a seasonal change of plumage owing to the abrasion of the edges of their feathers but these changes are never very striking and frequently hardly appreciable.

The Thrushes feed a great deal on the ground and their long tarsi enable them to hop with great speed and facility.

In structure and often in superficial resemblance many of the *Turdinæ* resemble one another very closely and it is difficult to divide them into genera. I adhere to Oates' plan of reference to the types of coloration in making the generic divisions, especially to the colour of the under wing-coverts and axillaries.

Since Oates wrote the first edition of the Passerine birds it has been proved that the genera *Myiophoneus* and *Arrenga* are typical Thrushes in every way, the nestling being brown bird spotted and squamated in a completely Thrush-like manner.

The genus *Monticola* is the one in this group or subfamily of birds which comes nearest to the last subfamily and some of the members of it, such as *Monticola rufogrisea*, are extraordinarily like some of the Redstarts, even in size, but in India we have no species in which the resemblances are so great.

Many of the genera run into one another very closely and the natural sequence of these would seem to be *Turdus*, *Arceuthornis*, *Geocichla*, *Oreocincla*, and *Zoothera*.

The other genera are all well distinguished from one another and from those already mentioned.

The genus *Irena*, which is in many ways rather like a Thrush, I have thought better to place in a family by itself as suggested by Oberholser (*Journ. Wash. Acad. Sc.*, vii, No. 17, October 1917).

Key to Genera.

A. Bill narrow, breadth at forehead not more than half the length of culmen; rictal bristles well developed.
  a. Sexes not alike.
    a'. Axillaries and under wing-coverts in both sexes uniformly of one colour or very nearly so; plumage never blue nor chestnut combined with black and blue ..... TURDUS, p. 121.
    b'. Axillaries and under wing-coverts in both sexes of two strongly contrasting colours; arrangement of colours in axillaries reversed in under wing-coverts ..... GEOCICHLA, p. 144.
    c'. Axillaries and under wing-coverts in males of one colour, in females more or less barred with two colours; plumage largely blue or bluish..... MONTICOLA, p. 169.
  b. Sexes alike in coloration.
    d'. Axillaries and under wing-coverts entirely of one colour.
      a''. Plumage in no case with any blue.. ARCEUTHORNIS, p. 153.
      b''. Plumage practically wholly blue-black.
        a³. Second primary as long as, or longer than, the longest secondaries ..... MYIOPHONEUS, p. 178.
        b³. Second primary *much* shorter than longest secondaries ..... ARRENGA, p. 182.
    e'. Axillaries and under wing-coverts of two colours; arrangement of colours in axillaries reversed in under wing-coverts.
      c''. Lower plumage barred or spotted; rictal bristles few and lateral .... OREOCINCLA, p. 157.
      d''. Lower plumage squamated; rictal bristles numerous and anterior ones projecting over nostrils ..... ZOOTHERA, p. 166.

B. Bill broad, breadth at forehead more than half length of culmen; rictal bristles obsolete ..... COCHOA, p. 183.

Genus **TURDUS.**

Linn., Syst. Nat., 10th ed., p. 168 (1758).

Type, *Turdus merula* Selby, 1835.
Type-locality: Sweden.

The name *Merula* which has been used for the Thrushes and Blackbirds is pre-occupied and therefore cannot be used, but even if it were not Linnæus' name of *Turdus* would have priority. Linnæus included a number of birds in the genus but the type was designated by Selby in 1835 as *Turdus merula*.

c^3. Breast and sides of abdomen chestnut-brown	*T. obscurus*, p. 141.
d^3. Breast and abdomen slaty-grey	*T. fœæ*, p. 143.
c^4. Under wing-coverts and axillaries pearl grey	*T. pallidus*, p. 135.

Turdus merula.

Linn., Syst. Nat., 10th ed., p. 170 (1758).

Type-locality: Europe, restricted to Sweden.

Key to Subspecies.

A. Legs and feet dark brown	*T. m. maximus*, p. 123.
B. Legs and feet yellow or orange-yellow.	
a. No collar on hind neck.	
a'. Head rather blacker than back	*T. m. simillimus*, p. 125.
b'. Head same colour as back.	
a''. Feathers of upper parts with broad blue-grey margins	*T. m. kinnisii*, p. 126.
b''. Feathers of upper parts without any pale margins.....	*T. m. bourdilloni*, p. 127.
b. A distinct grey-brown collar on hind neck.....	*T. m. nigropileus*, p. 128.
c. A bold, white collar on hind neck	*T. m. albocinctus*, p. 129.

It seems necessary to treat all these forms as merely races of our European Blackbird, *Turdus merula merula*; it is true that if the all black *T. merula merula* is compared with the white-necked *T. m. albocinctus* the contrast is startling but the difference is bridged over by *simillimus* with its darker head but no collar and *nigropileus* with its distinct, grey collar. In no cases do the breeding ranges of any two of these birds overlap, although the habitats of the two extreme forms *maximus* and *albocinctus* approach nearest together.

It would appear as if at some time there had been a migration movement of the Blackbird Southward, certain birds having become sedentary and acquired local differences; then at some later period there had again been a migratory movement, this time Northward, resulting in another sedentary bird with a white collar.

(565) Turdus merula maximus.

THE CENTRAL ASIAN BLACKBIRD.

Merula maxima Seebohm, Cat. B. M., v, p. 405 (1881) (Kashmir, restricted to Gulmerg, Jerdon, Ibis, 1872, p. 137); Blanf. & Oates, ii, p. 123.

Vernacular names. None recorded.

Description.—Adult male. All black, in fresh plumage deep and glossy but rather brownish in old bleached plumage, especially below.

Colours of soft parts. "Iris dark brown; bill dull yellow, tip and narial region dusky; legs and feet very dark brown" (*C. H. T. Whitehead*).

Measurements. Total length about 280 mm.; wing 150 to 157 mm.; tail 107 to 120 mm.; tarsus 38 mm.; culmen 20 mm. Hartert gives the wing as up to 160 mm. in the male.

Female. Dark brown, the feathers of the upper part tinged with slaty but not distinctly greyish as in some races; the throat is concolorous with the breast in the fully adult bird.

Colours of soft parts and **Measurements** similar to male but the bill is much duller.

Nestling. Dark brown, the mantle streaked and the lower back, rump and upper tail-coverts barred with fulvous; centre of chin and throat mottled rufous and black; breast, head and sides of neck blackish; lower breast, abdomen and flanks barred rufous, fulvous and dark brown.

Distribution. The only Indian birds in the British Museum are the type, a young male, and another bird from Kashmir: the series obtained by Captain C. H. T. Whitehead on the N.E. Frontier, two specimens obtained by the Mount Everest Expedition and one from Bhutan. It is also found in North and North-West Kashmir, whence it extends into the highest ranges of Garhwal, and Mr. S. L. Whymper found it in the Niti Valley in Kumaon.

Nidification. Mr. Whymper first found this bird breeding in some numbers on the Garhwal Hills at an elevation between 13,000 and 14,000 feet in the Nila Valley. Col. Buchanan took its nest in Kashmir at Apharwat, over 14,000 feet and just under the snow line, and finally Capt. C. H. T. Whitehead found several nests in the Kohat and Kurram country at 11,000 feet upwards. The nest is described as a bulky cup of moss and grass, lined with mud and with an inner lining of grass. It is sometimes placed in a tree such as an ilex or cyprus, sometimes on a bank or ledge of rock or in a hole in a cliff. The eggs number three or four and are just like large specimens of the English Blackbird's. They measure 31·2–34·5 × 24·2–22·1 mm. The breeding-season seems to be June and July but some birds are very early breeders for Whymper saw young birds from which he calculated the eggs must have been laid by the 5th of May, when the whole valley was deep in snow and quite inaccessible. The male bird sometimes breeds in immature plumage.

Habits. The Central Asian Blackbird should, perhaps, more properly be called the Himalayan Blackbird, for its range outside these mountains is not known with any certainty. It is doubtful if it is migratory in the true sense of the word, probably only changing its elevation with the seasons and never descending far into the plains or low hills. In Summer it is found up to 17,000 feet, well above the snow line, and it is said to be a wild, wary bird, generally going about singly or in pairs, less often in small parties of three or four. Its flight is similar to that of other Blackbirds but very powerful and swift. Whitehead, who found it fairly common near Hazara above 12,000 feet, says he never heard it utter the wild alarm note of the English Blackbird but only the "low chuckle characteristic of the genus." He adds that it was "usually found feeding on small white caterpillars, which were very common on the grassy slopes, or amongst rocks and sometimes in Juniper scrub."

(566) Turdus merula simillimus.

THE NILGIRI BLACKBIRD.

Turdus simillimus Jerdon, Madr. J. L. S., x, p. 258 (1839) (Nilgiris).
Merula simillima. Blanf. & Oates, ii, p. 124.

Vernacular names. None recorded.

Description.—Adult male. Forehead, crown and nape black; whole upper plumage and exposed wings and tail dark ashy brown; the lower plumage, axillaries and under wing-coverts dark brown, the feathers obsoletely edged paler.

Colours of soft parts. Iris brown; bill yellow to reddish orange; legs orange-yellow.

Measurements. Total length about 260 mm.; wing 122 to 134 mm; tail 88 to 99 mm.; tarsus about 35 mm; culmen about 24 mm.

Female. Above dark ashy brown, below brownish grey, the chin and throat paler and streaked with dark brown; in some specimens there are obsolete pale shaft-stripes on the feathers of the breast and abdomen.

Colours of soft parts as in male but the bill paler and duller.

Measurements. Wing 118 to 130 mm.

Nestling. Dark brown above, the feathers of the mantle with pale centres and shafts, below fulvous, the feathers with pale centres and dark edges; the squamations boldest on breast, flanks, and sides of neck, wing-coverts streaked and tipped with fulvous.

Distribution. The higher ranges of the Nilgiris, Brahmagiris and Palni Hills in South India.

Nidification. The Nilgiri Blackbird breeds from March right on to August, during which months Captain Packard found both incompleted nests and nests with eggs. The nests are massive but well-built cups made of moss, roots, grass and leaves, more or less plastered together with mud and with a neat lining of grass. They are placed as a rule in small trees from 5 to 20 feet from the ground, standing in the "sholas" and more open country, on the edges of nullahs and ravines or, more rarely, inside the

cheeks, throat, etc. very red. This pigment, as Grant has shown (Ibis, 1896), is removable with a piece of damp blotting-paper.

Distribution. South-West India from South Travancore to the Palni Hills.

Nidification. Bourdillon says that the breeding-season of this Thrush is from April to June, during which months it nests in the higher hills above 3,500 feet in Travancore and as low down as 3,000 feet in the Palni Hills. The nest is a very massive, deep cup of moss and moss roots lined with mud and sometimes with much mud in the body of the nest. The inner lining is of fine grass and fine roots. In size it is anything from 5 to 8 inches externally both in diameter and depth, whilst the internal measurements are about 4 by 3 inches or rather less.

The eggs seem to number only two or three, judging from the few clutches found but possibly these were not full clutches though on one occasion a single egg was taken partly incubated. They resemble the eggs of *Turdus m. simillimus*, but are rather more richly and profusely marked. Five eggs sent me by Mr. T. F. Bourdillon measure 27·8–30·1 mm. × 20·1–22·9.

Habits quite similar to those of *T. m. kinnisii*, but more entirely a forest bird and confined to the evergreen forests with ample undergrowth. It is not a rare bird but though its fine song may often be heard throughout the breeding-season it is very shy and is seldom seen.

(569) Turdus merula nigropileus.

THE BLACK-CAPPED BLACKBIRD.

Turdus nigropileus Lafres., Deless., Voy. de l'Inde, pt. ii, p. 27 (1843) (India; now restricted to Ootacamund, Nilgiris).
Merula nigropileus. Blanf. & Oates, ii, p. 126.

Vernacular names. *Kasturi* (Hind.); *Poda palisa* (Tel.).

Description.—Adult male. Forehead to nape and sides of head black; hind neck, interscapulars, sides of neck and whole lower plumage, brownish grey, more rusty on the breast and more grey on the flanks and the centre of the abdomen albescent; remainder of upper parts, wings and tail dark ashy, the tail darker and browner than the back.

Colours of soft parts. Iris reddish brown to dark brown; bill dull pale orange to orange-yellow; legs and feet dull pale yellow to lemon-yellow.

Measurements. Total length about 260 mm.; wing 126 to 132 mm.; tail 86 to 95 mm.; tarsus 33 mm.; culmen 22 mm.

Female. Whole upper plumage ashy brown, the cap slightly darker and browner, the rump greyer; ear-coverts pale-shafted; chin and throat grey, streaked with brown.

Colours of soft parts as in the male but darker and duller.

Measurements. Wing 122 to 130 mm.; tail 92 mm.

Young male like the female but more heavily streaked on chin and throat.

Distribution. Western India, North of the range of the last bird, *i. e.* North of Mysore and the Nilgiris, through the South Bombay Presidency as far North as Mount Abu and to Sambulpur and Raipur in the Central Provinces. A specimen from Travancore in the British Museum seems to be this bird though labelled *unicolor*.

Nidification. The Black-capped Blackbird breeds throughout the hills and broken country of the Southern and central parts of its range from June to September between the foot-hills and 3,000 or 4,000 feet. In the extreme North and East it is probably only a non-breeding visitor during the Winter. The nest is the usual mud and moss nest with a grass lining built by all these Thrushes but has less moss and more twigs and grass used in its construction. It is generally placed in a tall bush or sapling, sometimes in a comparatively low bush, on the outskirts of forest. It may occasionally be found in open country and, even less often, well inside forests.

The eggs number three to five, and fifty eggs average 27·4 × 20·9 mm., the extremes being: maxima **29·4 × 22·1** mm. and minima **24·8 × 20·0** mm.

It is worthy of note that our Southern Indian species of *Turdus*, which are so closely allied to the European Blackbird, all lay eggs nearer those of the Song-Thrush in colour, whereas our Northern Thrushes reverse the process and lay eggs more like those of the Blackbird.

Habits. The Black-capped Blackbird is a rather more familiar bird in its habits than either of the last two races; it inhabits both the lighter forests and open country and may even be found in the surroundings of villages and in gardens. In the Winter it wanders well into the plains but shortly before the rains break, in May, it moves into the more broken ground and ascends the hills to some 5,000 or 6,000 feet. It is a fine songster.

(570) Turdus merula albocinctus.

THE WHITE-COLLARED BLACKBIRD.

Turdus albocinctus Royle, Ill. Him. Bot. p. lxxvii (1839) (Himalayas).
Merula albicincta. Blanf. & Oates, ii, p. 127.

Vernacular names. *Kundoo Kastura* (Hind.).

Description.—Adult male. Neck and upper back, centre of chin and throat white; remainder of plumage deep chocolate-brown, glossed with black; under tail-coverts with white central streaks.

Colours of soft parts. Iris dark brown; bill bright yellow, more or less dusky at tip; legs and feet yellow to buffy yellow.

denser forests of the big valleys. The eggs vary from three to five, the latter number very rare, and are a sort of half-way type between those of the English Blackbird and those of the English Thrush. The ground-colour is a pale to fairly strong blue-green and the markings consist of numerous spots and small blotches of reddish brown, more numerous than in the Thrush but never confluent and smudgy as in the Blackbird. In shape they are broad obtuse ovals with a stout hard texture and fair gloss. The average of fifty eggs is 29·3 × 21·3 mm. and the extremes are: maxima **33·2 × 22·8** and 30·0 × **23·4** mm.; minima **27·1 × 22·1** and 27·2 × **19·8** mm.

Habits. This fine Blackbird frequents alike forests and open country, often entering gardens and orchards and, except in the breeding season, is comparatively tame and fearless. Its vocal powers have been much contested but General Betham and many others claim that it is a fine songster. It is principally a ground feeder but also frequents both high and low trees for this purpose. It is very active on its feet and also is a powerful flier.

(567) Turdus merula kinnisii.

THE CEYLON BLACKBIRD.

Merula kinnisii Blyth, J. A. S. B., xx, p. 177 (1851) (Ceylon).
Merula kinnisi. Blanf. & Oates, ii, p. 124.

Vernacular names. None recorded.

Description. Whole upper plumage, wings and tail black with distinct, broad blue-grey margins; lower plumage brown, suffused with slaty and less broadly margined with paler brown.

Colours of soft parts. Iris pale brown to dark brown; eyelids and bill orange-yellow; legs and feet lemon-yellow to yellow-ochre.

Measurements. Total length about 240 mm.; wing 107 to 113 mm.; tail 85 to 93 mm.; tarsus about 33 mm.; culmen about 22 mm.

Female. Above dark brown, suffused with slaty on the mantle and margins of wings; below brown, palest on the abdomen, less strongly marked with purplish slaty and sometimes faintly showing pale shafts in the feathers of the posterior flanks and abdomen.

Colours of soft parts as in the male but paler and duller.

Measurements. Wing 104 mm.; tail 78 mm.; tarsus 32 mm.

Nestling. Above rich dark brown, feathers of mantle with pale shafts and those of back and coverts with dark edges; below rich fulvous, the centre of the chin and throat immaculate, the remainder with lighter shafts and broad dark brown edges.

Distribution. Ceylon only; above 2,500 feet.

Nidification. The Ceylon Blackbird appears to breed in April, May and June, making a cup-shaped nest of moss, leaves, roots and grass, matted together internally and lined with mud, inside which is a further lining of fine moss. According to Legge and his correspondents it may be placed in almost any position—out-house, a bush in a garden or in cultivated ground, or well inside dense forest in some small tree or sapling. Legge gives the normal full clutch of eggs as four and says they are like those of the English Blackbird. Eggs taken by Captain Aldworth on the Bopat Range in April and May are like those of the Nilgiri Blackbird but rather more richly coloured, certainly they are *not* like those of an English Blackbird. They measure about 23·8 × 20·9 mm. and are short broad ovals in shape.

Habits. The Ceylon Blackbird is found from about 2,500 feet to the tops of the highest ranges. It has been found feeding on grains of rice left by pilgrims on the summit of Adam's Peak; it is very common on the Horton Plains and again at Nuwara Eliya. It is said to be a shy bird, keeping much to dense forest with ample undergrowth, feeding both on the ground and on the tops of the highest trees. It is a fine songster, the song being like that of its English relative but softer and lower. When singing it comes often into the more open parts and edges of the forest, especially in the mornings and evenings, when it sings most regularly.

(568) Turdus merula bourdilloni.

BOURDILLON'S BLACKBIRD.

Merula bourdilloni Seebohm, Cat. B. M., v, p. 251 (1881) (Travancore); Blanf. & Oates, ii, p. 125.
Merula erythrotis. Blanf. & Oates, ii, p. 126.

Vernacular names. *Poda pulisa* (Tel.).

Description.—Adult male. Differs from the Ceylon Blackbird in having no slate-grey or blue-grey edges to the feathers.

Colours of soft parts. Iris dark brown; bill, legs and feet bright orange-red.

Measurements. Total length about 250 mm.; wing 117 to 124 mm.; tail 90 to 99 mm.; tarsus about 34 mm.; culmen about 22 mm.

Female differs from that of the Ceylon race in being browner above and much paler and browner below, the flanks and abdomen being marked with a very faint lilac tinge.

Colours of soft parts similar to the male but duller.

Measurements. The wings of the females measure from 110 to 124 mm.

Nestling similar to that of *kinnisii* but not quite so dark.

Merula erythrotis of Davison is nothing but a female *bourdilloni* with some pigment on the head which has turned the

Measurements. Total length about 275 mm.; wing 142 to 151 mm.; tail 101 to 109 mm.; tarsus 35 mm.; culmen 23 mm.

Female. A collar as in the male, but ashy white instead of pure white; dark parts in the male replaced with rufous-brown, dark above and paler below, the feathers of these parts often fringed with still paler fulvous.

Colours of soft parts as in the male.

Measurements. Wing 131 to 143 mm.; tail 100 to 104 mm.; tarsus 35 mm.; culmen 22 mm.

Nestling. Very dark brown, the feathers of the head and mantle, back and upper tail-coverts streaked with rufous: below rich fulvous-rufous barred with blackish.

Distribution. The Himalayas from Eastern Kashmir, Simla States, Garhwal, through to Nepal, Sikkim and Assam and South to Manipur. It occurs in Winter in Cachar, Naga Hills and Khasia Hills, but is not resident there or in Manipur.

Nidification. They breed during May and June from 7,000 feet upwards, making a massive nest of moss, roots and leaves, apparently sometimes, but not always, mixed with mud and lined with grass and roots. It is generally placed on a high bush or sapling in forests but occasionally in among the roots of a fallen tree or on a steep bank. The eggs number three or four and approach nearer the Blackbird type of egg than do those of the Southern birds, though they are more richly and boldly blotched with various shades of reddish and reddish brown. The average of twenty-five eggs is 30·9 × 21·1 mm., and the extremes are: maxima **32·6 × 22·1** mm.; minima **29·3 × 20·9** and 32·2 × **20·0 mm.**

Habits. Although the White-collared Blackbird breeds at very high elevations, certainly sometimes up to 12,000 feet, in Winter it descends to the foot-hills and even into the adjacent plains. Mr. S. L. Whymper obtained it in the foot-hills of the Garhwal Ranges and Mr. H. Stevens found it in the plains below the Dafla Hills. Coltart got it at Margherita practically in the plains but in the Cachar, Naga Hills, Khasia and Manipur ranges it seldom descends below 3,000 feet. It feeds a great deal on high trees and is a bold, fearless bird in its habits.

(571) Turdus boulboul.

THE GREY-WINGED BLACKBIRD.

Lanius boulboul Lath., Ind. Orn., i, p. 80 (1790) (India; now restricted to Darjeeling).
Merula boulboul. Blanf. & Oates, ii, p. 130.

Vernacular names. *Kasturi* (Hind.); *Pacariyamusaicha* (Beng.); *Phoyiong-pho* (Lepcha); *Chemam* (Bhut.).

Description.—Adult male. Tips of median wing-coverts, outer webs of greater coverts and inner secondaries and edges of outer secondaries ashy grey; remainder of upper plumage, wings and tail

black: below from chin brownish black, paling towards the centre of the abdomen and vent and the feathers of these parts narrowly margined with pale silvery grey.

Colours of soft parts. Iris brown, the eyelids orange-yellow; bill coral-red to deep orange, possibly according to age, blackish at the tip; legs and feet brownish yellow.

Measurements. Total length about 280 mm.; wing 141 to 147 mm.; tail 107 to 112 mm.; tarsus 34 mm.; culmen 21 to 22 mm.



Fig. 17.—Head of *T. boulboul.*

Female. Has the black of the male replaced by olive-brown and the marks on the wing are pale rufous, not contrasting much with the other parts.

Colours of soft parts as in the male but the bill yellow to orange.

Measurements. Wing 136 to 146 mm.

Nestlings. From the earliest stages the males seem darker than the females, being dark brown as against rufous-brown in the latter. The upper parts are streaked with fulvous and have darker edges to the feathers; below they are broadly edged with brown. Young males seem to have a transition stage between this and the adult plumage, losing the bars on the lower plumage but retaining the narrow pale shaft-stripes.

Distribution. Murree, East to the extreme East and South of Assam and Manipur.

Nidification. Breeds throughout its range from the end of April to June but occasionally much earlier, as Stevens found a nest with eggs on the 8th of March at Polpoti in Nepal at about 5,000 feet. It breeds in great numbers about Murree, up as high as 10,000 feet but more often between 7,000 and 8,000 feet. In the hills South of the Brahmaputra it is a rare resident, breeding as low as 4,500 feet. The nest is a large and rather massive cup of moss, roots and grasses with an internal lining of mud, not always, however, present, and an inner lining of grass and roots. It is placed either on the ground, among the roots of a tree, on a steep bank, on a ledge of rock or on a stout branch of a tree some 10 to 20 feet from the ground. The eggs are rather of the Blackbird's type of egg but often much more richly coloured. The ground-colour varies from a pale dingy green to a rather bright

yellowish or pinkish stone-colour, whilst the numerous, rather smudgy markings are of pale dull reddish brown. They are scattered fairly equally over the whole surface, seldom more numerous at the larger end. Forty eggs average 29·4 × 21·8 mm.: maxima **33·9 × 23·3** mm.; minima **26·5** × 20·1 and 27·2 × **19·9** mm.

Habits. This Blackbird is a forest bird, though it frequents the outskirts and open glades rather than the interiors, except during the breeding months. It is very sedentary and does not appear to move much with the seasons, even vertically. It probably seldom wanders much above 9,000 feet and, on the other hand, even in Winter is equally seldom found below 3,000 feet. It is a quiet bird, feeding much on the ground and shunning observation. The song is a fine deep series of whistles, much like the early spring song of our English Blackbird but it sings very little except in the early mornings.

(572) Turdus castaneus castaneus.

THE GREY-HEADED THRUSH.

Merula castanea Gould, P.Z.S., 1835, p. 185 (Sikkim); Blanf. & Oates, ii, p. 128.

Vernacular names. *Lal Kastura* (Hind.).

Description.—Adult male. Head grey, paling to almost white on chin, throat and posterior neck; back dark chestnut, lower back, rump and upper tail-coverts brighter chestnut; wings and tail very dark brown, the secondaries edged a little paler; below from neck chestnut, the centre of the abdomen whitish and sometimes marked with black; under tail-coverts black with central streaks and broad edges of fulvous-white or white.

Colours of soft parts. Iris brown; bill, legs and feet and eyelids wax-yellow to dusky yellow.

Measurements.—Male and female. Wing 130 to 142 mm.; tail 95 to 98 mm.; tarsus 33 mm.; culmen 21 mm.

Female. Much duller everywhere; the head and neck darker and brownish, the chestnut everywhere paler and margined below with obsolete pale greyish edges; wings and tail lighter brown.

Colours of soft parts as in the male.

Nestling. Upper parts dark brown streaked with fulvous and becoming chestnut-brown on rump and upper tail-coverts, which have bright edges; below dull chestnut on sides of neck and breast, and on flanks changing to white tinged with rufous on the centre of these parts, all heavily barred with dark brown.

Distribution. From Kashmir to Sikkim and Bhutan. It is found in Assam in winter to the extreme East and South but some of these records may possibly refer to the next race.

Nidification. Breeds almost throughout Kashmir, Garhwal and West Nepal. How far it breeds to the East is very doubtful. Stevens does not think it breeds in Sikkim or, if it does, it does so at very high levels only and even in winter it is a rare bird. The

nest is very like that of the Grey-winged Blackbird and is placed in similar positions. It, however, seldom, if ever, breeds below 6,000 feet and nearly always over 7,000 feet. The eggs are three or four in number, rarely five, long ovals in shape and are very like English Blackbird eggs, but generally more boldly marked and redder in tint. Fifty eggs average 30·6 × 21·6 mm.: maxima **35·0** × 21·0 and 29·6 × **22·8** mm.; minima **28·1** × 21·2 and 32·5 × **20·6** mm.

The principal breeding months are May and June, but Marshall found eggs at Murree "just ready to hatch" on the 20th of April.

Habits. The Grey-headed Thrush is found in summer from 7,000 feet up to 12,000 feet, descending to the foot-hills in winter and a short way into the plains. During the breeding-season it keeps much to evergreen forest, often some distance inside, but in the winter months it comes far more into the open and at this time several birds may be seen together.

(573) Turdus castaneus gouldi.

GOULD'S GREY-HEADED THRUSH.

Merula gouldi Verr., Nouv. Arch. Mus. d'Hist. Nat. vi, p. 34 (1871) (W. Setchuan).

Vernacular names. *Daokat gayao iaba* (Cachari).

Description.—Adult male. Similar to the Grey-headed Thrush but much darker, the head and neck are dark brown-grey and less abruptly defined from the chestnut back. Chestnut above and below much richer and there is no central pale streak on the abdomen.

Colours of soft parts as in *castaneus*.

Measurements. Wing 137 to 148 mm.; tail 104 to 106 mm.; tarsus 34 mm.; culmen 23 mm.

Distribution. Eastern Tibet to Kansu and Tsinling. In winter this form is found as far West as Assam, a single specimen having been obtained by Mr. H. Stevens at Dejoo in Lakhimpur in March. Possibly some, if not all the South Assam and Burmese records of *T. castaneus castaneus* refer to this bird. Two males shot by me in the Khasia Hills and one in North Cachar were certainly all Gould's Thrushes and I have a note recorded at the time referring to their exceptionally dark rich plumage. A specimen in the British Museum from Nepal is undoubtedly referable to this race. There are also two specimens from Yunnan.

Nidification and **Habits.** Practically nothing recorded.

(574) Turdus eunomus.

THE DUSKY THRUSH.

Turdus eunomus Temm., Pl. Col., ii, pl. 514 (1831) (Japan).
Merula fuscata. Blanf. & Oates, ii, p. 129.

Vernacular names. *Daokat* (Cachàri).

Description.—Adult male in Winter. Forehead and crown black with narrow grey margins, the remainder of the upper plumage blackish brown, each feather with broad rufous-grey margins which become more and more rufous towards the tail; tail dark brown; winglet brown; wing-coverts and quills dark brown, the former and the secondaries broadly and the primaries narrowly edged with pale chestnut; a broad supercilium greyish white; lores and posterior ear-coverts black; cheeks, sides of throat and neck white spotted with black; chin, throat and fore-neck white tinged with buff; lower parts white tinged with buff on the breast and the feathers of the breast and flanks with broad black centres which form a gorget across the upper breast; under tail-coverts pale chestnut with white edges.

Colours of soft parts. Iris golden-brown to brown; bill dusky brown, almost black on the culmen, yellowish at the base; legs light brown to dark brown.

Measurements. Total length 260 mm.; wings 124 to 138 mm.; tail 83 to 90 mm.; tarsus 34 mm.; culmen 20 mm.

Female. Above olive-brown to brown from forehead to tail, the rump and upper tail-coverts more rufous than elsewhere; the chin and throat are generally much more spotted with dark brown than in the male and the breast less spotted; the rufous on the wings is much paler and duller.

Colours of soft parts and **Measurements** practically as in the male.

Distribution. Northern Asia from West to extreme East, in winter wandering South to Northern India, Assam, Burma and China.

Nidification. This Thrush breeds during May and June as far North as the limits of tree-growth, making a rough and untidy nest of grass, twigs, moss, etc., lined with mud and with a further lining of fine grasses. The nest is generally placed on small isolated trees and often within a foot or two of the ground. The eggs number four or five and are of the Blackbird type, though some are rather more definitely blotched and spotted. Forty-eight eggs average 27·8 × 20·6 mm.: maxima **30·6 × 19·5** and 27·0 × 22·2 mm.; minima **24·1 × 19·2** mm. and 24·2 × **19·0** mm.

Habits. The Dusky Thrush is an inhabitant of open, semi-wooded country and even when on migration in its winter quarters prefers open fields and grass-lands with thin forest rather than the denser woods. Its flight is swift and powerful and it is said to have a rough harsh note.

(575) Turdus kessleri.

PRZEWALSKI'S THRUSH.

Turdus kessleri Przew., Mong. Stran. Tangut., p. 62 (1876) (Kansu).

Vernacular names. None recorded.

Description.—Adult male. Whole head, neck and extreme

upper breast **black**; interscapulars, back and breast dull rufous **white changing into** dull dark rufous on lower back, rump, upper tail-coverts, flanks and abdomen; wings and tail black.

Colours of soft parts. Iris brown; bill yellow, dusky at tip; legs and feet horny-brown

Measurements. Total length about 275 mm.; wing 148 to 155 mm.; tail 109 to 118 mm.; tarsus 38 mm.; culmen 21 mm.

Female. Head and neck, wings and tail dark brown; remaining plumage ashy grey, more rufescent below and darker and browner on upper tail-coverts.

Measurements. Wing 143 to 148 mm.; tail 112 to 113 mm.; culmen 21 mm.

Distribution. East Tibet, Setchuan, Koko-Nur to Kansu. A single specimen has been killed in Sikkim close to Darjeeling at about 9,000 feet and Mandelli also obtained it in Tibet close to the Sikkim border.

Nidification. Pleske describes two nests as made of grass roots etc. with hair and feathers of *Perdix sifanica* in the lining and says they were placed in hollows in rocks beside a stream. The eggs are said to be like those of the Fieldfare and ten eggs average 31·5 × 22·7 mm.

Habits. This is a bird of great altitudes, breeding at 12,000 feet among conifers or junipers on the great wooded plateaus of Eastern Tibet and West China. Even in Winter it appears only to descend to about 5,000 feet and never to the Plains.

(576) Turdus pallidus.

THE PALE THRUSH.

Turdus pallidus Gmel., S. N., i, p. 815 (1789) (Lake Baikal).

Vernacular names. None recorded.

Description.—Adult male. Lores black; forehead and crown dark ashy-grey, with darker streaks, shading on the nape into the rufous brown of the back, wing-coverts, rump and upper tail-coverts; tail dark brown, the two outermost pairs broadly tipped with white, the white sometimes also visible on the third and even the fourth pair: wing-quills dark brown edged with pale grey; chin white, sides of the neck, throat and fore-neck ashy-grey, changing to rufescent vinous on the upper breast and flanks; under wing-coverts and axillaries pearl grey; centre of breast, abdomen, vent and under tail-coverts white, the last named with broad brown edges.

Colours of soft parts. Iris brown; bill, upper mandible brown, lower yellowish white; legs pale brown (*Dresser*).

Measurements. Wing 123 to 130 mm; tail 95 to 98 mm. tarsus about 31 or 32 mm.; culmen about 19·5 to 22 mm.

Female similar to the male but with the throat and fore-neck white streaked with brown and the ear-coverts streaked with white.

Colours of soft parts and **Measurements** as in the male.

Young male similar to the female with broad white tips to the the greater coverts.

Nestling. Above dark rufous-brown with pale central streaks and darker edges; below white, more rufous on the breast and flanks and heavily spotted with black; wing-coverts edged with rufous.

Distribution. Eastern Siberia to Japan and South in winter to Corea, South China, Formosa, etc.; also obtained by Dr. Coltart in Assam (Hartert, Vög. Pal. i, p. 655).

Nidification. The Pale Thrush has been found breeding at the mouth of the Ussuri River in E. Siberia. The nest is said to be a cup made of roots, grass, moss and pine-needles lined with grass, generally placed not very high up in a tree. The eggs, four or five in number, are pale greenish blue rather finely spotted with reddish brown. The few eggs known vary greatly in size, measuring 25–32 × 19·5–20·4 mm.

The breeding-season is June.

Habits. This is said to be a very shy bird, haunting well-wooded localities. It has a very sweet song.

(577) Turdus ruficollis.

THE RED-THROATED THRUSH.

Turdus ruficollis Pall., Reis. Russ. Reichs, iii, p. 694 (1776) (Dauria).
Merula ruficollis. Blanf. & Oates, ii, p. 130.

Vernacular names. *Daokat gajao* (Cachari).

Description.—Adult male. Whole upper plumage and wing-coverts light ashy brown; the centres of the feathers sometimes darker on the forehead and crown; greater wing-coverts and quills dark brown edged with silvery ashy; tail rufous, the central tail-feathers broadly, the lateral feathers successively more narrowly tipped with dark brown; supercilium, cheeks, chin, throat and breast chestnut, this colour mingling with the ashy ear-coverts and sides of the neck; a few black specks down each side of the chin and throat; lower plumage from breast white, the sides of the breast and flanks mottled with dark ashy and the bases of the under tail-coverts chestnut; axillaries and under wing-coverts orange-brown. In Winter the chestnut feathers are fringed with whitish.

Colours of soft parts. Iris brown; bill yellow, rather dull in tint and with the culmen and tip dark brown; legs and feet grey to fleshy-brown.

Measurements. Wing 133 to 143 mm.; tail 101 to 105 mm.; tarsus about 35 mm.; culmen about 18 to 19 mm.

Female. Like the male but the chestnut of breast etc. paler, and much mottled with white and more or less heavily spotted with black. Very old females are hardly distinguishable from males.

Colours of soft parts and **Measurements** similar to the male but very slightly smaller.

Young male like the female but with less rufous.

Distribution. Eastern Siberia and possibly Northern China, in winter South to India from Kashmir to Assam, Northern Burma and South China.

Nidification. Unknown.

Habits. The Red-throated Thrush is found in the Eastern Sub-Himalayas and adjacent plains in very great numbers between October and March. At this time they associate in very large flocks and Dr. Coltart and I have frequently seen flocks of two to three hundred at Margherita. They are birds of the open country but prefer such as is surrounded by forest or, at least, plentifully furnished with large trees. They feed for the most part on the ground, eating grain, berries and insects, but when disturbed fly with great swiftness to the nearest tall tree, uttering a loud, but sweet, alarm-cry as they rise. They are also very active on foot and when pursuing termites show great energy and accuracy in seizing their winged prey, running along the ground and leaping in the air to catch them as they rise.

I see no reason to consider *atrogularis* to be a race of this bird. It is true they are often found together, for they are Winter visitors, coming in great numbers at about the same time and haunting the same kind of country but I have never seen an adult bird which could not be ascribed to one or the other species without difficulty. Very old males occasionally have the red breast very deeply coloured and even with a little black on the lower breast, but I have never seen any specimen of the Black-throated Thrush with any signs of red upon its throat or breast.

(578) Turdus atrogularis.

THE BLACK-THROATED THRUSH.

Turdus atrogularis Temm., Man. d'Orn., i, p. 80 (1790) (rarely in Austria and Silesia).
Merula atrigularis. Blanf. & Oates, ii, p. 131.

Vernacular names. *Mach-reycha* (Beng.); *Daokat gashim* (Cachari).

Description.—Adult male. Whole upper plumage, sides of head and neck, wing-coverts and edges of wing and tail-feathers light greyish brown; the wings and tail-quills dark brown; the feathers of the forehead and crown have dark brown centres; lores, an indistinct supercilium, cheeks, chin, throat and breast black; remainder of lower plumage white, the flanks lightly mottled with grey and the bases of the under tail-coverts brown; under wing-coverts dull orange-brown; axillaries rufous grey.

In Winter the black feathers are edged with pale grey.

Colours of soft parts. Iris dark brown; bill yellow, the tip and final quarter of the culmen black; legs pale yellowish brown.

Measurements. Wing 130 to 140 mm.; tail 101 to 105 mm.; tarsus about 35 mm.; culmen 18 to 19 mm.

Female. Above, similar to the male; below, chin, throat and fore-neck white heavily spotted with black; breast and flanks ashy, the upper breast boldly spotted with black and the lower breast and flanks streaked with dark brown; remainder of lower plumage white.

Colours of soft parts as in the male.

Measurements. A mere trifle smaller than in the male: wing 129 to 136 mm.

Distribution. Breeding in West Siberia and Central Asia to Chitral, Kashmir and Ladak; Murree (*Rattray*) and Sikkim (*Captain Taylor*).

In Winter it wanders South to the Plains of Northern India from Karachi through the United Provinces to Behar and Bengal. In Western Europe it has straggled as far as England and Scotland.

Nidification. Within our limits this Thrush appears to breed in May as it also does in the Altai but on the Yenisei Popham found nest and eggs in June. The nest is made of twigs, moss and grass, sometimes with an inner lining of mud, sometimes without, and with a final lining of fine grasses. It appears to always place its nest on small trees at no great height from the ground, though Rattray once took one from a pine 30 feet up. The eggs are said to vary between two extremes, one like that of the Common Blackbird, the other like that of the Missel-Thrush. All the Indian and Altai eggs I have seen are like the former. Forty-one eggs average 29·6 × 21·5 and the extremes are: maxima 31·5 × 21·0 and 31·4 × 22·1 mm.; minima 27·4 × 21·6 and 31·2 × 20·0 mm.

Habits. Very similar to those of the last bird. It visits Northern India in very great numbers in Winter but very few remain to breed in the Himalayas. In the ranges between Afghanistan and India a few breed at 9,000 feet and over, and again a few remain to breed at about 10,000 feet in the Galis about Murree. From Sikkim I received birds and eggs from Captain Taylor, taken at about 12,000 feet. It has a fine song, which may be heard in March and early April before the birds leave on migration to their breeding haunts.

(579) Turdus unicolor.

TICKELL'S THRUSH.

Turdus unicolor Tickell, J. A. S. B., ii, p. 577 (1833) (Borabhum, Bengal).
Merula unicolor. Blanf. & Oates, ii, p. 132.

Vernacular names. *Desi pawai* (Hind.); *Mach-asah* (Beng.); *Poda palisa* (Tel.).

Description.—Adult male. Whole upper plumage and visible portions of wings and tail ashy grey; lower plumage pale slaty grey, the abdomen, vent and greater part of the under tail-coverts white; the chin is generally rather paler grey than the throat and the feathers are black-shafted; axillaries ashy grey, generally tipped with buff; under wing-coverts chestnut on the outer webs and tip, and grey at the base of the inner web.

Colours of soft parts. Iris brown or reddish brown; bill yellow, darker at the tip and base of culmen; legs and feet orange-yellow to light brown.

Measurements. Total length about 250 mm.; wing 121 to 129 mm.; tail 80 to 85 mm.: tarsus about 31 to 32 mm.; culmen 19 to 20 mm.

Female. Upper plumage olive-brown; lores dark brown with faint pale superciliary streak above; sides of the head and ear-coverts mixed brown and fulvous, the latter also with pale shaft-stripes: chin and throat white or fulvous-white, streaked with deep brown, the spots forming lines down the sides of the chin, throat and fore-neck; breast olive-grey, more or less suffused with ochre and spotted with dark brown; flanks still more ochreous; abdomen, vent and under tail-coverts white. Under wing-coverts and axillaries as in the males.

Colours of soft parts. Iris brown; bill yellow; legs and feet yellow to orange-yellow.

Measurements. Wing 114 to 126 mm.

Nestling. Above rufous brown with broad fulvous central streaks; below fulvous with broad brown bars.

Older birds are more like the females with profuse black spots or bars on the lower plumage and narrow pale shaft-streaks on the upper.

Distribution. The Himalayas from Chitral to Eastern Assam, Cachar and Manipur, South to Khandala, Raipur, Orissa and Western Bengal and Behar. The specimen referred to this species by Jerdon, said to have been taken in Permeade, Travancore, is only a very discoloured specimen of *Turdus m. nigripileus.*

Nidification. This Thrush breeds throughout the Himalayas from the extreme North and West as far East as Nepal and, more rarely, in Sikkim but apparently does not breed in the hills North of Assam. It will be found principally between 6,000 and 8,000 feet but wanders both higher and lower than this for nesting purposes, and the few birds which breed in Sikkim probably all breed at 9,000 to 10,000 feet. It makes a nest, deep cup-shaped, of green and dry moss, moss and other roots, grasses and an odd leaf or two, the lining being of fine roots only. Some nests are well and compactly built, whilst others are very rough, untidy affairs. Most are placed in trees at some height between 6 and 20 feet from the ground; a few are placed in among the roots of fallen trees or in similar situations, whilst very rarely they may

placed actually on the ground. The eggs number three or four and occasionally five, and vary in colour from the true Blackbird type to others boldly and handsomely blotched with reddish brown on a cream ground. The general tint is normally reddish, eggs with a greenish ground being exceptional and even in these the blotches usually give the tone. Fifty eggs average 27·3 × 19·5 mm.: maxima **30·0** × 19·3 and 27·1 × **20·3** mm.; minima **24·8** × 19·2 and 25·3 × **18·5** mm. The breeding-season lasts from early May to the end of June.

Habits. One of the most, if not the most, common Thrushes in Kashmir and the North-West Himalayas. It abounds in the Valley of Kashmir, where one or more pairs may be found in every grove and patch of cover round about the villages, for it perhaps haunts the vicinity of habitations and villages even more than forests, though it is found in these also. It has a fine Blackbird-like song and sings constantly during the breeding-season.

(580) Turdus dissimilis.

THE BLACK-BREASTED THRUSH.

Turdus dissimilis Blyth, J. A. S. B., xvi, p. 144, No. 12 (1857) (Lower Bengal; Himalayas).
Merula protomelæna. Blanf. & Oates, ii, p. 133.

Vernacular names. *Daokat yashim-gajao* (Cachari).

Description.—Adult male. Whole head, neck and upper breast black, except extreme point of chin which is white; remainder of upper plumage, wings and tail dark slate-grey, not sharply defined from the head; lower breast and flanks, axillaries and wing-coverts bright orange ferruginous; abdomen, sometimes also the centre of lower breast, vent and under tail-coverts white.

Colours of soft parts. Iris deep brown; eyelids pale yellow; bill orange-yellow in breeding-season, paler yellow in winter; legs and feet yellow to orange-yellow.

Measurements. Total length about 230 mm.; wing 118 to 125 mm.; tail 72 to 78 mm.; tarsus about 30 mm.; culmen about 20 mm.

Female. Whole upper plumage dark olive-brown; sides of head and ear-coverts ashy fulvous-brown, the shafts of the latter paler; chin and throat white heavily streaked with brown, the spots forming almost confluent lines at the sides; upper breast olivaceous streaked with black; lower breast, flanks, axillaries and under tail-coverts orange-rufous: abdomen, vent and under tail-coverts white.

Colours of soft parts. Iris brown; bill, legs and feet wax-yellow.

Measurements. Wing 116 to 124 mm.; tail 84 to 86 mm.; tarsus 33 to 34 mm.; culmen 21 to 22 mm.

Nestling. Above, dark brown, the feathers with dark blackish edges and pale fulvous shaft-stripes; below, chin, throat and breast as in the female but more heavily spotted; remaining under parts orange-fulvous spotted and barred with black.

The young male is like the female but more spotted below.

Rothschild (Nov. Zool., xxviii, p. 31, 1874) shows that *dissimilis* of Blyth must be used for the name of this bird. It cannot be rejected merely because Blyth thought that *Turdus unicolor* was the female and *Turdus dissimilis* the male of the same species.

Distribution. Assam South of the Brahmaputra, Manipur, Chin and Kachin Hills, Shan States and Yunnan.

Nidification. The Black-breasted Thrush is resident throughout its habitat between 4,000 and 6,000 feet, wandering up to 7,000 or 8,000 feet in the Naga Hills, Chin Hills and Kachin Hills and up to 10,000 feet in Yunnan, where it was obtained by Forest on the Lichiang Range. It is essentially a forest breeder and all the nests I have taken were built well inside damp, evergreen forests on small trees or high shrubs. In appearance they are like rather small, untidy Blackbirds' nests, made more of green moss than anything else, and are placed at no great height from the ground. The eggs vary extraordinarily in colour, and in my own small series I have eggs exactly like Missel-Thrushes' eggs, others like Blackbirds' and others again very richly marked with bold blotches of deep reddish brown on pale green or pale cream grounds. They number three or four and are mostly laid in May and June but I have taken them in early April and again late in July. Fifty eggs average 26·8 × 19·8 mm.: maxima **29·0** × 20·0 and 27·2 × **21·0** mm.: minima **21·1** × 20·0 and 26·0 × **18·3** mm.

Habits. This is one of the most shy and elusive of all the bigger Thrushes, shunning observation and keeping almost entirely to the interior of forests. It occasionally ventures into the pine-woods round about Shillong in the Khasia Hills but prefers deep gloomy evergreen forests, which are always damp and shady. It is common in the fern and rhododendron forest and one often hears its short, sharp alarm rattle, though one seldom gets even a glimpse of it as it flees. It has a sweet but not very powerful song. Its food consists of insects and berries and it is a great snail and slug eater, finding them in the mossy cracks between the boulders in the forests it frequents.

(581) Turdus obscurus obscurus.

THE DARK THRUSH.

Turdus obscurus Gmel., S. N., i, p. 816 (1789) (Lake Baikal).
Merula obscura. Blanf. & Oates, ii, p. 134.

Vernacular names. *Daokat yashim* (Cachari).

Description.—Adult male. Whole upper plumage, sides of head and neck, wing-coverts and edges of tail and wing-quills olive-brown, tinged with rufous; lores dark brown; a narrow

supercilium, a patch under the eye and chin white; throat and fore-neck ashy, sides of head, ear-coverts and sides of neck slaty grey running on to the upper breast; upper breast and flanks pale chestnut; centre of breast and abdomen white; under tail-coverts white, margined with brown; axillaries and under wing-coverts pale slaty grey. The ear-coverts are often pale-shafted.

In old males the forehead, crown and nape are sometimes tinged with ashy.

Colours of soft parts. Iris olive-brown or hazel-brown; bill horny-brown, the gape and all but tip of lower mandible yellow; legs yellowish horny or light brown to dark fleshy-brown.

Measurements. Wing 115 to 130 mm.; tail 90 to 91 mm.; tarsus 31 mm.; culmen 18 to 19 mm. Philippine birds are very small, wing 115 to 119 mm. and there are no specimens from elsewhere with a wing less than 120 mm.

Female Similar to the male but with the throat and fore-neck white streaked with dark brown; the head seems to be always concolorous with the back; the lores and ear-coverts are paler and the latter more distinctly streaked with white.

Colours of soft parts and **Measurements** as in the male.

Young male similar to the female.

Distribution. Breeding in Siberia from the Yenisei to Amur, Kamschatka. In Winter South to China, Indo-Chinese countries, Yunnan, Siam, Burma and Assam. Less regularly it is found as far West as Sikkim and Nepal and a wanderer to Belgaum has been recorded, the specimen now being in the British Museum. In Europe it has been found as far West as Heligoland and South France.

Nidification. The Dark Thrush breeds in the Amur in April, May, and June, making a nest which is said to be very like the untidy nest of the Fieldfare, placed in small trees on branches 18 to 20 feet up. The eggs, four to six in number, are like richly-spotted small eggs of the Blackbird. Thirty-two eggs average 27·16 × 19·62 mm.: the maxima and minima are respectively **30·5** × 20·0 mm.; 26·6 × **21·1** mm. and **23·5** × **17·5** mm.

Habits. A bird of the open forest with a rich, short song and shy habits. As far as India and Assam is concerned, it seems to migrate in flocks, a few individuals accompanying flocks of *Turdus ruficollis* and *Turdus atrogularis* but feeding apart from these birds and leaving them as they enter open, cultivated country.

(582) Turdus obscurus subobscurus.

SALVADORI'S THRUSH.

Merula subobscura Salv., Ann. Mus. Civ. Gen., (2) vii, p. 413 (1889) (Karen Hills); Blanf. & Oates, ii, p. 135.

Vernacular names. None recorded.

Description.—Adult male. Similar to *T. o. obscurus* but larger, with the white superciliary band less conspicuous, the sides of the body paler ochraceous and the proportions of the primaries different.

Measurements. Wing 153·8 mm. The 3rd and 4th primaries are subequal and longest, the 2nd between the 5th and 6th in length; in *T. o. obscurus* the 3rd primary is longest, the 4th a little shorter and the 2nd between the 4th and 5th.

Distribution. This very doubtful race rests entirely upon a single specimen procured by Fea at Taho, in the Karen Hills, North-east of Taunghoo in March. Oates examined the type and was satisfied that it differed from the last bird.

Nidification and **Habits.** Nothing known.

(583) Turdus feæ.

FEA'S THRUSH.

Merula feæ Salv., Ann. Mus. Civ. Gen., (2) v, p. 514 (1887) (Muleyit Mt.); Blanf. & Oates, ii, p. 135.

Vernacular names. *Daokat jadi* (Cachari).

Description.—Adult male. Whole upper plumage russet-brown; a narrow supercilium white; lores black; a patch under the eye and chin white; centre of lower breast, abdomen and under tail-coverts white, the last with broad grey-brown margins; remainder of lower surface, under wing-coverts and axillaries grey, the sides of the head, neck and breast more or less suffused with the rusty hue of the upper parts.

Colours of soft parts. Iris brown to deep chocolate; bill dark brown, yellowish at the base and nape; legs and feet pale yellow-brown.

Measurements. Wing 124 to 131 mm.; tail 80 to 96 mm.; tarsus 30 mm.; culmen about 19 to 20 mm.

Female. Above like the male; below, chin and throat white speckled with brown and the grey of the male replaced by fulvous-grey except in very old birds, which are almost as grey as the males.

Distribution. Assam, South of the Brahmaputra, Manipur and the hills of Central Burma to Muleyit Mountain in Tenasserim.

Nidification. Fea's Thrush is probably resident throughout its range, and in the hills South of the Brahmaputra it certainly breeds at all heights over 4,000 feet, though not often below 5,000 feet. It makes a typical Blackbird's nest of twigs, leaves, grass and a great deal of moss, both dry and green; the lining is of grass but under this there is always a layer of moss, roots and mud and often there is a considerable amount of earth mixed with the materials in the body of the nest. It is a rather massive cup, fairly well put together and is generally placed in a small

tree or sapling between 8 and 20 feet from the ground but sometimes it is placed low down in Azalea and Rhododendron bushes. It is not well concealed and as the bird always leaves it with a loud alarm-cry it is not easy to miss it. All those I have seen were placed on trees and bushes well inside heavy wet forest growing on steep hillsides, broken with rocks and stony ravines. They breed from the end of May to the middle of July.

Four seems to be the full complement of eggs laid and these vary extraordinarily in colour. Some are just like very small eggs of the Missel-Thrush, others have a bright pale blue ground-colour with a ring or cap of reddish blotches at the larger end and most are pale greenish in ground-colour, richly blotched all over with bright reddish marks of some size. In shape they are broad ovals but little compressed at the smaller end. Sixteen eggs average 27·3 × 19·8 mm.: the maxima are **29·2** × 20·0 and 28·7 × **20·8** mm.; the minima are **25·7** × **19·0** mm.

Habits. I found this bird to be a frequenter of the interiors of dark, wet forests above 4,000 feet, keeping to the densest parts, especially in the vicinity of small mountain-streams. It is apparently more of a tree- than a ground-feeder but was several times noticed hunting huge moss-covered boulders and rocks in the Rhododendron-forests above Shillong. Once or twice I saw it perched high up on a Rhododendron, uttering its short and jerky but rather sweet song but it was very shy and all one usually saw of it was a hurried glimpse as it shot across the stream or from one tree to another. The stomach of one bird contained a mass of small black spiders and wild strawberries, both insects and fruit being exceedingly common on and round the rocks in the Khasia Hills forests. Its flight is very rapid but never seems to be prolonged. As far as is known at present Fea's Thrush is not migratory and in Assam it did not even move vertically with the seasons.

Genus **GEOCICHLA.**

Geocichla Kuhl, ? Dutch periodical, 1836.

Type, *Geocichla interpres.*

The genus *Geocichla* contains some Thrushes very closely allied to the genus *Turdus*, but the axillaries and under wing-coverts instead of being unicoloured are of two contrasting colours transposed in position on the two. It also differs from *Turdus* in having both the wing and tail comparatively shorter and, as we should expect from the former, the birds of this genus are normally resident and not migratory, though some of them wander in the Winter a good deal and all move to some extent vertically with the seasons.

They are ground-birds in their habits and their song is crude and quite unlike that of the Tree-Thrushes and Blackbirds.

The sexes are dissimilar.

Key to Species.

A. No chestnut on lower plumage.
  a. Upper tail-coverts margined with white .... *G. wardi*, p. 145.
  b. No white on upper tail-coverts ..... *G. sibirica*, p. 146.
B. Lower plumage almost entirely chestnut ..... *G. citrina*, p. 148.

The species *G. citrina* is divided into many local races which have hitherto been given the status of species, but they all grade the one into the other and are no more sharply differentiated from one another than the races of many species which have hitherto been ignored altogether.

(584) **Geocichla wardi.**

THE PIED GROUND-THRUSH.

Turdus wardi Jerdon, J. A. S. B., xi, p. 882 (1842) (Mysore).
Geocichla wardi. Blanf. & Oates, ii, p. 137.

Vernacular names. *Daokat mébérung* (Cachari).

Description.—Adult male. Whole head, neck, breast and upper plumage black, the rump and upper tail-coverts with crescentic black tips; tail black, the centre feathers tipped with white, the white increasing laterally until on the outermost a broad tip and the whole of the inner web is white; a broad white supercilium; wings black, the lesser and median coverts mostly white; the greater tipped with white, the primaries are edged with white on the centre of the feathers and the secondaries are tipped with white; rest of plumage white, the flanks boldly barred with black and the under tail-coverts with concealed black bases.

Colours of soft parts. Iris brown; bill bright yellow or yellow-ochre, tipped with black; legs and feet fleshy ochre.

Measurements. Total length about 225 mm.; wing 116 to 119 mm.; tail 69 to 78 mm.; tarsus 29 mm.; culmen 22 mm.

Female. Above olive-brown; the longer feathers of the rump tipped with white bars; tail dark olive-brown tipped with white in the same way as, but to a less extent than, in the male; wings dark olive, the coverts tipped with fulvous; a narrow fulvous and white supercilium; lores blackish, sides of head and throat mixed buff and blackish; chin white; throat and upper breast fulvous-white barred with blackish; remainder of lower plumage white, heavily barred on all but abdomen and vent with dark brown and sometimes more or less suffused with ochre on the flanks and breast.

Colours of soft parts. Iris brown; bill horny yellow; legs and feet yellow.

Measurements. Wing 113 to 117 mm.

Nestling Dark brown above with pale shafts; below like the female but even more heavily barred; wings as in the female.

Distribution. From the Sutlej Valley in the Himalayas to the

extreme East of Assam North of the Brahmaputra and, exceptionally, on the higher ranges of the Naga and Cachar Hills to the South of this river. East of Sikkim it is comparatively rare but I have seen specimens from the Hills North of Darrang and above Sadiya. In Winter it wanders to the extreme South of India and Ceylon, but it passes over the lower-lying country without stopping until it arrives at the Nilgiris and higher hills of Southern India.

Nidification. Breeds during May and June, its eggs having been taken as late as the 17th July by Mr. S. L. Whymper. The nest is a broad cup made of moss, roots, grass and leaves lined with the latter, and often a considerable amount of mud is used in the base and inner lining of the nest. It is built at some 6 to 20 feet from the ground in small trees either on the outskirts of forest, in fairly thin jungle or even in gardens and compounds. The eggs, which number three or four, are just like those of *G. c. citrina* but are generally paler. The ground-colour is a very pale sea-green or blue-green and the markings consist of fairly profusely-scattered blotches of pale reddish brown. They measure about 26·3 × 19·4 mm.

Both parents take part in incubation.

Habits. This very striking-looking little Thrush breeds between 4,000 and 7,000 feet but more often under 6,000 feet than over except in the hills South of the Brahmaputra. Although a conspicuous bird except in deep forest, it does not shun observation and frequents the vicinity of houses rather than the deeper forests. It has no song apparently and is a very quiet though restless bird. Like all the species of this genus, it keeps almost entirely to the ground when feeding.

Geocichla sibirica Pallas.

Key to Subspecies.

A. Much paler, abdomen partly white ..... *G. s. sibirica*, p. 146.
B. Much darker, abdomen wholly slate-grey .... *G. s. davisoni*, p. 147.

(585) Geocichla sibirica sibirica.

THE SIBERIAN GROUND-THRUSH.

Turdus sibiricus Pall., Reise Russ. Reichs, iii, p. 694 (1776) (Dauria).
Geocichla sibirica. Blanf. & Oates, ii, p. 138.

Vernacular names. None recorded.

Description.—Adult male. Whole plumage deep slaty-blue black, the margins of the feathers a pale slaty blue and the outer three pairs of tail-feathers tipped with white; lores velvety black and a broad supercilium white; the centre of the abdomen, vent and thigh-coverts white or mixed white and slaty grey; under tail-coverts broadly edged and tipped with white; axillaries white tipped with blackish and under wing-coverts ashy black tipped with white.

Colours of soft parts. Iris dark brown; bill black; legs and feet greenish yellow to pale yellow or yellow-horny.

Measurements. Total length about 230 mm.; wing 114 to 124 mm.; tail 78 to 85 mm.; tarsus about 30 mm.; culmen about 20 mm.

Female. Whole upper plumage rich rufescent olive-brown, more rufous on the tail and edges of primaries; wing-coverts tipped with buff; a narrow supercilium, sides of head and ear-coverts mottled buff and dark brown; lores and a streak from the gonys dark brown; chin and throat buff; breast bright pale rufous-buff tipped and edged with brown; lower breast white, similarly marked; centre of abdomen more or less white; flanks olive-brown barred faintly with darker brown; under tail-coverts white with broad brown marks on either side of the bases; tail-feathers tipped with white on the three outer pairs; axillaries white tipped with brown and under wing-coverts olive-brown tipped with white.

Colours of soft parts. Iris dark brown; bill dark horny-brown, the base of the lower mandible pale yellow; legs and feet orange-yellow.

Measurements as in the male.

Young male like the female but upper plumage as in male and the edges to the feathers below more slate-grey than brown.

Nestling. Brown above, tipped and centred on each feather with pale rufous-buff; below rufous broadly barred with black.

Distribution. Breeding in Central Siberia and wandering South in winter to India, Burma and Western China and there is a typical specimen in the British Museum collection from Sumatra. This race and the next very widely overlap in their winter quarters and there are many places in which both birds have been taken almost at the same time, as, for instance, Nwalabo in Southern Burma. There is seldom, however, any difficulty in assigning any individual to its proper subspecies. It has occurred as far west as Great Britain and France.

Nidification. Does not differ from that of the better known Japanese form, the next bird. In Central Siberia it breeds late in June between latitudes North 66° and 68°.

Habits. Similar to those of Davison's Ground-Thrush.

(586) Geocicula sibirica davisoni.

DAVISON'S GROUND-THRUSH.

Turdulus davisoni Hume, S. F., v, p. 63 (1877) (Muleyit).

Vernacular names. *Mamie-jiro, Torat nigumi* (Japan.).

Description.—Adult male. Similar to the Siberian Ground-Thrush but blacker and without any white tips to the under tail-coverts or with these tips very narrow and the abdomen all slaty grey.

Colours of soft parts as in the preceding bird.

Measurements. About the same as in the preceding bird; wing 119 to 128 mm.; tail 87 to 90 mm.

Distribution. Breeding in Japan and migrating South in winter to China, the Indo-Chinese countries, Burma and Assam.

Nidification. Davison's Ground-Thrush breeds in great numbers in Japan, where the late Alan Owston obtained many nests and eggs. It lays in May and June, making a rather massive, untidy nest of grass, dead leaves and roots, lined with mud and with an inner lining of coarse grass and roots. As a rule the nest is placed in a low tree, often a fruit-tree in an orchard, between 5 and 20 feet from the ground. The eggs, which number four or five, are very pale in ground-colour, varying from bluish white to pale cream or stone-colour, the latter quite exceptional. The markings consist of specks and speckles rather sparsely scattered all over the surface of the egg like those of a weakly-marked Blackbird's egg. Erythristic eggs are rare, and equally rare are those like washed-out specimens of eggs of the Missel-Thrush. Sixty eggs average 29·5 × 20·8 mm.: maxima **33·0** × 21·2 and 28·4 × **23·0** mm.; minima **26·3** × 20·0 and 28·0 × **19·3** mm.

Habits. Apparently very much the same as those of our Indian Ground-Thrushes. They seek their food almost entirely on the ground and keep to well-wooded country and forest, but Mr. Owston informed me that they are not particularly shy or secretive birds and also that, unlike our *Geocichlas*, they have a sweet, full-toned song.

Geocichla citrina Lath., 1790.

Key to Subspecies.

A. Median wing-coverts broadly tipped with white.
  a. Chin and throat chestnut like the breast ..... *G. c. citrina*, p. 148.
  b. Chin and throat white ..... *G. c. cyanotis*, p. 150.
B. Median wing-coverts without white tips.
  c. Chin and throat chestnut ..... *G. c. innotata*, p. 151.
  d. Chin and throat white ..... *G. c. albogularis*, p. 153.
  e. Chin white, throat chestnut ..... *G. c. andamanensis*, p. 152.

(587) Geocichla citrina citrina.

THE ORANGE-HEADED GROUND-THRUSH.

Turdus citrinus Lath., Ind. Orn., i, p. 350 (1790) (Cachar).
Geocichla citrina. Blanf. & Oates, ii, p. 140.

Vernacular names. *Daokat-gajaniaba* (Cachari).

Description.—Adult male. Whole head and lower parts to vent orange-chestnut, darkest on the head and paler below, the centre of the abdomen sometimes almost albescent; upper plumage and wing-coverts dark bluish grey, each feather edged paler, a conspicuous wing-spot of white formed by the broad white tips of the median wing-coverts: primaries and outer secondaries blackish brown, edged externally with pale blue-grey; tail dark brown, faintly cross-rayed and with the central feathers tinged with blue-grey; vent and under tail-coverts white.

Colours of soft parts. Iris hazel to deep brown; bill dark horny brown; legs and feet creamy yellow to fleshy pink.

Measurements. Total length about 225 mm.; wing 103 (one) and 109 to 121 mm.; tail 67 to 69 mm.; tarsus about 33 mm.; culmen about 19 to 20 mm.

Female. Like the male but with the upper plumage (wings and tail) olive-brown instead of blue-grey, the feathers faintly edged with olive-yellow.

Colours of soft parts as in the male.

Measurements. Wing 100 to 106 mm.

Nestling. Above dark brown, the feathers with pale central striæ, the head and mantle orange-brown with darker edges and pale centres, the lower plumage dull pale orange-white heavily barred with black. Young males acquire the blue upper plumage direct from the nestling plumage and have no intermediate plumage like that of the female. The median wing-coverts are tipped with buff instead of white. It is interesting to note that young birds show signs of the two black cheek-bars so conspicuous in adult *G. c. cyanotis*.

Distribution. The Himalayas from Murree, Simla, and Garhwal to Assam, very rare in the West and getting more and more common to the East, almost the whole of Burma to the extreme South of Tenasserim. East to the Shan States, Siam, Langbian Peak in Annam (*Robinson & Kloss*) and Yunnan. In India in winter it moves to the foot-hills of the Himalayas and adjacent plains, and individuals often wander far afield. Thus in the Museum there are typical specimens from Mirzapur, Raipur, Madras and one from Ceylon and three others from this island are in the Colombo Museum. Recently Robinson and Kloss have also recorded it from Sumatra. In Bengal they are not very rare in December and January and they come well into the Behar Plains. Birds from Szechuan are nearer to *G. c. aurimaculata* from Hainan, but much bigger with wings measuring 108 to 113 mm.

Nidification. The Orange-headed Ground-Thrush breeds throughout its range between 1,000 or 2,000 and 5,000 feet, occasionally a little higher than this. It lays principally in May and June but frequently also in July, whilst I found fresh eggs as late as the end of August. The nest varies considerably. It is cup-shaped and

rather shallow, the materials consisting of fine twigs, grass, dead leaves, scraps of bracken and invariably a considerable amount of green moss outside and a lining of fine roots and fern rachides. Sometimes it is neat and compact and sometimes very loosely put together and untidy. It is placed in high bushes or small trees at any height from the ground between 3 and 15 feet. The eggs number three or four, rarely five. In colour they vary from pale green-blue, pinkish stone, or cream, whilst the markings vary from freckles of reddish brown profusely distributed all over the egg as in a Blackbird's to quite bold blotches and spots of rich reddish purple with the pale ground showing up well between them. They are in fact like many other Indian Thrushes' eggs such as *Turdus dissimilis* but differ from all these in their glossy surface and hard, close texture. One hundred eggs average 25·6 × 19·3 mm.: maxima **27·7 × 20·0** and 25·5 × **21·3** mm.; minima **21·0** × 18·5 and 27·3 × **17·1** mm.

Habits. This Ground-Thrush is essentially a bird of deep forest, though it is sometimes found in the thin cover on recently deserted patches of cultivation or in bamboo-jungle. It prefers deep, shady forests of evergreen character with an undergrowth of bushes, ferns and luxuriant wet green growths, where it potters about on the ground in its search for berries and insects. The crevices between the moss-covered boulders it hunts for beetles and spiders, and the fallen leaves and rubbish it turns over and over for the same purpose. It has a few sweet notes in the breeding-season, hardly rising to a song and it has also some quite harsh notes as well. It is a tropical Thrush and is only found in hot forests from 6,000 feet almost to the foot-hills in Summer and well into the adjacent Plains in Winter. At the same time it is not migratory in the true sense of the word, though individuals may wander very far from their usual haunts.

(588) Geocichla citrina cyanotis.

THE WHITE-THROATED GROUND-THRUSH.

Turdus cyanotis Jard. & Selby, Ill. Orn., i, pl. xlvi (1828) (Nilgiris). *Geocichla cyanonotus.* Blanf. & Oates, ii, p. 139.

Vernacular names. None recorded.

Description.—Adult male. Chin, throat, lores and fore-neck white; cheeks and centre of ear-coverts white; a broad brown line running from above the eye obliquely through the cheeks and turning to orange on the sides of the fore-neck; anterior ear-coverts dark blackish-brown, tipped with white.

Remainder of plumage like that of *G. c. citrina*, but the orange darker and duller and suffused with olive on the crown.

Colours of soft parts as in *G. c. citrina.*

Measurements. Wing 106 to 112 mm.; tail 62 to 69 mm.; tarsus 29 mm.; culmen 19 to 20 mm.

Female differs from the male in the same respects as does the female of the Orange-headed Ground-Thrush. Wing 104 to **109 mm.**

Nestling similar to those of the other races but with the white throat and brown cheek-bars well defined.

Distribution. Oates gives this Thrush's distribution as India South of latitude 24°, but it seems to be confined almost entirely to Western India, where it is common from the South of Travancore to North Kanara and thence to Nasik and Khandesh. Its Eastern limits still require working out.

Nidification. This Thrush breeds in Travancore in May and June. Davidson in Kanara found eggs from May to July; Vidal took them in the Southern Konkan in June, July and August and Mr. Morgan as late as August and September. The nest only differs from that of *G. c. citrina* in having a certain amount of mud used in its construction and the eggs only vary from those of that bird in being, on the whole, much less richly marked. Three eggs seem often to form a full clutch and two only are sometimes laid. Forty eggs average 25·0 × 18·5 mm.: maxima **27·0** × 19·1 and 25·1 × **19·2** mm.; minima **22·0** × 18·1 and 23·5 × **18·0**.

They breed between about 1,000 and 5,000 feet.

Many observers have remarked the pluck of these birds in defending their nests against marauders whether human, mammals or other birds.

Habits. Similar to those of the Orange-headed Ground-Thrush but it appears to be a much more familiar bird, haunting and even breeding in gardens and orchards as well as in deep forest. They are very crepuscular in their habits as are all *Geocichlas* and seem to rest through all the hotter hours of the day.

(589) Geocichla citrina innotata.

THE MALAY GROUND-THRUSH.

Geocichla innotata Blyth. J. A. S. B., xv, p. 370 (1846) (Malay Peninsula); Blanf. & Oates, ii, p. 141.

Vernacular names. None recorded.

Description.—Adult male. Similar to the Orange-headed Ground-Thrush but with the orange-rufous deeper and richer everywhere and with no white wing-spot.

Colours of soft parts. Iris hazel to dark brown; bill horny-black, sometimes tinged with plumbeous, the base of the lower mandible fleshy yellow; legs and feet fleshy yellow.

Measurements. Wing 110 to 122 mm.; tail 63 to 71 mm.; tarsus 32 mm.; culmen 20 to 21 mm.

Female differs from the male in the same way as it does in the other races but averages a trifle smaller.

Distribution. The distribution of this race is not easy to work out owing to so many individuals being indeterminate over so great an extent of country. Thus individuals of *G. c. citrina* and *G. c. innotata* have both been obtained from Langbian Peak, Annam (*Robinson & Kloss*), Bankasoon, Thoungyah, Klong-bang-lai and other places in the central portions of its range. Roughly speaking it is found South of Tavoy down the Malay Peninsula as far South as Malacca. Birds from Koh Kul Is., South-East Siam seem to be typical *innotata*.

Nidification. Not recorded.

Habits. Similar to those of the Orange-headed Ground-Thrush.

(590) Geocichla citrina andamanensis.

THE ANDAMAN GROUND-THRUSH.

Geocichla andamanensis Wald., A. M. N. H., (4) xiv, p. 156 (1874) (Andamans); Blanf. & Oates, ii, p. 142.

Vernacular names. None recorded.

Description.—Adult male. Differs from *G. c. citrina* in having the chestnut everywhere much richer and deeper and in having the chin white or whitish and the centre of the throat inclined to be albescent. There are nearly always distinct signs of two cheek-bars representing the blackish bars on *cyanotis*.

Colours of soft parts as in *G. c. citrina*. The base of the bill according to Davison is sometimes pale plumbeous.

Measurements. Wing 100 to 107 mm.; tail 70 to 71 mm.; tarsus 30 to 31 mm.; culmen about 20 mm.

Female has the blue-grey of the upper parts replaced by olive-green as in the other races.

Colours of soft parts as in the male.

Measurements practically the same as in the male.

Nestling as in the Orange-headed Ground-Thrush but darker.

Distribution. The Andaman Islands only.

Nidification. Breed commonly in the Andamans during May and June, during which month many nests were found by Messrs. B. B. Osmaston, P. Wickham and A. Anderson. The nest and eggs are not distinguishable from those of the Indian bird but perhaps the latter are not quite so richly coloured. Fifty eggs average 25·2 × 18·7 mm.: maxima **27·0** × 18·0 and 25·7 × **19·3** mm.; minima **23·0** × 18·6 and 26·0 × **17·6** mm.

Habits. Similar to those of the other races.

(591) Geocichla citrina albogularis.

THE NICOBAR GROUND-THRUSH.

Geocichla albogularis Blyth, J. A. S. B., xvi, p. 146 (1847) (Nicobars).
Geocichla albigularis. Blanf. & Oates, ii, p. 142.

Vernacular names. None recorded.

Description.—Adult male and **female** differ respectively from the same sexes of the preceding bird in having the chin, throat and fore-neck white and in having the chestnut even richer and deeper than in that bird; the dark cheek-stripes are just noticeable and the intermediary area sometimes whitish, though never white as in *cyanotis*.

Colours of soft parts as in *G. c. citrina*.

Measurements. Wing 100 to 106 mm.; tail 66 to 72 mm.; tarsus 31 mm.; culmen about 20 mm.

Distribution. Nicobars only.

Nidification and **Habits.** Nothing recorded.

Genus ARCEUTHORNIS.

Kaup, Skizz. Entw. Gesch. Nat. Syst., p. 93 (1829).

Type, *Arceuthornis pilaris*.

The Thrushes of this genus (*Turdus* auct.) are very closely allied both to *Turdus* and *Geocichla*. They contain three birds which are found in India in which the sexes are alike—the under wing-coverts and axillaries are of one colour and there is no pattern on the underside of the wing. The wing and tail are both long, though their comparative lengths vary slightly, and the latter is slightly graduated. The bill is smaller than in *Turdus*; the tarsi equally strong and well developed.

The Indian race of the Missel-Thrush is more or less sedentary; the other two species (the Fieldfare and Redwing) are very widely distributed and are migratory. They seek their food both on the ground and on trees.

As already shown, the name *Turdus* refers to the Thrushes of the *merula* type and therefore cannot be used for the Missel-Thrushes except by those ornithologists who unite all these genera in one. The next earliest name is *Arceuthornis* of Kaup, which will therefore have to be used.

Key to Species.

A. Under wing-coverts and axillaries white.
  a. Crown and mantle Brown ..... *A. viscivorus*, p. 154.
  b. Crown slaty-grey, mantle rufous ..... *A. pilaris*, p. 155.
B. Under wing-coverts and axillaries rufous .... *A. musicus*, p. 156

Arceuthornis viscivorus Linn., 1758.

Type-locality: Europe, restricted to Sweden.

(592) Arceuthornis viscivorus bonapartei.

THE HIMALAYAN MISSEL-THRUSH.

Turdus bonapartei Verr., Nouv. Arch. Mus. Paris, vi, Bull. p. 34 (1870) (Mupin).
Turdus viscivorus. Blanf. & Oates, ii, p. 148.

Vernacular names. None recorded.

Description. Whole upper plumage pale greyish brown, with a very faint tinge of *ochraceous*, sometimes absent and nearly always rather more pronounced on the rump and upper tail-coverts; tail brown, the feathers, unless abraded, narrowly edged with whitish and the outer tail-feathers tipped with white, this extending well down the inner web; wings brown, the median and greater



Fig. 18.—Head of *A. v. bonapartei.*

coverts and all the quills edged with sandy-white; lores and round the eyes sandy-white; ear-coverts brown streaked with sandy; lower plumage pale buff, the chin and the middle of the throat nearly white and spotless, the remainder boldly spotted with dark brown, the spots triangular on the upper breast and sides of the head and neck, round elsewhere. Axillaries and under wing-coverts white.

Colours of soft parts. Iris dark brown; bill above dark horny-brown, sometimes a little paler at the base, below yellowish at the base, dark brown on the terminal third; legs and feet pale yellowish brown, the claws darker.

Measurements. Total length about 300 mm.; wing 160 to 175 mm.; tail 110 to 125 mm.; tarsus 23 to 25 mm.; culmen about 22 to 24 mm.

This form of Missel-Thrush differs from true *A. v. viscivorus* in being larger and much paler, especially above. The European Missel-Thrush is an almost rufous-brown above and the ochre is much more distinct.

The Young bird has the feathers of the upper parts tipped with black and with white centres, dull on the head, boldly marked elsewhere.

Distribution. From Transcaspia through Central Asia, South to the Himalayas as far East as Nepal and North-East as far as Lake Baikal.

Nidification. This Missel-Thrush breeds throughout its range in May and June and commonly in the Western Himalayas from Chitral to Garhwal between 6,000 to 10,000 feet but not often below 8,000 feet. The nest is made of leaves, grass, bracken and fern-fronds, and is lined with mud and an inner lining of roots and grass. It is a big, heavy affair some 8 or 10 inches in diameter and is placed on trees generally some 4 to 10 feet from the ground. The eggs are just like those of the Common Missel-Thrush and fifty eggs average 31·3 × 22·4 mm.: maxima **34·0** × 23·0 and 30·6 × **23·6** mm.; minima **27·4** × 21·4 and 28·5 × **20·7** mm.

Habits. The Himalayan Missel-Thrush is not migratory and even in Winter is never found very low down in the hills and never wanders into the Plains. Its habits are those of its European cousin, rather shy yet haunting groves and orchards in the vicinity of buildings as well as wilder country. It is a fine songster, though it also has many harsh call-notes. Its food consists of insects of all kinds, and snails, slugs, worms and berries.

(593) Arceuthornis pilaris.

THE FIELDFARE.

Turdus pilaris Linn., S. N., i, p. 168 (1758) (Sweden); Blanf. & Oates, ii, p. 150.

Vernacular names. None recorded.

Description. Head, neck, extreme upper back, rump and upper tail-coverts slaty-grey, the feathers of the forehead and crown with black centres and the rump with white shafts; back and scapulars dark chestnut-brown, mottled, more or less, with blackish and dull white; tail dark brown, the outer feathers narrowly edged with white at the tips; wing-coverts dull chestnut-brown with pale edges; winglet, greater coverts and quills dark brown with pale edges; the innermost secondaries all grey on the outer web; lores and cheeks dark brown or black; ear-coverts like the crown; a very faint trace of a supercilium; chin, throat and breast rufous-buff, darkest on the breast, the chin unspotted, the rest boldly streaked with black; remainder of lower plumage white, the flanks and sometimes the lower breast with bold black crescentic bars or spots of black. In some specimens a certain amount of rufous or buff also extends to these parts. Axillaries and under wing-coverts white, occasionally with brown centres.

Colours of soft parts. Iris hazel to deep brown; bill yellow with a black tip; legs and feet black.

Measurements. Total length about 280 mm.; wing 140 to 153 mm.; tail 110 to 118 mm.; tarsus about 33 to 35 mm.; culmen 20 to 22 mm.

The Young bird is like the adult but has the centre of the back, coverts and scapulars streaked with fulvous and with black edges to the feathers.

Distribution. Breeding in Northern Europe from the Faroes, Norway and Sweden, North Russia, rarely North Germany and Central Russia, Siberia East to the Yenesei and, less commonly, further East to Dauria. In Winter it migrates south to Northern Africa and South-West Asia to Kashmir and North-West India.

Nidification. This Thrush breeds in scattered colonies, making a very large untidy nest of leaves, grass, twigs, etc., mud and grass lined, which it places on a tree or bush often in a most conspicuous position. The eggs number four to six and are like richly-coloured and boldly-marked Blackbird eggs. Hartert gives the average of fifty-nine eggs as 28·4 × 21·0 mm.: maxima **33·5 × 23·4** mm.; minima **26·3** × 20·5 and 28·0 × **19·5** mm.

They breed from the last few days of May to late in June.

Habits. This bird, which is only found as a very rare straggler within Indian limits (Simla, *Jerdon*; Kashmir, *Adams* and Saharanpur, *Jameson*), is a bird of well-wooded and cultivated localities. Its song is a very poor one and its call-notes loud and harsh. It feeds, like others of the genus, on both berries and insects.

(594) Arceuthornis musicus.

THE REDWING.

Turdus musicus Linn., S. N., i, p. 169 (1758) (Sweden).
Turdus iliacus. Blanf. & Oates, ii, p. 150.

Vernacular names. None recorded.

Description. Whole upper plumage and tail olive-brown, darkest on the head, palest on the upper tail-coverts; a broad supercilium buff; wings dark brown, the feathers edged with pale rufescent olive-brown; lores and ear-coverts deep brown, the latter with faint pale central striæ; flanks, under wing-coverts and axillaries chestnut; under surface white suffused with buff on the breast and sides and streaked with brown, which is almost black on the throat and sides of the neck.

Colours of soft parts. Iris dark brown; upper mandible dark brown, lower mandible dark at the tip, fleshy horny at the base; legs fleshy grey-brown.

Measurements. Total length about 230 to 240 mm.; wing 110 to 120 mm.; tail 76 to 84 mm.; tarsus about 30 mm.; culmen 18 to 20 mm.

The Young bird has the feathers of the upper parts, the wing-coverts and inner secondaries streaked with fulvous and those of the back and scapulars also tipped with black; the under-parts are dull white barred and spotted with blackish.

Distribution. Iceland, Northern Europe as far South as North Germany and Central Russia East to the Pacific but getting less common East of the Yenesei. In Winter it migrates South to the Canaries, Northern Africa, Palestine, Persia and Turkestan. A doubtful straggler into India. Jerdon recorded it as having been obtained in the N.W. Himalayas and also that Lieut. Trotter had informed him that it was a regular visitor at Kohat. Magrath, Whitehead, Harington and others have quite failed to confirm this latter statement.

Nidification. The Redwing makes a nest which is a small, neat replica of the Fieldfare's, but it does not nest in colonies and selects as a site some low bush or shrub where the nest is very inconspicuous and, at times, it even builds it on the ground. The eggs are like small Blackbird's and do not vary nearly as much as the Fieldfare's do. Hartert gives the average of fifty eggs as 25·8 × 18·7 mm.: maxima **27·8** × 19·8 and 26·2 × **20·0** mm.; minima **23·5** × 19·0 mm. and 26·0 × **17·5** mm.

They lay four to six eggs and breed principally in June.

Habits. The Redwing is a frequenter of more heavily-wooded areas than the Fieldfare and is seldom seen in open, treeless country. Its song is sweet but not very powerful.

Genus OREOCINCLA.

Gould, P. Z. S., 1837, p. 145.

Type, *Oreocincla novæ-hollandiæ* (=*lunulata*).

In the genus *Oreocincla* the sexes are alike; the under wing-coverts and axillaries are each of two colours, those on the axillaries being transposed or reversed on the under wing-coverts; the lower plumage is spotted or marked with straight or somewhat crescentic bars; the rictal bristles are few and confined to the gape. The tail is short and the under tail-coverts ample. There is a distinct colour-pattern in the underside of the wing.

The majority of the members of this genus are sedentary but *aurea* is migratory with resident geographical races.

The bill varies very greatly in size and shape, in some being small and shaped much as in *Turdus*, whilst in some, as in *O. imbricata* and *O. nilgiriensis*, it is very long and heavy, very like the bill in the Thrushes of the genus *Zoothera*.

Key to Species.

A. Feathers of upper plumage boldly tipped with crescentic black bars.
  a. Tail of 12 feathers ..... *O. dauma*, p. 158.
  b. Tail of 14 feathers ..... *O. aurea*, p. 161.
B. Feathers of upper plumage without dark tips.
  c. Lower plumage with black crescentic tips .. *O. mollissima*, p. 162.
  d. Lower plumage with black fan-shaped spots. *O. spiloptera*, p. 165.

Oreocincla dauma.

Key to Subspecies.

A. Ground-colour of lower plumage almost white.
  a. Upper parts much paler and fulvous spots dominant ..... *O. d. dauma*, p. 158.
  b. Upper parts much darker and fulvous spots obsolete ..... *O. d. nilgiriensis*, p. 159.
B. Ground-colour of lower plumage ochraceous-buff ..... *O. d. imbricata*, p. 160.

(595) Oreocincla dauma dauma.

THE SMALL-BILLED MOUNTAIN-THRUSH.

Turdus dauma Lath., Ind. Orn., i, p. 362 (1790) (India).
Oreocincla dauma. Blanf. & Oates, ii, p. 152.

Vernacular names. None recorded.

Description. In Winter the whole upper plumage is ochraceous-brown, each feather with a terminal crescentic black bar and a subterminal golden-fulvous spot; lesser wing-coverts dark brown with bold fulvous tips, median coverts with fulvous tips and edges and greater coverts with the central portion of the outer webs fulvous; quills brown edged with fulvous and the inner secondaries narrowly tipped with the same; tail, lateral feathers dark brown fading to whitey-brown on the outermost and tipped with white, central four feathers olive-brown; sides of the head fulvous spotted with black and with a black patch formed by the tips of the ear-coverts; below white tinged with fulvous, especially on the breast, in varying degree and barred on sides of neck, the breast, flanks and all but the centre of the abdomen with crescentic tips of black; axillaries white and black, reversed on the under wing-coverts.

Colours of soft parts. Iris hazel to dark brown; bill, upper mandible dark horny-brown, lower mandible pale horny-brown, dark at the tip; legs and feet pale fleshy to horny white.

Measurements. Total length about 260 mm.; wing 130 to 148 mm.; tail 93 to 103 mm.; tarsus 33 to 34 mm.; culmen 29 to 30 mm.

Young birds are very like the adults, but the black markings

are more in the nature of bars than crescentic squamations and the general rufous tinge is deeper.

In Summer the colour is much duller and the marks less prominent.

Distribution. In Summer it frequents the Himalayas from Hazara to Assam above 8,000 feet; the mountains of Central Burma to Tenasserim and North-East Burma. In Winter it straggles into various parts of the Plains of North-West India, but for the most part keeps to the foot-hills and the country immediately adjacent. Possibly Jerdon's record from the Wynaad should refer to the next bird.

Nidification. This Mountain-Thrush breeds, during May and June, in the Himalayas from the extreme West at least as far East as the Mishmi Hills at heights between 7,000 and 10,000 feet. The nest is made chiefly of green moss mixed with leaves, roots and grass, and lined with fine roots and in shape is a wide, rather shallow cup. As a rule it is placed some 5 to 10 feet up in a densely-foliaged tree such as a rhododendron. The eggs number three or four, most often the former. In colour they are a pale clay or yellowish green, but in most cases they are so closely freckled over with pale reddish that the general effect is an almost uni-coloured dark clay or reddish egg. In a few specimens the blotches are more distinct and larger and in these the ground-colour shows up more. Twenty eggs average 30·5 × 22·2 mm.: maxima 33·0 × 22·1 and 31·3 × 23·6 mm.; minima 29·0 × 23·4 and 29·3 × 20·8 mm.

Habits. The Small-billed Mountain-Thrush is a bird of deep forests, especially haunting such as have much broken ground and large moss-covered boulders and rocks, amongst which they quietly hunt for insects and berries. They are almost entirely ground-feeders, slinking about under the bushes and among the rocks in a shy, retiring manner, though they do not seem to shun observation in the cold weather. In the breeding-season Raitray describes them as very shy. They are said to have a fine song, but no recent observer seems to have heard this song and birds observed by myself were always extraordinarily quiet.

(596) Oreocincla dauma nilgiriensis.

THE NILGIRI THRUSH.

Oreocincla nilgiriensis Blyth, J. A. S. B., xvi, p. 141 (1847) (Nilgiris); Blanf. & Oates, ii, p. 153.

Vernacular names. None recorded.

Description. Similar to *O. d. dauma* but much darker above, the golden-fulvous spots hardly apparent and the black bars in less contrast. Below, the fulvous tinge is less in evidence.

Colours of soft parts as in the Small-billed Mountain-Thrush. The legs and feet are said to be more fleshy in colour.

tirely on the g
It feeds almost en strong and sound and both on insects and berries. Its flight is ... low sustained and very swift. Its note has been described as ... and sibilant, and Godlewski says that it utters a melancholy whistle, difficult to describe.

Oreocincla mollissima.

Hitherto this species has been divided into two so-called species, *O. mollissima* and *O. dixoni*, the latter being said to differ in having a longer tail and more conspicuously barred wing-coverts. I have shown in the Bulletin of the British Ornithologists' Club, xxxi, p. 81, that these alleged differences are not specific or even subspecific; the two supposed forms are found throughout the same range, *i.e.* from Chamba in the extreme North-East of India, to the South-East Shan States and Central Burmese Hills, at the same elevation.

A subspecies of this *Oreocincla* had, however, been overlooked until discovered by Captain C. H. T. Whitehead on the extreme North-East Afghan-Indian frontier.

Key to Subspecies.

A. Upper parts rich olive-brown, tinged with rufous ..... *O. m. mollissima*, p 162.
B. Upper parts olive-grey with no rufous tinge ..... *O. m. whiteheadi*, p. 163.
C. Upper parts olive-brown, paler than in A and with golden tinge ..... *O. m. simlaensis*, p. 164.

(599) Oreocincla mollissima mollissima.

THE PLAIN-BACKED MOUNTAIN-THRUSH.

Turdus mollissimus Blyth, J. A. S. B., xi, p. 188 (1842) (Darjeeling).
Oreocincla mollissima. Blanf. & Oates, ii, p. 154.
Oreocincla dixoni Seebohm; Blanf. & Oates, ii, p. 155.

Vernacular names. *Phanniok-kiok-pho* (Lepcha); *Telia kanrim* (Bhutea).

Description. Whole upper plumage rich olive-brown with a strong rufescent tinge in most specimens; wing-feathers dark brown edged olive-brown; the median and greater coverts tipped in varying degree with fulvous; two central pairs of feathers olive-brown, outermost pair olive-brown with a black base and white tip, intermediate feathers blackish with very narrow white tips; a ring of fulvous feathers round the eye; cheeks and ear-coverts mixed fulvous and black; below ochraceous changing to pure white on the abdomen, each feather with a terminal crescentic black band; under tail-coverts fulvous-white and brown; axillaries white broadly tipped with black; under wing-coverts black tipped with white.

Colours of soft parts. Iris brown; bill horny-brown or blackish, the base of the lower mandible paler; legs and feet fleshy yellow or light yellowish brown.

Measurements. Total length about 270 mm.; wing 130 to 148 mm.; tail 100 to 130 mm.; tarsus about 31 mm.; culmen from true base 24 to 27 mm., from feathers of forehead 21 to 24 mm.

As I have already noted in the Bulletin, specimens from West of Nepal are a more golden olive-brown than a rufous olive-brown and in *most* cases this distinction suffices to separate them, but many individuals overlap.

The Young bird has the head and mantle streaked with fulvous, the underparts more heavily barred and the wing-coverts more broadly edged and tipped with fulvous.

Distribution. Nepal, Eastern Assam in the Himalayas, Chin and Kachin Hills, Hills of Central Burma to Northern Tenasserim, North and South Shan States, Annam, Siam and Yunnan.

Nidification. At present unknown with any certainty, but it is undoubtedly a forest-breeding bird, probably at elevations between 8,000 and 11,000 feet and possibly up to the extreme limit of the forest-line some 1,000 feet higher. A nest and eggs sent to me, said to belong to this species, are certainly those of a Thrush of some kind. The nest is a deep, massive cup of green moss lined with black roots. The eggs are in ground-colour a dead white, marked densely at the large end and profusely elsewhere with specks, spots and blotches of reddish. These eggs average 34·3 × 24·5 mm. More information is required before these eggs, taken in Sikkim, can be accepted as correctly identified.

Habits. The Plain-backed Mountain-Thrush is found in winter down to 4,000 feet in the Himalayas and the hills of South Assam but in Summer not below 8,000 feet and it probably does not breed even as low as this. It is a shy, wild bird, haunting both dense and thin forest and does not feed nearly so much on the ground as do the birds of the *daurna* group. It is, however, a much stronger flier and in all its ways is much more typically Thrush-like than they are.

(600) Oreocincla mollissima whiteheadi.

WHITEHEAD'S MOUNTAIN-THRUSH.

Oreocincla whiteheadi Stuart Baker, Bull. B. O. C., xxxi, p. 79 (1913) (Khagan Valley).

Vernacular names. None recorded.

Description. Differs from the preceding bird in having the whole upper plumage olive-grey instead of rich olive rufescent brown; the underparts have no bright rufous tint, though one specimen has traces of ochre on the breast; the feathers of the crown also have well-marked pale shaft-stripes.

Measurements. Total length about 250 mm.; wing 124 to 136 mm.; tail 81 to 92 mm.; tarsus 28 to 29 mm.; culmen 27 to 29 mm.

Distribution. The Hill ranges of Southern India from the Nilgiris to Central Travancore between 2,000 feet and the highest hills.

Nidification. The Nilgiri Thrush breeds in the Nilgiris in May and June, making a very compact well-built nest of moss, roots, leaves and grass, lined with fine roots and placed on trees any height between 5 and 25 feet from the ground. The site selected is always one in a well-wooded "shola." The eggs number two only and are indistinguishable from those of the last bird.

Habits. Similar to those of the Small-billed Mountain-Thrush. Its reported musical abilities seem to have been given to it by mistake, for Cardew, who knew this bird very well, says that, during a long residence in Ooty, in a house adjoining a shola in which they bred, he never heard it sing once. It seems to be an even more quiet, shy and retiring bird than the last.

(597) Oreocincla dauma imbricata.

THE CEYLON THRUSH.

Zoothera imbricata Layard, A. M. N. H., (2) xiii, p. 212 (1854) (Ceylon).
Oreocincla imbricata. Blanf. & Oates, ii, p. 154.

Vernacular names. None recorded.

Description. Similar to *O. d. nilgiriensis* but still darker above and with the lower parts rufous-buff, instead of white and with the crescentic black edges narrower. The tail is practically without any white tip or edging.

Colours of soft parts. Iris dark brown; bill dark brown, paler on the base of the lower mandible; legs and feet fleshy or bluish brown.

Measurements. Total length about 240 mm.; wing 116 to 127 mm.; tail 75 to 78 mm.; tarsus about 27 mm.; culmen 26 to 27 mm.

Distribution. Ceylon only.

Nidification. Captain Aldworth found a nest and egg of this Thrush on the Bhopal Range on the 14th of April, 1911, and Mr. Tunnard has again found a nest on the 9th of August, 1922, the same birds building a second nest in September. The nests are big, bulky cups made of moss and fern-leaves, lined with fine black roots without any mud. Apparently they are placed either in forest or in trees in tea cultivation some 10 to 20 feet from the ground. They lay one or two eggs only of the same type as others of this genus but paler and greener and with a few more

definite specks of reddish bro[illegible]. An egg g[illegible]ven me by Captain Aldworth measures 35·2 × 22·0 i[illegible].

Habits. The Ceylon Thrush is found from 3,000 to the highest peaks, frequenting both heavy forest and more open country, and it seems to be especially fond of strips of forest in and about tea gardens and coffee plantations. It is a shy, retiring bird, feeding principally on the ground and it has a comparatively feeble flight.

(598) Oreocincla aurea aurea.

WHITE'S THRUSH.

Turdus aureus Holandre, F. de M. Ann. de la Moselle, 1825, p. 60 (Metz).
Oreocincla varia. Blanf. & Oates, ii, p. 153, footnote.

Vernacular names. None recorded.

Description. Exactly like *Oreocincla dauma dauma* but larger and with 14 tail-feathers.

Colours of soft parts as in that bird.

Measurements. Total length about 300 mm.; wing 150 to 167 mm.; tail 112 to 118 mm.; tarsus about 35 to 37 mm.; culmen 25 to 28 mm.

Distribution. East Siberia from Lake Baikal to the Pacific Ocean, Japan and Northern China. In Winter it migrates South to Formosa, South China, Burma and Assam.

I have kept *aurea* as a full species distinct from *dauma*, for the 14 tail-feathers are found constant in local races in Annam (*angustirostris*) and Java (*horsfieldi*), which differ from *aurea aurea* in much the same way as *imbricata* and *nilgiriensis* differ from *dauma dauma*. In both these races the pale spots are wanting above and the bills differ in size. I cannot distinguish the so-called *hansii* (Formosa) from the typical race.

Nidification. White's Thrush breeds in considerable numbers in Japan on the mountains between 2,000 feet and 4,000 feet during May and June. The nest is described as a big, compact cup of grass, moss and leaves lined with roots but with no mud. It is placed on low trees in thin forest some 10 or 15 feet from the ground. The eggs usually number four, rarely three or five. The ground-colour varies from very pale sea-green to a pale clay-colour and the markings consist of freckles of reddish so numerous and tiny that the eggs seem unicoloured as are the eggs of *O. dauma*. Generally in each clutch there is one egg with fewer, bolder blotches contrasting well with the others. Fifty eggs average 33·5 × 24·0 mm.: maxima **36·0** × 24·8 and 33·4 × **25·0** mm.; minima **31·0** × 24·1 and 34·1 × **22·9** mm.

Habits. This Thrush is said to be a very shy, retiring bird but it is found both in forest and in semi-open country and orchards.

Colours of soft parts as in *O. m. molissima*.

Measurements. Wing 142·5 to 150 mm.; tail 95·4 to 98 mm.; culmen 21·6 mm.; tarsus 30·4 mm.

Young birds show the same comparative differences as do the adults, that is to say they are less rufous both above and below; they are also more strongly striated and have the dark margins to the feathers of the upper parts more conspicuous.

Distribution. At present only known from the extreme North-East of India on the Afghan Frontier at very high levels.

Nidification. Captain Whitehead found this bird breeding on cliffs *above the forest level*. They must be very early breeders, as young were flying in June. An addled egg, presumably of this species, taken from a nest with young in the first week of May, measures 32·4×21·5 mm. It is pale yellow-cream in ground-colour and is rather richly spotted and speckled with bright reddish brown. It will probably prove to be an abnormally coloured egg.

The nest was like that of a Blackbird but was placed on a ledge of rock on a cliff.

Habits. Whitehead writes that this Thrush "differs entirely in its habits from *O. mollissima*, which bird is an inhabitant of dense forests growing at a much lower elevation. This bird, on the contrary, frequents bare precipitous slopes above the limits of tree-growth at an elevation of 12,500 to 14,500 feet, where it nests in clefts in the rocks on cliffs. The notes I heard it utter were similar to the rattling alarm-notes (like a policeman's rattle) made by *Merula maxima*, which occurs on the same ground; also the single call-note, but I was too late in the season to hear its song. It was quite common in this one valley (Khagan), but very wild and difficult to approach once the young ones could shift for themselves. As far as I could judge by observing (through glasses), the male and female differed in no way from one another. In life the white bar bordered with black under the wing seemed to me very conspicuous."

(601) **Oreocincla mollissima simlaensis**, subsp. nov.

THE SIMLA PLAIN-BACKED THRUSH.

Vernacular names. None recorded.

Description. Similar to *O. m. mollissima* but paler, less rufescent above and with a more golden-rufous tinge. The difference in depth of colour between the three geographical races is very constant.

Colours of soft parts and **Measurements** as in *O. m. mollissima*.

Type, ♂ No. 86.7.8.2317, Hume Coll. (British Museum).

Type-locality: Simla, Punjab.

Distribution. North-West Himalayas from Garhwal and the Simla Hills to Chamba below 14,000 feet.

Nidification. Mr. S. L. Whymper and later Captain R. E. Skinner found this bird breeding in Garhwal in the Dumdar and Nila Valleys at 13,000 feet, almost at the limit of the forest-line. The nests were typical Blackbirds' nests, but without any mud in their construction, placed on willows broken down by the snows. The eggs, always three only in number, are not the least like those of *Oreocincla dauma* but more like well-marked Blackbirds' eggs, though darker and more richly marked. Two clutches in my collection, with both of which the parent bird was obtained, measure only 29·3×21·3 mm. The nests were taken in the end of June.

Habits. Similar to those of *O. m. mollissima* but ascending the hills to a much greater elevation and not descending nearly so low even in midwinter. Like *O. m. mollissima* it is a forest bird and is not found in the bare uplands where Whitehead's Thrush is always found.

(602) **Oreocincla spiloptera.**

THE SPOTTED-WINGED THRUSH.

Oreocincla spiloptera Blyth, J. A. S. B., xvi, p. 142 (1847) (Ceylon); Blanf. & Oates, ii, p. 155.

Vernacular names. *Val-arrtchia* (Cing.).

Description. Upper plumage, lesser wing-coverts and quills russet-brown, the latter edged with olive-brown; median and



Fig. 19. -Head of *O. spiloptera*.

greater coverts blackish with bold white tips; tail-feathers russet-brown, the outer two or three pairs with small white tips; lores and a ring round the eye white; sides of head mixed black and white; lower plumage white, tinged with grey on the flanks and sides of breast and boldly spotted with fan-shaped black spots on the breast, upper abdomen, flanks and sides of throat.

Colours of soft parts. Iris brown; bill horny-black, paler at the base of the lower mandible; legs and feet "dusky bluish grey or greyish fleshy" (*Legge*).

Measurements. Total length about 230 mm.; wing 93 to 108 mm.; tail 74 to 78 mm.; tarsus about 34 mm.; culmen 21 to 22 mm.

The Young bird has the upper parts streaked with fulvous and the lower surface, except the chin, fulvous ochreous instead of white.

Distribution. Ceylon only.

Nidification. According to Legge the breeding season extends from January to June and the nest is said to be made of twigs, roots, moss and grass, lined with fine roots. It is placed on small trees and saplings at no great height from the ground in forest. The eggs apparently number two only and are very much like the eggs of *Geocichla citrina* but rather bigger; two eggs taken by Legge measuring 28·1 × 19·0 mm. Two eggs in my collection, sent me by Col. H. H. Harington, are similar but smaller.

Habits. This is a forest bird, being found from the level of the Plains up to some 4,000 feet. It is a shy, retiring bird and spends most of its time feeding on insects on the ground. Legge says it has a sweet whistle.

Genus **ZOOTHERA.**

Vigors, P. Z. S. 1831, p. 172.

Type, *Z. monticola*.

The genus *Zoothera* contains two Indian species of Thrush which differ from all others of the Subfamily in having supplementary bristles extending over the nostrils, whilst the usual rictal bristles are numerous and long.

The sexes are alike and the under wing-coverts and axillaries of two colours, the colours of the former reversed in the latter. The bill is very long, powerful and strongly curved near the tip. The edges of the bill, though originally even, often become worn and serrated, probably from breaking the tiny snails, etc. on which these birds largely feed.

In many ways the five genera *Turdus*, *Arceuthornis*, *Geocichla*, *Oreocincla*, and *Zoothera* lead into one another, but each has a quite recognizable character by which it can be divided from the other groups or genera and such division should help students to work out their specimens.

Key to Species.

A. Upper plumage dark slaty-brown ..... *Z. monticola*, p. 166.
B. Upper plumage rufous olive-brown ..... *Z. marginata*, p. 168.

(603) **Zoothera monticola.**

THE LARGE BROWN THRUSH.

Zoothera monticola Vigors, P. Z. S., 1831, p. 172 (Himalayas, Sikkim); Blanf. & Oates, ii, p. 157.

Vernacular names. *Daokat-buku-loubi* (Cachari).

Description. Whole upper plumage dark slaty-brown, each feather narrowly edged with black; forehead and crown tinged with rufous; wings dark brown edged paler on the wings and tipped with fulvous on some of the median and greater coverts; sides of the head brown with small fulvous spots and the ear-coverts streaked with the same; chin and middle of the throat white, narrowly barred with dark brown; breast and sides of the throat fulvous very heavily marked with olive-brown and tipped black; lower breast and abdomen white, the feathers boldly tipped with blackish brown; under tail-coverts dark olive-brown with broad white tips; axillaries white tipped with black; under wing-coverts black with white tips.

Colours of soft parts. Iris dark brown; bill dark brown to almost black; legs and feet light horny-brown.

Measurements. Total length about 285 mm.; wing 134 to 145 mm.; tail 83 to 89 mm.; tarsus about 36 mm.; culmen 34 to 38 mm.

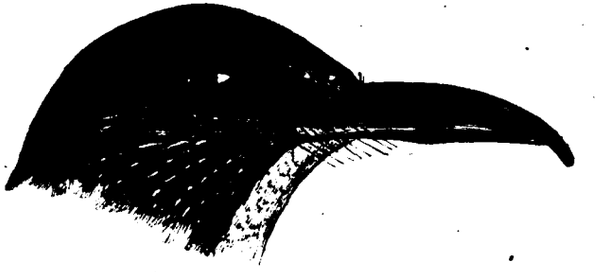


Fig. 20.—Head of *Z. monticola*.

The Young bird is darker than the adult; the upper parts are streaked with fulvous; the lower parts are more fulvous and more heavily barred and spotted with blackish.

Distribution. The Himalayas from the Sutlej Valley to Assam, Manipur, Chin Hills.

Nidification. The Large Brown Thrush breeds in May and June and occasionally in early July from 4,000 feet up to 9,000 or 10,000 feet. The nest is a deep, well-made cup of living green moss, well matted together and lined with fine roots. It is usually placed some 10 to 20 feet up in a small tree or a moss-covered stump growing in dense forest, in the Khasia Hills the favourite site being a Rhododendron. The eggs number three or four and are typical Thrushes' of the boldly-marked Blackbird type. The ground-colour varies from bright pale sea-green to a pale yellowish green or cream, whilst the markings consist of numerous small blotches of reddish to deep brown profusely scattered over the whole surface. Some eggs are very handsome. Fifty eggs average

30·0 × 21·3 mm.: maxima **33·0** × 21·2 and 30·7 × **23·0** mm.; minima **26·5** × 20·2 and 30·0 × **19·2** mm.

Habits. This Thrush is sedentary in its habits, only moving a little lower to some 2,000 or 3,000 feet in the winter. It is one of the most shy of all the Thrushes, haunting damp evergreen forest with ample undergrowth, where it skulks on the ground, feeding upon ground-berries and fruits, or on insects which it hunts for in the fallen rubbish. Its flight is strong and fast but it is difficult to flush, generally escaping by hopping into denser undergrowth. It is a silent bird but has some quite sweet notes as well as a long-drawn rather wailing whistle.

(604) Zoothera marginata.

THE LESSER BROWN THRUSH.

Zoothera marginata Blyth, J. A. S. B., xvi, p. 141 (1847) (Arakan); Blanf. & Oates, ii, p. 157.

Vernacular names. *Daokat-buku-lowia* (Cachari).

Description. Whole upper plumage and tail rufous olive-brown, the feathers very faintly margined darker; wing-quills, primary-coverts and greater coverts edged paler, rather a brick-red; tips of the median and greater coverts tipped to a varying extent with the same; the tail is cross-rayed and the outer feathers are a little paler than the central ones; sides of the head and ear-coverts mixed fulvous and dark brown; chin and centre of throat white, irregularly barred with dark brown; breast, flanks and sides of throat dark olive-brown, the pale centres obsolete, but increasing on the lower breast and on the centre of the abdomen, taking up all but a narrow fringe of light olive-brown. Axillaries and under wing-coverts as in the Large Brown Thrush.

Colours of soft parts as in *Z. monticola*.

Measurements. Wing 121 to 129 mm.; tail 75 to 79 mm.; tarsus 29 to 30 mm.; culmen 28 to 29 mm.

The Young bird has the upper parts darker and streaked with fulvous and the under parts more definitely barred.

Distribution. Sikkim to Eastern Assam, Chin and Kachin Hills, the whole of the hills of Burma to Tenasserim, Siam, Yunnan and Annam.

Nidification. The Lesser Brown Thrush breeds between 3,000 and 9,000 but, perhaps, more often below than above 6,000 feet. In the hills South of the Brahmaputra it is almost common, breeding during May, June and July in the densest and most humid forests and nearly always placing its nest on a tall bush or small tree near water. The nest is like that of the Brown Thrush but often has a few twigs, scraps of dead moss or roots woven in with the lining moss. The eggs are small replicas of those of the Large Brown Thrush but are often even brighter and bolder in coloration. These eggs would be difficult to distinguish from those of *Geocichla citrina* but for their texture which is soft and almost glossless, never with the hard shiny texture of those of that bird. They number three or four, and fifty average 27·0 × 20·0 mm.: maxima **30·1** × 20·1 and 28·0 × **21·3 mm.**; minima **24·8** × **19·0** mm.

Habits. Those of the last bird, but this Thrush inhabits lower levels and in the Winter descends almost to the foot-hills under 1,000 feet. Both the Brown Thrushes are very crepuscular in their habits.

Genus MONTICOLA.

Boie, Isis, 1822, p. 552.

Type, *M. saxatilis*.

The genus *Monticola* as shown by Hartert (Vög. Pal. i, p. 671) cannot be separated from *Petrophila* of Swainson. Oates' distinguishing feature, the comparative difference in the length of wing and tail, is only one of degree and there is a far greater proportionate difference between his *Petrophila erythrogaster* and *P. cinclorhyncha* than there is between the latter and *Monticola saxatilis*. I can find no distinctive feature to take the place of this untenable one and unite the two genera.

In the genus as now accepted there are five Indian species, all of which have a considerable amount of blue in their coloration, often combined with some chestnut. The sexes differ considerably; the tail is shorter than the wing and the tarsus is long though not as stout as in some other Thrushes.

The males have the axillaries and under wing-coverts uni-coloured, whilst the females have these parts barred.

Key to Species.

A. Upper tail-coverts and tail never chestnut.	
a. Lower plumage of two colours, black or blue with chestnut.	
a'. Wing over 100 mm.	
a''. Chin and throat black.....	*M. erythrogastra*, ♂, p. 170.
b''. Chin and throat blue.	
a^3. Large white patches on wing.	*M. cinclorhyncha*, ♂, p. 171.
b^3. No white patch on wing	*M. solitaria*, ♂, p. 172.
b'. Wing not exceeding 100 mm.	*M. gularis*, ♂, p. 176.
b. Lower plumage almost uniformly of one colour, barred or squamated with dark brown	
a'. Wing over 100 mm.	
c'. Upper plumage *not* bluish but olive-brown.	
c^3. Back and rump barred	*M. erythrogastra*, ♀, p. 170.
d^3. Back plain, rump barred	*M. cinclorhyncha*, ♀, p. 172.

a'. Upper plumage bluish *not* olive-brown	*M. solitaria*, ♀, p. 173.
b'. Wing under 100 mm	*M. gularis*, ♀, p. 176.
B. Upper tail-coverts and base of tail chestnut	*M. saxatilis*, p. 177.

(605) Monticola erythrogastra.

THE CHESTNUT-BELLIED ROCK-THRUSH.

Turdus erythrogaster Vigors, P. Z. S., 1831, p. 171 (Himalayas).
Petrophila erythrogastra. Blanf. & Oates, ii, p. 143.

Vernacular names. *Ningri-pho* (Lepcha); *Daohangar* (Cachari).

Description.—Adult male. Whole upper plumage brilliant cobalt-blue, the mantle blackish: lores, sides of head and neck black; chin and throat black suffused with blue; lesser and median wing-coverts like the back; quills blackish, the greater coverts, innermost secondaries and edges of quills dark cobalt-blue; tail dark cobalt-blue, the feathers narrowly edged with brilliant blue; remainder of lower plumage, axillaries and under wing-coverts chestnut-maroon.

Colours of soft parts. *Iris* hazel to deep brown; bill black; legs and feet plumbeous black to black.

Measurements. Total length about 220 to 230 mm.; wing 120 to 130 mm.; tail 100 to 104 mm.; tarsus about 29 mm.; culmen 21 to 22 mm.

In Winter for a short time after the Autumn moult the feathers of the mantle, sides of neck and lower throat are edged with whitish or pale fulvous, the inner secondaries and some of the coverts with white.

Female. Whole upper plumage, wings and tail olive-brown, the mantle obsoletely marked with dark crescentic bars becoming better defined towards the upper tail-coverts, where they are bold and black; a ring round the eye fulvous; lores mixed fulvous and olive-brown; ear-coverts blackish; a patch behind them, an ill-defined moustachial streak and centre of chin and throat buff; remainder of lower plumage buff, barred with black and with pale edges, often worn away.

Colours of soft parts. Iris brown; bill dark horny-brown; legs and feet dark brown.

Measurements. Wing 119 to 124 mm.

The Nestling is fulvous above, each feather boldly edged with black; below fulvous-white, barred and edged with blackish.

Distribution. Himalayas from Chamba to Eastern Assam, Manipur, the mountains of Burma, Cochin China to Western China and there are specimens from Fokhien. Chinese female birds are very dark and lack the fulvous-golden tinge on the lower plumage.

Nidification. This Rock-Thrush breeds between 4,000 and 8,000 feet throughout its habitat but principally under 6,000 feet. It makes a nest, roughly cup-shaped, of moss, twigs, roots, grass and other odds and ends, lined with fine roots or grass, which it places in a hole in a rock or cliff, in between stones or, more rarely, in a hollow in a bank or under a boulder or dead tree on the ground. Hume found a nest placed at the roots of a tree in forest but this situation must be exceptional.

The eggs vary from three to six in number. In ground-colour they range from creamy-white to pale reddish fawn, speckled all over, though more numerously at the larger end, with pale to fairly dark reddish brown. Most eggs look almost unicoloured but in a few the markings show fairly well. In shape they are broad ovals with a fine close texture, often highly glossed. Seventy-five eggs average 26·8 × 19·9 mm.: maxima **29·5 × 20·0** and 27·4 × **21·1** mm.; minima **24·3** × 19·6 and 26·6 × **19·0** mm.

The breeding-season is May and June.

Habits. In summer this is a wild shy bird, haunting the roughest of forest country, broken by cliffs and deep ravines, but in winter it becomes excessively tame and takes to the vicinity of villages and other human habitations, often perching on house-tops and hunting for food in gardens and orchards. It will eat almost anything from the tiniest insects to the largest snails, worms, small lizards, frogs, etc. They will also eat small fish and water insects. In its actions generally it reminds one much of some of the Redstarts and these Thrushes show many connecting-links between the *Phœnicurinæ* and *Turdinæ*. Like the former birds they often capture insect prey from a fixed post, and they constantly jerk their tails backwards and forwards over their back.

(606) Monticola cinclorhyncha.

THE BLUE-HEADED ROCK-THRUSH.

Petrocincla cinclorhyncha Vigors, P. Z. S., 1831, p. 172 (Himalayas, Simla).
Petrophila cinclorhyncha. Blanf. & Oates, ii, p. 144.

Vernacular names. *Krishen-patti* (Nepal); *Daohangar*, (Cachari); *Vohtiglé* (Mikir); *Hengnérainé* (Kacha Naga).

Description.—Adult male. Crown, nape, chin, throat and lesser wing-coverts bright cobalt-blue: a narrow line above the eye, lores, cheeks, ear-coverts, sides of neck, back and scapulars black; greater wing-coverts and winglets black edged with blue; primaries black, all but the first two edged with blue; secondaries black, all but the innermost with a broad white band on the base of the outer webs; tail blackish edged narrowly with blue; rump, upper tail-coverts, whole lower surface, axillaries and under wing-coverts chestnut.

Colours of soft parts. Iris dark brown, the gape yellow and in

the non-breeding season the base of the lower mandible also yellowish; legs and feet plumbeous or plumbeous horny, the claws blacker.

Measurements. Total length about 180 to 190 mm.; wing 100 to 104 mm.; tail 65 to 68 mm.; tarsus 24 to 25 mm.; culmen 18 to 19 mm.

Female. Whole upper plumage, wings and tail olive-brown, tinged with ochraceous on the rump and upper tail-coverts, which are barred with dull black; the tail is faintly cross-rayed and the feathers of the wings edged paler; below white tinged with fulvous on breast and flanks, the chin and throat nearly immaculate, the remainder barred with dark brown; under wing-coverts and axillaries pale fulvous barred with blackish; under tail-coverts white with black lines following the contour of the feathers.

Colours of soft parts. Iris brown; bill dark horny-brown, paler at the base; legs horny-brown or slaty-brown.

Measurements. Wing 93 to 105 mm.; tail 65 to 69 mm.

The male in Winter has the feathers of the black parts broadly fringed with fulvous.

Nestling. Like the female but with the whole upper plumage golden fulvous, each feather edged with blackish.

Young males are like females but from a very early age show the blue on wings and tail.

Distribution. From the Afghan and Baluchistan frontiers throughout the Himalayas to East and South Assam, the Chin Hills and Kachin Hills. In winter it spreads practically throughout India and West and Central Burma.

Nidification. The Blue-headed Rock-Thrush breeds throughout its Northern range between 4,000 and 9,000 feet, most often between 4,000 and 6,000 feet. Nest and eggs are exactly similar to those of the preceding bird except in size. Fifty eggs average 23·7 × 17·9 mm.: maxima **27·1** × 18·6 and 23·6 × **20·0** mm.; minima **21·3** × 19·9 and 23·6 × **16·9** mm. They commence to breed in early April and throughout May to the middle of June, but I have seen odd nests with eggs in July and August, probably second broods.

Habits just the same as those of *M. erythrogastra*.

Monticola solitaria.

Turdus solitarius P. L. S. Müller, S. N. Anhang, p. 142 (1776) (Italy).

The Rock-Thrush has been split up into many subspecies, some of which are differentiated by characters which are hardly discernible and others by such as are very well marked. The extreme Eastern bird from China to the Philippines is marked by the whole red under parts from breast to under tail-coverts, whilst the extreme Western bird is all blue. Both of these have been split

into various races based on a very small degree in depth of our etc., but the intermediate race, which contains the characters the two extremes, has been ignored since the time of Blyth. e area of this form embraces all Burma, Siam and the Indo- nese countries and it would be silly to imagine that we have orids extending over so vast an area and, even though the ividuals vary much in details of coloration, it seems wiser to ept them as a race intermediate in coloration, as in country, ween the two extremes.

Key to Subspecies.

All blue both above and below.	
a. Paler above and below	*M. s. transcaspica*, p. 173.
b. Darker above and below	*M. s. pandoo*, p. 174.
Under tail-coverts and often the abdomen and flanks marked with chestnut	*M. s. affinis*, p. 175.
From breast to under tail-coverts uniform chestnut.....	*M. s. philippensis*, p. 175.

(607) Monticola solitaria transcaspica.

HARTERT'S BLUE ROCK-THRUSH.

Monticola solitaria transcaspica Hartert, Bull. B. O. C., xxiii, p. 43 (1909) (Askabad).
Petrophila cyanus. Blanf. & Oates, ii, p. 146 (part.).

Vernacular names. *Shama* (Hind. in S.); *Pandu* (Mahr.).

Description.—Adult male. Whole plumage bright blue; the ore-crown, cheeks, chin and throat brightest; tail dark brown, he feathers edged with bluish; lesser wing-coverts bluish; emaining coverts and quills brown, the greater coverts with hite tips.

Colours of soft parts. Iris hazel to deep brown; bill black with yellow gape; legs and feet black.

Measurements. Total length about 230 mm.; wing 116 to 122 mm.; tail 80 to 84 mm.; tarsus about 29 to 30 mm.; culmen 23 to 24 mm.

Female. Above grey-brown, the feathers, more especially of the head, with rather dark central marks; the upper tail-coverts with distinct bars of blackish and obsolete bars on the rump; wings and tail light brown with paler edges and a white wing-bar formed by the tips of the greater coverts; below dull fulvous-white cross-barred with dark brown, more streaky on the chin, throat and neck. Some females have a certain amount of bluish tinge both above and below.

Colours of soft parts. Iris brown; bill dark horny-brown; legs and feet black.

Measurements. Wing 112 to 120 mm.

Nestling. Like the female but duller and darker, each feather above with a broad white tip and subterminal dark bar; the under parts from chin to vent closely barred with blackish brown.

Hartert's Blue Rock-Thrush differs from the European bird in its paler plumage.

Distribution. From Transcaspia through Persia to the Indo-Afghan and Baluchistan boundaries. It is common and resident on the Kurram and Khagan Hills.

Nidification. Col. H. H. Harington took a nest with three eggs on the 10th of June at about 8,000 feet on the Khagan ridge. It was built under an overhanging bank in a rocky hillside. All three eggs are pigmies unfortunately and the measurements are valueless.

Habits differ in no way from those of the common Indian form next described.

(608) **Monticola solitaria pandoo.**

THE INDIAN BLUE ROCK-THRUSH.

Petrocincla pandoo Sykes, P. Z. S., 1832, p. 87 (Western Ghats).
Petrophila cyanus. Blanf. & Oates, ii, p. 146 (part.).

Vernacular names. *Shama* (Hind. in S.); *Pandu* (Mahr.); *Podakachi pitta* (Tel.); *Ningri-pho* (Lepch.); *Daohangar* (Cachari); *Hengméruiné* (Kacha Naga); *Vohtiglé* (Mikir).

Description. Both male and female differ from the same sexes of Hartert's Blue Rock-Thrush in being very much darker, darker even than the European bird.

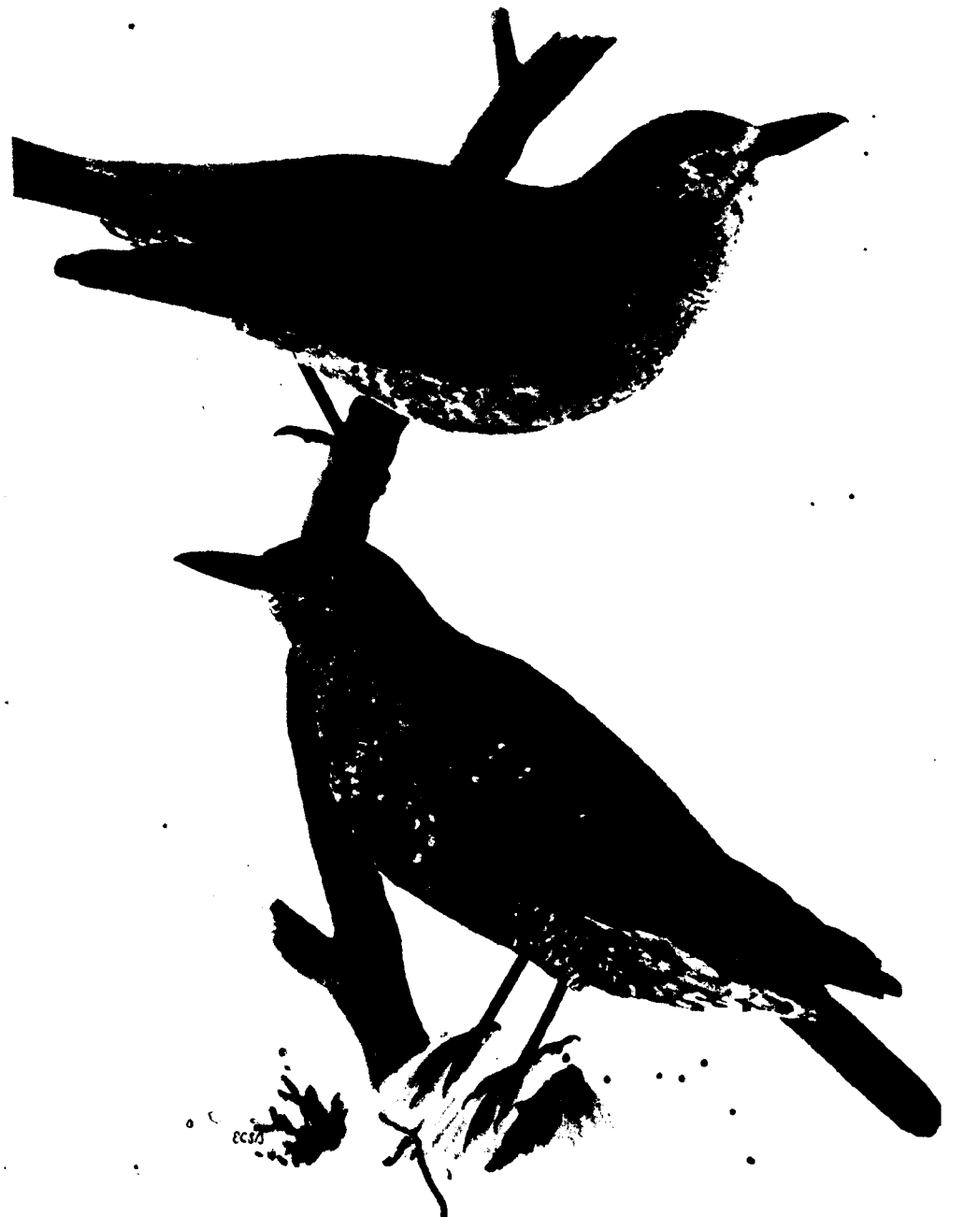
Colours of soft parts as in the preceding bird.

Measurements. Wing 115 to 125 mm.

Distribution. Kashmir East to Tibet, Sikkim, the hills North of Assam and possibly Chin Hills. In Winter it is found over the whole of India and Assam and possibly a few individuals wander into Northern Burma, but all those I have examined from East of Assam belong to the next race.

Nidification. The Indian Blue Rock-Thrush freely breeds in Kashmir, Simla States, Garhwal, Sikkim and Tibet from 6,000 feet upwards but in most cases over 8,000 feet. They commence to lay in the end of April and eggs may be found up to the middle of June. The nest is a rather rough cup of moss, twigs, grass and leaves lined with roots or grass and is nearly always placed in between stones and boulders in old walls or cliffs, more rarely in a hole in a bank and occasionally, according to Dresser, even in a bush. The eggs number three to five and are pale blue in colour, sometimes with a few specks of reddish at the larger end. Twenty eggs average 27·4 × 19·8 mm.: maxima 29·0 × 20·0 and 27·7 × 20·1 mm.; minima 24·3 × 18·3 mm.

Habits. This Thrush is a bird of open country, especially such



MONTICOLA SOLITARIA AFFINIS.
The Burmese Blue Rock-Thrush.
♂ below. ⅔ life size. ♀ above

as is precipitous and rocky and in Winter, like the other Rock-Thrushes, it often frequents the vicinity of villages and houses, perching on the roofs and railings. It has a habit, much like that of the Chats, of perching on a stump or rock, from which it makes little sallies after insects on the ground or passing by, or it sits, flicking its tail up and uttering a quaint little croak at intervals, much like that of a frog but very low and soft. It has a rather pleasant whistle and is said to have a "melodious but plaintive" song during the breeding-season. It eats berries and fruit as well as insects, snails, etc. and will swallow animals as big as small lizards, snakes and frogs.

(609) **Monticola solitaria affinis.**

THE BURMESE BLUE ROCK-THRUSH.

Petrocincla affinis Blyth, J. A. S. B., xii, p. 277 (1843) (Tenasserim).

Vernacular names. Same as for the preceding bird.

Description.—Adult male. Similar to the Indian Blue Rock-Thrush but always with some chestnut on the under tail-coverts and nearly always with splashes of this colour on the vent, abdomen and flanks.

Colours of soft parts and **Measurements** as in the preceding bird; wing 113 to 123 mm.

Distribution. Breeding in Western China, Northern Burma, Yunnan and probably the higher Kachin and Bhamo Hills, where Harington obtained it during the breeding-season. In Winter it is found South through Assam South of the Brahmaputra, the whole of Burma, Malay Peninsula, Siam, Yunnan and Western China.

Nidification. Not recorded.

Habits. Those of the species.

(610) **Monticola solitaria philippensis.**

THE JAPANESE BLUE ROCK-THRUSH.

Turdus philippensis Müller, S. N., Anhang, p. 142 (1776) (Philippines).

Vernacular names. *Iso pio dari* (Jap.).

Description. The male differs from our other Indian forms in having the whole of the under parts from breast to under tail-coverts bright chestnut.

Colours of soft parts as in the other races.

Measurements. Wing 4·47 (*La Touche*) to 4·76 mm. Specimens in the British Museum have wings which measure from 112 to 126 mm.

Distribution. Breeding in North-East China and Japan and in winter South to South China, Formosa, Pescadores, Philippines, etc. There is one specimen in the British Museum from Tenasserim.

Nidification. In Japan these birds breed during May and June. The eggs seem rather large, the few I have seen averaging about 29·1 × 20·7 mm.

Habits. Those of the genus.

(611) Monticola gularis gularis.

SWINHOE'S ROCK-THRUSH.

Orocetes gularis Swinh., P. Z. S., 1862, p. 318 (Pekin).

Vernacular names. None recorded.

Description.—Adult male. Whole crown, nape and lesser wing-coverts brilliant cobalt-blue; a narrow line next the beak running back over the eye and ear-coverts black, the latter streaked with rufous; back, scapulars and greater wing-coverts black, the two latter always edged with fulvous or fulvous-white; rump and upper tail-coverts chestnut; tail grey-brown with a bluish tinge; wing-quills brown, edged blue-grey and with a broad patch of white on the base of the outer secondaries; a circular patch of white on the fore-neck, extending in a narrow line up the throat to the chin; lores and remainder of under parts chestnut, darkest on the throat and breast, paling to fulvous on the under tail-coverts, centre of abdomen, axillaries and under wing-coverts.

Colours of soft parts. Iris brown; bill nearly black; legs and feet fleshy brown to dark plumbeous brown.

Measurements. Total length about 180 mm.; wing 95 to 99 mm.; tail 74 to 79 mm.; tarsus about 22 mm.; culmen about 11 to 12 mm.

Female. Head, nape and hind-neck olive-brown; upper parts olive-brown barred with black and with fulvous edges; tail reddish brown with pale tips; greater coverts dark brown, edges reddish and with broad fulvous tips; quills and primary-coverts dark brown edged with reddish; inner secondaries with broad fulvous tips and subterminal black bars; a ring of white feathers round the eye; a throat-patch as in the male; below bright, pale fulvous; barred everywhere except on the centre of the abdomen, vent and under tail-coverts with crescentic black bars.

Colours of soft parts and **Measurements.** Bill horny-brown, pale at the tip; otherwise as in the male.

The male in Winter has the black feathers broadly edged with fulvous and the chestnut feathers narrowly edged with the same.

Distribution. East Siberia, Manchuria and North China. In Winter it wanders South into Southern China and the Indo-Chinese countries, straggling occasionally into Tenasserim and South-East Burma.

Nidification. Unknown.

Habits. This is said to be more of a forest bird than the other species of this genus. According to Dresser it haunts "dense forests where there are old trees." Its song is said to be sweet and powerful.

(612) Monticola saxatilis.

THE ROCK-THRUSH.

Turdus saxatilis Linn., S. N. (12th ed.), p. 294 (1766) (Greece).
Monticola saxatilis. Blanf. & Oates, ii, p. 147.

Vernacular names. *Daokat gatang-lili* (Cachari).

Description.—Adult male. Whole head, neck, extreme upper back, throat and fore-neck bright lavender-blue; remainder of upper back to rump dark slaty-blue, the centre of the back white, generally more or less smeared with bluish; longer tail-coverts chestnut; central tail-feathers brown, outer tail-feathers chestnut, marked in varying degree with brown; lesser wing-coverts like the back; greater wing-coverts, primary-coverts and quills brown, all but the primaries tipped with fulvous-white and the greater coverts tinged with deep blue; lower plumage pale, bright chestnut. After the Autumn moult the feathers of the upper parts are slightly fringed with white and black and the underparts with white.

Colours of soft parts. Iris dark brown; bill black in breeding-season, paler at the base in winter; legs and feet black.

Measurements. Total length about 190 mm.; wing 116 to 125 mm.; tail 60 to 65 mm.; tarsus about 29 mm.; culmen about 13 to 14 mm.

Female. Upper plumage and wings light grey-brown, each feather with a white terminal bar and a faint dark subterminal bar and shaft-stripe; upper tail-coverts chestnut with similar bars and streaks; tail like the male; below dull white, irregularly suffused with chestnut and barred with black except on the centre of the chin and throat; under tail-coverts, axillaries and under wing-coverts bright pale chestnut with pale tips to the tail-coverts.

Colours of soft parts. Bill paler than that of the male.

Measurements. Wing 112 to 118 mm.

Distribution. South and Central Europe, North-West Africa, Western Asia, through Palestine, Persia, Mongolia, South Siberia and North China. It Winters throughout Central Africa, both West and East, Northern India and Burma, Yunnan, the Indo-Chinese countries and South China.

Nidification. Breeds during May and early June, making a cup-shaped nest of roots and grass lined with fine roots and sometimes with hair, fur or feathers. It is placed in old walls, ruins, cliffs or among stones and is generally well hidden. The eggs number four or five and are pale blue, occasionally with a few reddish

freckles at the larger end. One hundred eggs average 25·9 × 19·5 mm. (*Jourdain*, *Rey*, etc.) and the extremes are: maxima **30·0** × 20·8 and 29·0 × **21·0** mm.; minima **23·2** × **16·9** mm.

Habits. A very familiar bird, frequenting open, stony country and often found in the immediate vicinity of houses and gardens. Like the other species of this genus it is very Chat-like in its habits and actions; its song is sweet and strong and its diet as varied as those of its nearest relations.

Genus **MYIOPHONEUS**.

Myiophoneus Temm., Pl. Col., ii, p. 29 (1823).

Type, *Myiophoneus flavirostris*.

This genus, which Oates placed among the *Crateropodidæ* (*Timaliidæ*), is a true Thrush in every respect and the nestling shows distinct bars and streaks. They are large birds of black plumage glossed with blue and are very handsome. The bill is stout and rather less than the head in length; it is compressed laterally and hooked at the tip. The nostrils are round and broad ovals. The wing is rather rounded for a Thrush's but the legs and feet are typically Thrush-like, long and strong. The sexes are alike.

There are only two species in India, and some ornithologists might even place all our races in one species. The blue forehead and blue patch on the wing-coverts, neither of which is ever even indicated in any of the other forms, seem, however, sufficient to specifically distinguish *horsfieldii* from any of the other forms.

Key to Species.

A. A bright blue forehead and a brilliant patch of cobalt-blue on the lesser wing-coverts.. *M. horsfieldii*, p. 178.
B. No definite blue forehead or blue patch on wing-coverts ..... *M. temminckii*, p. 180.

(613) **Myiophoneus horsfieldii.**

THE MALABAR WHISTLING-THRUSH.

Myiophoneus horsfieldii Vigors, P. Z. S., 1831, p. 35 (Malabar); Blanf. & Oates, i, p. 180.

Vernacular names. *Gunta-ukkee* (Canarese); *Singala Karewé* (Tel.).

Description. Lores and forehead deep velvety black; anterior crown bright cobalt-blue; whole head, neck and mantle black, shading into deep blue on upper back, tail-coverts and tail; lesser wing-coverts bright cobalt-blue; wing-feathers black edged with blue except on the terminal halves of the outer primaries; chin, throat, fore-neck and breast black; lower breast, flanks and abdomen black with deep glistening blue; under tail-coverts blue-black.

Colours of soft parts. Iris dark brown; bill and feet black.

Measurements. Total length about 300 mm.; wing 146 to 160 mm.; tail 112 to 114 mm.; tarsus 41 to 43 mm.; culmen 30 to 31 mm.

Young birds are like the adult but much duller.

Nestling has not yet been described.

Distribution. South-West India, North to Bombay, Mount Abu, Sirguja and Sambalpur, but not anywhere on the Eastern coasts. Some birds brought up by a Nilgiri planter and released in the Jetinga Valley, Cachar, lived and bred for many years but eventually died out or lost their distinguishing features in pairing with *M. t. temminckii*.

Nidification. The Malabar Whistling Thrush breeds during February and March in South Travancore, in May and June further North in the Nilgiris and adjoining hills and as late as August in the North of its range. Normally it places its nest in among boulders beside a stream but not infrequently in buildings old or new, and in Khandala General Betham found a nest, or rather a series built one on the top of another, placed on the inside ledge of a window of the church. The nest is made principally of living moss mixed with roots and, rarely, a little grass or a few leaves. The lining, which is thick and compact, is of black roots, very tightly wound round. The eggs usually number three, occasionally either two or four. They are typical Thrushes' eggs and rather like those of *Oreicola dauma* but much longer in shape. The ground-colour is a pale clay, cream, greyish stone or greenish and the markings consist of dull indefinite freckles and blotches of pale reddish brown with secondary markings of pale neutral tint and lavender. Some eggs look almost unicoloured and very few are at all well or boldly blotched. Forty eggs average 33·1 × 23·9 mm.: maxima **36·2** × 24·1 and 33·2 × **25·3** mm.; minima **30·2** × 23·4 and 34·0 × **23·2** mm.

Habits. The Whistling School-boy, as this fine Thrush is called on the Nilgiris, is a familiar object on every stream, small or large, whether running through forest, through grass-land or just outside a village or town. Its fine whistle, very full and sweet and distinctly Blackbird-like in tone, is uttered often throughout the day, though perhaps more frequently in the mornings and evenings. It feeds entirely on the ground or in the shallow water at the edges of streams and will devour almost any living thing small enough to swallow. It is a bold bird, in no way shunning observation, and often enters gardens and compounds.

Myiophoneus temminckii.

Key to Subspecies.

A. White tips to wing-coverts ..... *M. t. temminckii*, p. 180.
B. No white tips to wing-coverts ..... *M. t. eugenei*, p. 181.

In Tenasserim they appear to breed from February to April but in the North from April to May.

Habits. This, like the last bird, is an inhabitant of the hill-country, being found in summer from the foot-hills to the highest hilltops, and in winter spreading into the Plains wherever there is fast-running, clear streams but never venturing on to slow-running, muddy rivers. In voice, flight and food there is nothing to remark differing from the Himalayan Whistling-Thrush, but it seems to be a wilder bird and less tolerant of humanity.

Genus **ARRENGA**.

Arrenga Less., Traité d'Orn., p. 388 (1831).

Type, *Arrenga cyanea* Horsf.

The genus *Arrenga* is represented within our limits by one species, an inhabitant of Ceylon. It is very closely allied to the *Brachypteryginæ*, having a very short, rounded wing with the 5th, 6th and 7th primaries longest and subequal and it also has very long tarsi. Its position is possibly between the true Shortwings such as *Hodgsonius* and *Larvivora* and the true Thrushes represented by *Myiophoneus* but is nearer on the whole to the latter than the former.

The bill is stout and shaped like that of *Myiophoneus* though rather shorter, being only about half as long as the head; the rictal bristles are well developed and the nostrils are rounded. The tail is rather short and very slightly graduated.

(616) **Arrenga blighi.**

THE CEYLON WHISTLING-THRUSH.

Arrenga blighi Holdsworth, P. Z. S., 1872, p. 444, pl. 19 (Ceylon); Blanf. & Oates, i, p. 183.

Vernacular names. None recorded.

Description.—Male. Whole plumage dark brown; the head and neck are almost black; rump, vent and tail paler and the latter



Fig. 22.—Head of *A. blighi*.

obsoletely edged with reddish; lesser wing-coverts bright cobalt-blue; neck, breast, back and wing-coverts suffused with deep blue.

Colours of soft parts. Iris dark brown; bill black; legs and feet dark horny-brown to blackish.

Measurements. Total length about 200 mm.; wing 113 mm.; tail 75 mm.; tarsus 35 mm.; culmen 21 mm.

Female. Whole plumage ferruginous brown, lighter below, especially on the fore-neck; the lesser wing-coverts are the same as in the male and there is just a faint indication of the blue suffusion on the back and wings.

Colours of soft parts are similar to those of the male.

Measurements. Wing 109 to 110 mm.; tail 69 to 71 mm.; tarsus 35 mm.; culmen 19 mm.

The British Museum has only three specimens of this bird, one male and two females. Oates' supposed young male is undoubtedly a female.

Distribution. Ceylon only.

Nidification. The Ceylon Whistling-Thrush breeds in March (*Tunnard*) and in April, during which latter month Captain T. Aldworth took several nests. They are very massive structures, much like those of *Myiophoneus*, made almost entirely of green moss and lined with black roots. They are placed on ledges and in crevices of rocks either in or beside streams and owing to its position the outside is nearly always wet though the inside may be warm and dry enough. The normal full clutch of eggs is two, or occasionally only one. They are small replicas of the eggs of the Himalayan Whistling-Thrush and range through the same variations in markings. One pair of eggs taken by Captain Aldworth is very well marked, better than in any of the many hundred eggs I have seen of the other Whistling-Thrushes. The six eggs in my collection vary from 29·3 × 21·4 to 34·2 × 20·3 mm. and in breadth from that of the latter egg to 31·6 × 22·2 mm.

Habits. This seems to be entirely a forest bird, frequenting streams running through well-wooded and rocky country between 3,000 and 6,000 feet. In its actions, voice and food it very closely resembles the birds of the genus *Myiophoneus* but its flight is slower and less well sustained. It is a shy bird and difficult to flush except in the breeding-season.

Genus **COCHOA**.

Cochoa Hodgs., J. A. S. B., v, p. 359 (1836).

Type, *Cochoa viridis*.

The genus *Cochoa* contains, in India, two species of Thrush which are in many ways somewhat aberrant, especially in their type of coloration, which rather reminds one of the birds of the genus *Pterutiius*, and in the short, very broad bill. The nostrils are large and oval, the rictal bristles obsolete and the tarsi powerful but short. The wing is long and pointed with a minute first primary and the tail is of moderate length very slightly graduated.

The young are boldly squamated above and barred below, as in

(614) Myiophoneus temminckii temminckii.

THE HIMALAYAN WHISTLING-THRUSH.

Myiophoneus temminckii Vigors, P. Z. S., 1831, p. 171 (Himalayas); Blanf. & Oates, i, p. 178.

Vernacular names. *Kastura* (N.W. Provinces); *Kaljit* (Doon); *Chamong-pho* (Lepcha); *Tetiman* (Bhutea); *Simtung* (Khasia); *Di-Daokat gashim* (Cachari).

Description. Lores, chin and upper throat black; forehead bright deep blue; whole head, back, wing-coverts, breast and flanks deep blue-black, each feather with a terminal spot of glistening blue; the spots on the head, neck and throat elongate and gradually widening to broad, circular drops on lower breast and back; tail deep prussian blue; wings deep blue, the median coverts with bold white tips; abdomen, vent and under tail-coverts blackish brown.

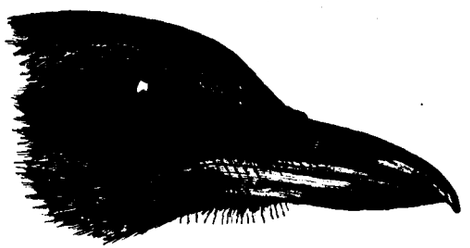


Fig. 21.—Head of *M. t. temminckii*.

Colours of soft parts. Iris brown or black; bill yellow, the culmen and base of upper mandible blackish; legs and feet black.

Measurements. Wing 158 to 180 mm.; tail 116 to 122 mm.; tarsus 50 mm.; culmen 28 to 30 mm.

Young birds are like the adult but duller and without the glistening spots.

Distribution. Himalayas from the Afghan Frontier to the extreme East of Assam, North and South of the Brahmaputra, Chin Hills, Arakan and the Kachin Hills between the Chindwin and the Irrawaddy. A few birds from the Chindwin are rather like the next race, and here and there on the other hand individuals are found across the East of the Irrawaddy nearer this form than *eugenii*.

Nidification. The Himalayan Whistling-Thrush breeds from the level of the foot-hills up to some 9,000 feet and occasionally up as high as 12,000 feet in Tibet. The nest is a very massive cup, made of living moss with the muddy roots still adhering to the moss and mixed up with it, whilst the lining is of fine dry

maidenhair fern and moss-roots. The internal cup may be some 4 to 5 inches across and rather more than half as deep, but the size of the nest from one outer edge to the other is often over a foot and the weight runs up to 6 or 7 pounds. It is nearly always placed near running water: in among boulders or roots on the bank, under an overhanging clod of earth, in or under some stump of dead tree, high up in rock or cliff or actually in the stream itself. A very favourite position is under a waterfall, and I have found more than one, to enter which the birds had actually to pass through the edge of the fall to get to their young. In these cases the nest, young birds and the sitting old ones were always more or less wet from the spray.

They lay three or four eggs and but rarely five. They are just like those of the Malabar Whistling-Thrush but rather larger and more unicoloured, the freckles and blotches being still more ill-defined than they are in these eggs. Two hundred eggs average 35·8 × 24·8 mm.: maxima 40·3 × 26·0 and 35·1 × 27·1 mm.; minima 34·0 × 26·4 and 38·4 × 24·4 mm.

They breed from April to August, often rearing two broods.

Habits. An extremely common bird throughout the greater part of its range this fine Thrush is found on every stream, flitting hither and thither up and down them and constantly uttering its loud, sweet notes so like the human whistle, but much clearer and more resonant. They feed both on the streams and in wet bush-forest, working the leaves and moss just like our English Thrush, turning them over and then listening with head on one side for the movements of a hoped-for worm or other prey. Their alarm-note is like that of the Blackbird and when disturbed they fly far and fast but they are very confiding birds and do not resent being watched. At the same time, they do not frequent the vicinity of buildings as the Malabar bird does.

(615) Myiophoneus temminckii eugenei.

THE BURMESE WHISTLING-THRUSH.

Myiphoneus eugenei Hume, S. F., i. p. 475 (1873) (Pegu); Blanf. & Oates, i, p. 179.

Vernacular names. None recorded.

Description. Similar to the Himalayan Whistling-Thrush but with no white tips to the wing-coverts and the bill almost entirely yellow.

Distribution. Eastern Burma, East of the Irrawaddy, Karenni; Pegu and Tenasserim, Siam, Shan States, Yunnan and Cochin China.

Nidification. Similar to that of the Himalayan Whistling-Thrush. Thirty eggs average 36·7 × 25·4 mm. and are indistinguishable from those of that bird.

many other of the genera in this family. The nidification and the eggs are typically Thrush-like.

Key to Species.

A. Crown of head lavender-blue ..... *C. purpurea*, p. 184.
B. Crown of head deep cobalt-blue.
a. Cheeks, ear-coverts and sides of head black. *C. viridis*, p. 185.
b. Cheeks, ear-coverts and sides of head white. *C. rothschildi*, p. 186.

(617) Cochoa purpurea.

THE PURPLE THRUSH.

Cochoa purpurea Hodgs., J. A. S. B., v, p. 359 (1836) (Nepal); Blanf. & Oates, ii, p. 159.

Vernacular names. *Cocho* (Nepal); *Lo-nyum-pho* (Lepcha).

Description.—Adult male. Lores, a narrow line next the bill, supercilium, sides of head and a narrow line round the crown black; crown lavender-blue; wing-coverts and bars of secondaries lavender-purple; primary-coverts black; first two primaries all black; other primaries with a patch of lavender-grey on the base of the outer webs; tips of secondaries black; tail lavender-purple with a black tip; remainder of plumage brownish purple, darkest on the throat and breast.

Colours of soft parts. Iris crimson-brown or red-brown; bill black; legs and feet slaty-black.

Measurements. Total length about 300 mm.; wing 140 to 144 mm.; tail 95 to 105 mm.; tarsus about 28 mm.; culmen about 14 to 15 mm.

Female. Differs from the male in having the purple parts replaced by reddish brown.

Colours of soft parts and **Measurements** as in male.

The Nestling is similar to the female but has the blue crown replaced by white feathers edged with blackish; the feathers of the upper parts have fulvous shafts terminating in a fulvous spot; below the plumage is dull fulvous barred with dusky.

The young male is like the adult but has the crown white barred with purple-black and the underparts brown barred with dull black.

Distribution. Himalayas from Simla to Eastern Assam, North and South of the Brahmaputra; Manipur, Chin and Kachin Hills, Hills of Central and South Burma to Tenasserim.

Nidification. This beautiful Thrush breeds in May, June and July at heights between 3,500 and 6,000 feet and possibly up to 8,000 feet. It makes a rather loosely put together, shallow cup-shaped nest of living green moss lined with black fern and moss-roots and rachides. It is very untidy outwardly, scraps of moss sticking out in every direction but the inner cup of roots is more firm and compact. It is usually placed on a small tree, 6 to 20 feet from the ground, standing in evergreen forest but it sometimes breeds in pine-forests. The eggs number two or three, very rarely four, and are typically Thrush-like in character but very handsome and richly coloured. They range from eggs like those of the English Blackbird, though brighter and redder, to eggs with a bright pale sea-green ground richly blotched with reddish. The texture is fine and close but not glossy as in *Citrina* eggs, and many are practically indistinguishable from the eggs of *Zoothera*, though generally longer ovals in shape. Fifty eggs average 31·3 × 21·6 mm.: maxima 35·1 × 21·5 and 31·2 × 23·0 mm.; minima 29·2 × 20·5 and 31·2 × 20·3 mm.

Habits. This Thrush is essentially a forest bird and prefers forests which are dense, humid and evergreen but about Shillong I found it breeding in the pine-forests where there was undergrowth and a mixture of other trees in the ravines. It is a shy bird and in spite of its brilliant colouring by no means conspicuous until it strikes a patch of sunlight, when it is transformed at once into a most beautiful object. It is a very quiet bird and beyond a low chuckle I have heard no note. It feeds largely on fruit and berries and to a less extent on insects.

(618) Cochoa viridis.

THE GREEN THRUSH.

Cochoa viridis Hodgs., J. A. S. B., v, p. 359 (1836) (Nepal); Blanf. & Oates, ii, p. 160.

Vernacular names. None recorded.

Description.—Adult male. Crown, nape and hind-neck brilliant cobalt-blue; lores and short supercilium black; ear-coverts



Fig. 23.—Bill of *C. viridis*.

indigo-blue; upper plumage deep rich green, often suffused with bronze; central tail-feathers blue, tipped with black, next four pairs black on the inner web, blue on all but the tip of the outer web, the outermost pair all black; lesser wing-coverts green with broad black tips; other coverts pale blue with broad black tips, quills black with a broad band of pale blue on the bases of the outer webs of all but the first two; whole lower plumage green; bluish on the abdomen and often much suffused with bronze.

The amount of the bronze shown varies greatly, both above and below.

Colours of soft parts. Iris brownish orange to deep crimson or maroon-brown; bill black, the gape and orbital skin pink; legs fleshy-brown to horny-brown.

Measurements. Total length about 290 to 300 mm.; wing 135 to 145 mm.; tail 98 to 117 mm.; tarsus 25 to 26 mm.; culmen 12·5 to 13·5 mm.

Female differs from the male only in having the greater coverts and secondaries marked with yellowish brown instead of blue, the colour being confined to the edges of the coverts and tips of the secondaries.

Colours of soft parts and **Measurements** as in the male but the iris duller.

Young birds have the wings and tail like the adults from the first; the crown appears to be bluish white with dark bars; the sides of the head much marked with white; the upper and lower plumage buff, the feathers above with broad black borders all round, those below with terminal black bars, broadest on the breast.

The Nestling is barred and squamated all over, black bars on buff ground.

Distribution. Himalayas from Kumaon and Garhwal to Eastern Assam, Manipur and the hills of Burma to Tenasserim. It extends through the Indo-Chinese countries into Western China.

Nidification. Exactly the same as in the Purple Thrush in every respect, nest, eggs, breeding-season and site but it breeds a little earlier, from the end of April to the beginning of June, rarely in the end of that month. Whymper, however, found it breeding in July near Naini-Tal and he describes the lining of the nest as being composed chiefly of lichen. Thirty eggs average 32·3 × 21·5 mm.: maxima **33·1** × 21·2 and 32·1 × **22·5** mm.; minima **29·2** × 21·1 and 32·1 × **20·9** mm. A clutch of very small eggs taken by Hopwood in Taunghoo measure only 27·3 × 20·0 mm.

Habits. Those of the preceding bird.

(619) **Cochoa rothschildi**, sp. nov.

THE WHITE-CHEEKED GREEN THRUSH.

Description. Differs from the Green Thrush in having the whole of the lower parts almost entirely orange-brown from the breast to the under tail-coverts. The sides of the head, ear-coverts and cheeks are white, produced in a demi-collar on to the sides of the neck.

Colours of soft parts and **Measurements** as in *Cochoa viridis*.

Distribution. Of the two specimens known, one was taken in Sikkim and the other at Matchi in Manipur.

Lord Rothschild has examined the British Museum series with me as well as his own series at Tring, and we can find no trace of connection between the two forms, which must therefore rank as species.

Nidification and Habits not recorded.

Subfamily PRUNELLINÆ.

It is unfortunate that the widely-known name *Accentor* cannot be used for any of the Hedge-Sparrows, and therefore *Laiscopus* Gloger, Handl. u. Hilfsb. p. 267 (1841), must be used in its place for the bigger Hedge-Sparrows and *Prunella* instead of *Tharrhaleus*, as the former name dates from 1816 (Vieill. Analyse nouv. Orn. p. 43) and the latter only from 1829 (Kaup). As the name *Accentor* cannot be applied to these birds, the subfamily must be known by the name of the oldest genus and hence becomes *Prunellinæ* as above, of which *Prunella collaris collaris* may be accepted as the type. For the same reason I have reverted to the trivial name Hedge-Sparrow, even though such a term may be technically incorrect.

The *Prunellinæ* are sometimes accepted as a separate family on account of the scutellation of the tarsus, and I should follow this practice but for the fact, already commented on, of some of the Chats when young having similar scutellations, persisting in a few individuals until the second year.

The plumage of the young is essentially Thrush-like, and there can be no doubt of their proper place either with or next to the *Turdidæ*.

The Hedge-Sparrows are comparatively small birds, Palæarctic and sub-tropical in their habitat. The sexes are alike; the bill is finely pointed and slightly notched, wide at the base and compressed towards the middle; the nostrils are large, diagonal and covered by a membrane; the rictal bristles are few and weak; the feathers of the forehead slightly disintegrated and the tail is either square or a little forked.

There is a seasonal, but not very conspicuous, change of plumage owing to the abrasion of the feathers in Winter, and the young moult into the adult plumage the first Autumn.

Key to Genera.

A. Wing long and pointed, over 88 mm. ..... LAISCOPUS, p. 187.
B. Wing short and rounded, always less than 85 mm. ..... PRUNELLA, p. 192.

Genus **LAISCOPUS**.

Laiscopus Gloger, Handl. u. Hilfsb., p. 267 (1841).

Type, *Accentor alpinus*.

The genus *Laiscopus* contains those Hedge-Sparrows with a long

pointed wing. They are considerably larger than the birds of the other genus and generally more extensively migratory.

The wing is longer than the tail by more than the length of the tarsus, the secondaries are only equal to the 7th or 8th primary.

Key to Species.

A. Breast uniformly greyish brown..... *L. collaris*, p. 188.
B. Breast rufous, the feathers edged with white. *L. himalayanus*, p. 191.

Laiscopus collaris.

Sturnus collaris Scop., Ann. I. Hist. Nat., p. 131 (1769).

Type-locality: Kärnthen.

Key to Subspecies.

A. Flanks chestnut without any white streaks.
  a. Darker and more brown .... *L. c nipalensis*, p. 188.
  b. Paler and more grey ..... *L. c. rufilatus*, p. 189.
B. Flanks chestnut broadly edged with white. *L. c. tibetanus*, p. 190.
C. Flanks chestnut narrowly fringed with white. *L. c. ripponi*, p. 191.

(620) Laiscopus collaris nipalensis.

THE EASTERN ALPINE HEDGE-SPARROW.

Accentor nipalensis Blyth, J. A. S. B., xii, p. 958 (1843) (Nepal) Blanf. & Oates, ii, p. 166.

Vernacular names. None recorded.

Description. Forehead to hind-neck greyish brown, obsoletely

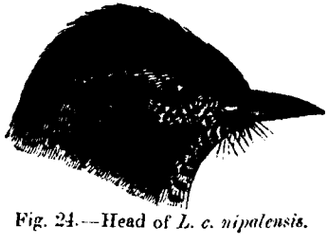


Fig. 24.—Head of *L. c. nipalensis*.

centred darker; back more rufous-brown with the centres darker and broader; rump and upper tail-coverts pale rufous with faint, dark shaft-streaks; tail dark brown, tipped rufous on the outer webs, white on the inner webs; lesser wing-coverts like the hind-neck; other coverts very dark brown with white spots at their tips; scapulars and inner secondaries black with broad rufous edges paling at the tips; other quills dark brown, narrowly edged and tipped with paler; centre of chin and throat white barred with black; sides of head and neck and the whole breast greyish brown, speckled with white round the eye; middle of the abdomen rufous grey, barred with blackish in young birds; flanks and sides of the abdomen chestnut; under tail-coverts chestnut broadly edged with white.

Colours of soft parts. Iris dark brown; bill black, the base and gape bright yellow; legs and feet fleshy-brown or light brown.

Measurements. Total length about 150 mm.; wing 90 to 102 mm.; tail 65 to 78 mm.; tarsus about 23 mm.; culmen 10 to 11 mm.

Young birds have the whole lower plumage rufous-grey, streaked with blackish. The gape is a very conspicuous orange-red.

Birds collected by Mr. Whymper in Garhwal were described by me as a new race under the name of *L. c. whymperi* (Bull. B. O. C., xxxv, p. 60, 1915) on account of their very small size, wing 85 to 92 mm., and the red colour of the breast and underparts, the rufous also extending to the back. Mr. N. Kinnear has pointed out to me that this red colour appears to be artificial, probably due to the preservative used: more material therefore seems necessary before we accept this as a good race.

Distribution. Sikkim, S.W. Tibet, Nepal, Garhwal, Kumaon and South-East Kashmir. To the East it probably extends through the hills of Assam, a specimen from the Dafla Hills being referable to this race.

Nidification. Mr. Whymper found this bird breeding in some numbers in the Garhwal Hills at a height of about 15,000 feet. The nests he describes as cups made entirely of moss and placed well under the shelter of a stone. They apparently often lay only two eggs and never more than three, as he saw many nests containing only two young ones. Two eggs taken by him measure 23·0 × 16·1 and 22·1 × 16·0 mm. They were taken on the 27th of May.

Habits. The Eastern Alpine Hedge-Sparrow is a bird of very high elevations, being found from 12,000 to 16,000 feet in the breeding-season and wandering down to about 8,000 feet in Winter and occasionally down to about 5,000 feet, at which height it has been found below Darjeeling and again in the Dafla Hills. On the other hand, the Mt. Everest Expedition saw this bird at 21,000 feet and actually procured a specimen at 18,500 feet. In habits it resembles its British cousin, being a quiet, skulking little bird, haunting undergrowth and scrub, slipping quietly about and uttering a regular little Hedge-Sparrow song. Its flight is strong and direct.

(621) Laiscopus collaris rufilatus.

THE TURKESTAN HEDGE-SPARROW.

Accentor rufilatus Severtz., Sapisti d. Turk., p. 45 (1879) (Turkestan).

Vernacular names. None recorded.

Description. Similar to the Eastern Alpine Accentor but much

paler both above and below; more grey and less brown and with the rufous flanks much less rich.

Colours of soft parts. Similar to the same in *L. c. nipalensis*.

Measurements. Wing 88 to 102, generally well over 90 mm.; culmen 12 to 13 mm.

Distribution. North-West Frontier mountains from Baluchistan to Gilgit and North-West Kashmir. Simla, probably a straggler only.

Nidification. Similar to that of the last bird. Four eggs collected by Mr. Crump for Col. A. E. Ward measure 24·0 × 14·3 mm. Captain C. H. T. Whitehead found them breeding freely on the Safed Koh above 12,000 feet, placing their nests in crevices of, or under, rocks. These, the nests, were neatly made of grass and roots, lined with fur and hair. The eggs or young numbered two or three only and the former measured 24·5 × 14·5 mm. They were taken on the 1st of July.

Habits. Those of the species. This race seems to frequent lower levels than the last one, breeding between 10,000 and 14,000 feet and being sometimes found as low as 8,000 feet even in Summer, whilst Whitehead found it down to 6,000 feet in the Samana in Winter.

(622) Laiscopus collaris tibetanus.

THE TIBET HEDGE-SPARROW.

Accentor collaris tibetanus Bianchi, Ann. Mus. Zool. Acad. Petersb., ix, p. 128 (1904) (E. Tibet).

Vernacular names. None recorded.

Description. Rather darker than *L. c. rufilatus* but decidedly paler than *L. c. nipalensis* and differing from all the other races found within the limits of this work in having the feathers of the deep chestnut flanks broadly fringed with white and the tail very boldly tipped with white.

Colours of soft parts. Iris dark brown; bill yellow at base and black at the tip; legs pale fleshy horn-colour.

Measurements. Wing 96 to 104 mm.; culmen 12 to 13·5 mm.

Distribution. Gobi, Kansu, East Tibet to Huanche, Koko Nur and ? South-East Tibet to the plateaus above Gyantse.

Nidification. Fragments of skins sent me with nests and eggs from South-East Tibet appear from the deep chestnut flanks to be of this race and not of the last. The nests are described as being built in crevices of rocks or under stones on rocky hillsides. Judging from the remains they were originally deep cups made of grass, roots and twigs, mixed with moss and lichen and lined with wool or hair. They were taken in June and July, with the exception of one found in May, at elevations of 12,000 to

15,000 feet. The eggs are not distinguishable from those of other races of this species.

Habits. Nothing recorded.

(623) Laiscopus collaris ripponi.

RIPPON'S HEDGE-SPARROW.

Prunella collaris ripponi Hartert, Vög. Pal., i, p. 766 (1913) (Gyi-dzu-Shan).

Vernacular names. None recorded.

Description. A very dark bird both above and below, the tail tipped with rufescent and the chestnut flanks with narrow rufescent edges to the feathers, not always present.

Colours of soft parts. "Iris brown; bill black with pale base; legs fleshy" (*Rippon*).

Measurements. Wing 88 to 98 mm.; culmen 12 to 12·5 mm.

Distribution. N. Shan States, Yunnan, Szechuan and N.W. China, S.E. Tibet.

Nidification and Habits. Nothing recorded.

(624) Laiscopus himalayanus.

THE ALTAI HEDGE-SPARROW.

Accentor himalayanus Blyth, J. A. S. B., xi, p. 187 (1842) (Himalayas); Blanf. & Oates, ii, p. 168.

Vernacular names. None recorded.

Description. Forehead, crown, nape and hind-neck greyish brown with darker central streaks; back, scapulars and inner secondaries black, broadly margined with rufous and the latter with whitish tips; rump and central tail-coverts pale greyish brown, faintly streaked darker; outer tail-coverts black edged with pale rufous; tail dark brown edged and tipped pale rufous; wing-coverts blackish, edged with rufous and tipped white; primaries and outer secondaries brown, narrowly edged with pale rufous; a narrow pale grey supercilium; feathers under the eye blackish, speckled with white; ear-coverts rufous, pale-shafted; chin, throat and fore-neck white, the sides banded with black and an indefinite collar next the breast; remainder of lower plumage rufous, the feathers edged with white and a few feathers in the centre of the breast sometimes sub-edged with a narrow black line; centre of abdomen and vent almost white; under tail-coverts blackish with broad white margins.

Colours of soft parts. Iris brick-red to carmine; bill black, the gape and base of lower mandible fleshy; legs and feet fleshy-brown, claws nearly black.

Measurements. Total length about 150 mm.; wing 88 to

98 mm.; tail 90 to 95 mm.; tarsus about 21 mm.; culmen 11 to 12 mm.

Distribution. From the Altai to Turkestan, Afghanistan, Baluchistan, Kashmir in the extreme North, West and East through Nepal and Sikkim to the Miri Hills. Probably throughout Tibet, for I have had skins sent me from Yatung, Phari and Rhamtso.

Nidification. The Altai Hedge-Sparrow certainly breeds in Gilgit, Ladak, Sikkim and S.E. Tibet and probably throughout its range at elevations above 10,000 feet. In Tibet it does not seem to breed below 12,000 and more often above 15,000 feet. The nest is like that of the common Hedge-Sparrow, as are the eggs, though these latter are a good deal smaller, measuring about 23·2 × 15·0 mm.

Nests with eggs have been taken in the Altai in May and in Gilgit, Ladak and Tibet in May, June and July.

Habits. The Altai Hedge-Sparrow is only locally migratory, though Ward speaks of large flocks passing *through* Kashmir in Winter. Probably these were birds merely migrating from higher to lower levels. In Summer they may be found anywhere between 12,000 and 17,000 feet, but in Winter descend to 6000 feet, at which height Whitehead found them common in the Samana from December to April feeding in large flocks among stones near the fort. They appear to prefer wild, bleak country with little but scrub and grass vegetation and much broken by rocky outcrops and stony wastes.

Genus **PRUNELLA**.

Prunella Vieill., Analyse nouv. Ornith., p. 43 (1816).

Type, *Accentor modularis*.

The genus *Prunella* contains those Hedge-Sparrows which differ from the last in being smaller, with shorter and more rounded wings only slightly longer than the tail, and the secondaries fall short of the primaries by a distance equal to about half the length of the tarsus.

The birds of this genus are sedentary or only locally migratory.

Key to Species.

A. Upper plumage unstreaked	*P. immaculata*, p. 193.
B. Upper plumage streaked.	
a. No supercilium	*P. rubeculoides*, p. 193.
b. A distinct supercilium.	
a'. Chin and throat black	*P. atrogularis*, p. 194.
b'. Chin and throat white or fulvous.	
a''. Breast of same colour as rest of lower plumage	*P. fulvescens*, p. 197.
b''. Breast ferruginous and not the same as rest of lower plumage ..	*P. strophiata*, p. 196.

(625) **Prunella immaculata.**

THE MAROON-BACKED HEDGE-SPARROW.

Accentor immaculatus Hodgs., P. Z. S., 1845, p. 34 (Nepal).
Tharrhaleus immaculatus. Blanf. & Oates, ii, p. 169.

Vernacular names. None recorded.

Description. Lores dusky black; crown and nape dark ashy-grey, the feathers of the forehead and sides of the crown edged with white; interscapulars and back grey tinged with golden rufous; scapulars and lower back chestnut-maroon, shading into golden grey on the rump and upper tail-coverts; tail dark grey-brown, obsoletely rayed darker; primary-coverts black; other coverts blue-grey; primaries and outer secondaries dark brown, all but the two outermost edged with light grey; innermost secondary all maroon and those next it maroon on the outer web; chin, throat, sides of head and the breast ashy-grey, tinged with olive on the last-named; vent, extreme posterior flanks and under tail-coverts dark rufous-chestnut.

Colours of soft parts. Iris pearl-white or yellowish white; bill black; legs and feet dark brown or horny-brown to pale fleshy-brown.

Measurements. Total length about 160 mm.; wing 74 to 84 mm.; tail 50 to 57 mm.; tarsus about 21 mm.; culmen about 11 mm.

Distribution. Nepal, Sikkim, Tibet, Hills North of Assam, to Yunnan and Western China.

Nidification. This Hedge-Sparrow breeds in some numbers in Sikkim and South Tibet from 10,000 to 15,000 feet, making a coarsely-built rough nest of varying amounts of grass, leaves, twigs, moss, etc. generally well lined with wool or hair, sometimes only with soft grass. The nests are placed either on the ground or close to it in some dense bush or mass of brambles. The eggs are of the usual Hedge-Sparrow blue and number from three to five in a full set. Thirty eggs average 19·5 × 14·4 mm.: maxima 20·6 × 14·6 and 19·5 × 15·3 mm.; minima 17·5 × 14·0 mm.

The breeding-season is from the end of May to the end of July.

Habits. Those of the family.

(626) **Prunella rubeculoides.**

THE ROBIN HEDGE-SPARROW.

Accentor rubeculoides Moore, P. Z. S., 1854, p. 118 (Nepal).
Tharrhaleus rubeculoides. Blanf. & Oates, ii, p. 169.

Vernacular names. *Phoo-ching-pho* (Lepcha).

Description. Forehead, crown, nape and sides of head brown, back, scapulars and rump rufous-brown with broad black centres;

upper tail-coverts olive-brown; tail brown with pale edges; lesser and median wing-coverts ashy-brown, tipped white and with dark centres; greater coverts brown, centred dark, edges rufescent and tipped with rufescent white; quills dark brown edged paler and the innermost secondaries broadly edged with rufescent; chin, throat and fore-neck ashy-brown; breast dark ferruginous; lower breast, abdomen and flanks pale fulvous or almost white, the sides, vent and under tail-coverts streaked with rufous-brown.

Colours of soft parts. Iris whitey-brown to clear pale brown; bill black; legs and feet fleshy-brown to horny reddish brown; claws darker.

Measurements. Total length about 165 to 170 mm.; wing 75 to 81 mm.; tail 52 to 59 mm.; tarsus about 21 mm.; culmen about 11 mm.

The Young bird has no red on the breast, these parts being streaked with black on a buffy-brown ground; the black bases of the feathers of the throat and neck are very obvious, giving a mottled appearance; the feathers of the head are also more streaky in character.

Distribution. Himalayas from the Afghan Frontier to Tibet and the Hills North of the Brahmaputra to Szechuan and Kansu.

Nidification. This is a very common Hedge-Sparrow from Ladak to Eastern Tibet, breeding between 10,000 and 15,000 feet during June and July and sometimes in May. The nest is a typical, untidy Hedge-Sparrow nest, placed in the low thorn-bushes which grow over so great an extent of these plateaus. Most often three eggs only are laid, sometimes four, which are quite indistinguishable from other Hedge-Sparrows' eggs. Forty eggs average 19·8 × 14·7 mm.: maxima **21·0** × 15·0 and 20·1 × **15·3** mm.; minima **18·6** × **14·2** mm.

Habits. Those of the family. It is said to be a great skulker and its sweet little song is more often heard than the bird itself is seen.

(627) Prunella atrogularis.

THE BLACK-THROATED HEDGE-SPARROW.

Accentor atrogularis Brandt, Bull. Acad. St. Petersb., p. 140 (1844) (Semi-Palatine).
Tharrhaleus atrigularis. Blanf. & Oates, ii, p. 170.

Vernacular names. None recorded.

Description. Lores, ear-coverts, sides of the head, chin and throat black; a very narrow broken moustachial streak buff; forehead and crown dark brown, darker at the sides above a broad buff supercilium, the feathers all centred darker; back and scapulars fulvous-brown, often ashy on the nape, with broad brown central streaks; rump and upper tail-coverts brown; tail

brown with very narrow paler edges; breast, sides of the neck and flanks ochraceous buff with concealed black bases to the feathers and the flanks with brown streaks; abdomen, vent and under tail-coverts white to pale buff, the last-named with broad, dark brown centres. Wings brownish black; the visible portions of the outer webs of all the feathers rufous-fulvous; the median and greater coverts with faint white tips to the outer webs; in the innermost secondaries the deep brown centres show conspicuously.

After the Autumn moult the pale margins to the feathers of the upper plumage are broader and the general tinge paler; the throat is fringed with whitish and the black parts therefore duller and less conspicuous.

Colours of soft parts. Iris hazel-brown; bill dark horny-brown, the base fleshy or yellowish horny; legs and feet fleshy or horny-brown, the claws darker.

Measurements. Total length about 155 mm.; wing 72 to 79 mm.; tail 58 to 64 mm.; tarsus about 21 mm.; culmen about 11 mm.

Distribution. Turkestan and the Tian Schan; Himalayas from Afghanistan and Baluchistan through Kashmir, Garhwal, Nepal and Sikkim to Tibet. It has been obtained in winter as far South as the Salt Range.

Nidification. This is not an uncommon breeding bird in Tibet above 12,000 feet, perhaps more often over 14,000 feet, in June and July and, probably, also in the end of May. The nest is typical of that of the family, all those I have received having been built in among the roots and lowest branches of a prickly little thorn-bush. The eggs, three or four in number in Tibet, as many as six in Turkestan, are not distinguishable from those of other species of this subfamily. Thirty eggs average 19·1 × 14·1 mm. and the extremes are: maxima **20·2** × 13·5 and 19·0 × **14·7** mm.; minima **17·4** × **13·4** mm.

Habits. Those of the subfamily.

Prunella strophiata.

Key to Subspecies.

A. Above rufous-brown; breast deep ferruginous ..... *P. s. strophiata*, p. 196.
B. Above grey-brown; breast pale rufous.... *P. s. jerdoni*, p. 197.

P. s. multistriata, a race somewhat intermediate which is found in Yunnan and W. China, is sure to be obtained before long in the Shan States. Its deep rufous supercilium will suffice to separate it from *P. s. jerdoni* and its more grey upper parts from *P. s. strophiata*.

(628) Prunella strophiata strophiata.

THE RUFOUS-BREASTED HEDGE-SPARROW.

Accentor strophiatus Blyth, J. A. S. B., xii, p. 959 (1843) (Nepal).
Tharrhaleus strophiatus. Blanf. & Oates, ii, p. 171.

Vernacular names. *Phoochiny-pho* (Lepcha).

Description. Whole upper plumage rufescent brown, each feather with broad blackish-brown central streaks; tail brown with obsolete pale edges; a broad rufous supercilium bordered with black and almost white over the lores; lores, cheeks and ear-coverts dark brown; chin and throat white, with black spots at the sides and base: sides of the neck ashy with broad blackish streaks; wings brown, the feathers edged with rufous and the coverts with white tips; breast deep ferruginous: flanks dull ferruginous, changing to white on the abdomen and under tail-coverts, all these parts boldly streaked with black.

After the Autumn moult the upper parts are more widely fringed with rufous and look paler.

Colours of soft parts. Iris dark brown; bill blackish brown, the base horny yellowish; legs and feet fleshy or reddish brown; claws darker.

Measurements. Total length about 150 mm.; wing 62 to 72 mm.; tail 51 to 62 mm.; tarsus about 20 mm.; culmen about 11 mm.

The Young bird is a richer rufous above and has practically the whole of the underparts bright fulvous, much streaked with dark brown; birds of the year retain the brown streaks on the rufous breast.

Distribution. Nepal, Garhwal, Sikkim, Mountains North of Assam, South and Western Tibet.

Nidification. Breeds throughout its range above 12,000 feet right up to the snow-line, from the beginning of June to the end of July. The nest is the usual untidy cup, but is finished off better than most Hedge-Sparrows' nests are and is well and neatly lined with moss. They are placed, according to Mr. S. Whymper, always in willows in Garhwal but in Tibet they build both in the willows and in any kind of scrub. The eggs generally number three, rarely four, are of the usual blue and fifty eggs average 19·6 × 14·4 mm.: maxima **20·9** × 14·4 and 20·1 × **15·0** mm.; minima **18·1** × 14·4 and 19·8 × **13·5** mm.

Habits. Frequents the higher plateaus between 12,000 and 16,000 feet, but in Winter is found in Sikkim and the Assam Hills as low as 6,000 feet or even lower. Its habits, food, flight and voice are similar to those of the other species of the genus but it does not seem to be so inveterate a skulker.

(629) Prunella strophiata jerdoni.

JERDON'S HEDGE-SPARROW.

Accentor jerdoni Brooks, J. A. S. B., xli, pt. 2, p. 327 (1872) (Kashmir).
Tharrhaleus jerdoni. Blanf. & Oates, ii, p. 172.

Vernacular names. None recorded.

Description. Similar to *P. s. strophiata* but generally paler and more grey, less rufous; the crown and nape are less boldly streaked; the supercilium is much paler, the dark bands above it are more pronounced and wider and the breast is pale rufous instead of deep ferruginous.

Colours of soft parts as in the Rufous-breasted Hedge-Sparrow.

Measurements. Wing 62 to 69 mm.; tail 53 to 57 mm.; tarsus about 19 mm.; culmen about 11 mm.

Young differ from the adult as do those of the preceding bird.

Distribution. Afghanistan, Baluchistan and Gilgit to Kashmir, Simla and Northern Garhwal.

Nidification. Jerdon's Hedge-Sparrow breeds throughout its range at 9,000 feet upwards during June and July. It builds a rather neater nest than usual, generally of grass and moss lined with fur or wool, but sometimes mixed with other materials such as leaves and bracken. The eggs vary from three to six, most often four or five, and are similar to those of other birds of the genus. Forty eggs average 19·05 × 13·8 mm.: maxima **21·1** × 13·0 and 19·9 × **14·6** mm.; minima **17 3** × 13·3 and 21·1 × **13·0** mm.

The birds nearly always place their nest in the juniper-scrub, sometimes in pines or other small trees.

Habits. Those of the genus.

Prunella fulvescens (Severtzoff).

Type-locality: Turkestan.

Prunella fulvescens has been divided into five races:—*P. f. fulvescens*, Turkestan; *P. f. dresseri* Hartert, East Turkestan; *P. f. dahuricus* Taczanowski, E. Siberia; *P. f. ocularis* Radde, Kus-jurdi, Caucasian Mt. and *P. f. fagani* O. Grant, Arabia.

Of these the first two are supposed to come within the limits of this work, *P. f. fulvescens* being found in Tibet and Sikkim and *P. f. dresseri* in Gilgit, Kashmir, etc. The former is supposed to be a darker race, the latter a paler one, but they are extremely difficult to divide and among the specimens retained in the British Museum under the name of *P. f. fulvescens* there are two collected by Przewalsky on the borders of Tibet which are paler than 9 out of 10 of those in the series of *P. f. dresseri*. A third bird collected by the same naturalist from the Dytschu River is as dark as any of those from Turkestan and Kashmir.

Individuals of this Hedge-Sparrow evidently vary greatly and

horizontally and in all cases reach beyond the nostrils, in some genera reaching almost to the end of the bill. They must not be confounded with the rictal bristles, which are stiff and strong and lie laterally, nor should they be confounded with the lengthened shafts of the frontal feathers, which in some Thrushes resemble hairs. These latter, moreover, are never horizontal, nor do they extend over the nostrils except in cases where this is brought about by accident, such as careless preparation of the preserved specimen.

The amount of mottling or squamation in the plumage of the nestling varies considerably, but is present to some extent in every species. It is, perhaps, least developed in the genus *Terpsiphone*, the most typical of Flycatchers in other respects; even in this genus, however, the mottled breast and spotted wing-coverts are unmistakable.

The Flycatchers may further be recognized by their very feeble tarsi and feet, which incapacitate them from walking freely on the ground. This character is in itself sufficient to separate them from the Thrushes, in which the feet and tarsi are long and strong.

Young Flycatchers moult into adult or semi-adult plumage the first Autumn but many take two years or more to acquire the fully adult plumage and breed freely in immature garb.

In working out a key to the genera, Oates' resource to colour in addition to structural and other characteristics has been adhered to and it is noteworthy that science as it advances is finding that colour, more especially colour-pattern, is an older, more permanent character than many others hitherto so considered.

Of the genera included by Oates in the first edition of the 'Avifauna', one genus, *Muscitrea*, has had to be removed, as Mr. B. B. Osmaston has shown that the young are not mottled or squamated but pale replicas of the adult. Their proper place seems to be with the Warblers, *Sylviidæ*.

Key to Genera.

A. Tail decidedly shorter than wing.
  a. Second primary equal to fifth.
    a'. Bill about twice as long as broad at forehead ..... MUSCICAPA, p. 201.
    b'. Bill about equal in length and breadth at forehead ..... HEMICHELIDON, p. 203.
  b. Second primary much shorter than fifth.
    c'. Frontal feathers normal and not concealing nostrils.
      a''. Rictal bristles short and few in number.
        a³. Sexes different.
          a⁴. Upper plumage brown or rufescent with black upper tail-coverts and white on base of tail ..... SIPHIA, p. 207.

          b⁴. Males above blue or black, females brown or rufescent, but tail-coverts never black and no white on tail.
            a⁵. Bill strong and wide at base ..... CYORNIS, p. 213.
            b⁵. Bill narrow and feeble .... NITIDULA, p. 237.
            c⁵. Both sexes blue throughout .. STOPAROLA, p. 238.
        b³. Sexes alike; plumage plain brown or rufescent throughout.
          d⁴. First primary never less than half second ..... ANTHIPES, p. 243.
          e⁴. First primary much less than half second..... ALSEONAX, p. 248.
      b''. Rictal bristles very long and numerous.
        c³. Tail rounded; first primary longer than half second ..... OCHROMELA, p. 252.
        d³. Tail even; first primary less than half second..... CULICICAPA, p. 254.
    d'. Frontal feathers dense and long, concealing nostrils.
      c''. Bill carinated and narrow; a brilliant blue neck-spot ..... NILTAVA, p. 256.
      d''. Bill broad and flat; no neck-spot..... PHILENTOMA, p. 261.
B. Tail as long as, or longer than, wing. TERPSIPHONE, p. 264.
  c. Head crested .....
  d. Head not crested.
    e'. Tail about equal to wing.
      e''. Bill about twice as long as broad at base ..... HYPOTHYMIS, p. 269.
      f''. Length of bill about equal to breadth at base ..... CHELIDORHYNX, p. 274.
    f'. Tail considerably longer than wing .. RHIPIDURA, p. 276.

Genus **MUSCICAPA**.

Muscicapa Linn., S. N., i. p. 394 (1766).

Type, *Muscicapa striata*.

The genus *Muscicapa* contains the Spotted Flycatchers, the Eastern race of which is found in India, whilst the Western race is a common Summer visitor to England and Europe.

In this genus the sexes are alike; the bill in length is about twice its breadth nearest the forehead; the rictal bristles are few and moderate in length; the wing is long and pointed, the first primary being very small and the second very long and equal to the fifth; the tail is square and the plumage is streaked. Our Indian race is to some extent migratory. This form cannot be known as *sibirica*, which is preoccupied by Gmelin, and must therefore be known as *Muscicapa striata neumanni* of Poche.



Fig. 25.—*Terpsiphone p. paradisi.*

Family MUSCICAPIDÆ.

The intrinsic muscles of the syrinx fixed to the ends of the bronchial semi-rings; the edges of both mandibles smooth, the upper one simply notched; hinder aspect of tarsus smooth, composed of two entire longitudinal laminæ; wing with ten primaries; tongue non-tubular; nostrils clear of the line of the forehead, the lower edge of the nostril nearer to the commissure than the upper edge is to the culmen; plumage of the nestling spotted or squamated; nostrils more or less covered by long curly hairs; rectrices twelve; tarsi short and rather weak; an Autumn moult only.

The *Muscicapidæ*, or Flycatchers, constitute a very large family of birds found all over the world and very well represented in India. Some are resident but many are migratory to a greater or less extent.

The Flycatchers may be known by the mottled or squamated plumage of the young and by the presence of numerous hairs stretching from the forehead over the nostrils. These hairs lie

Muscicapa striata.

Vroeg, Catalogue, 1760.

Type-locality: Holland.



Fig. 26.—Bill of *M. striata neumanni*.

M. s. neumanni differs from typical *M. s. striata* in being much paler, more grey, or fulvous grey, than brown.

(631) Muscicapa striata neumanni.

THE EASTERN SPOTTED FLYCATCHER.

Muscicapa grisola neumanni Poche, Orn. Monatsb., p. 26 (1904) (Siberia).
Muscicapa grisola. Blanf. & Oates, ii, p. 4.

Vernacular names. None recorded.

Description. Upper parts greyish brown, the forehead, crown, and nape with brownish-black central streaks and the rump and upper tail-coverts more fulvous; tail brown edged with pale rufescent; wing-feathers brown, the primaries narrowly, the coverts and secondaries broadly edged with pale fulvous or white; lores greyish white; a buffy-white ring round the eye; ear-coverts pale brown; sides of head and neck grey faintly streaked with brown and with a brown moustachial streak; remainder of lower plumage white, sometimes buffish on the flanks and streaked with brown on the breast and flanks; under wing-coverts and axillaries rich cream.

Colours of soft parts. Iris brown; bill blackish brown, fleshy on the basal half of the lower mandible; legs and feet black.

Measurements. Total length about 150 mm.; wing 85 to 91 mm.; tail 63 to 70 mm.; tarsus about 15 to 17 mm.; culmen about 15 to 17 mm.

Young have the upper plumage lighter and more fulvous with dark brown edges to the feathers; wing-feathers broadly edged and tipped with buff and lower plumage much marked with dark brown.

Distribution. Eastern Siberia, Turkestan, to Afghanistan and Baluchistan and in India, Sind, Rajputana, N.W. Frontier Province, and Khatiawar. The Persian breeding-bird probably also belongs to this form, though the skins I have received with eggs are too battered to allow of certain diagnosis. It has also been procured in Palestine, Arabia, South Persia, and South Mesopotamia, whence there are specimens in the British Museum. The Palestine breeding-birds are possibly of this race.

Nidification. Scully found this bird breeding in the pine-forests in Gilgit, Wardlaw Ramsay took two nests in Afghanistan, Whitehead in Chitral, and more recently it has been taken near Sheraz in Persia. The breeding-season seems to be May and June and the nest is just like that of its European cousin, a cup of roots, grass, moss, shreds of bark, etc., lined with roots, grass, and feathers, placed either on a branch next the trunk or in a crevice or hole in a tree or a building. The eggs are four or five in number and vary from a very pale sea-green, rather profusely marked with light reddish brown, to a pale stone or cream colour, the whole surface of which is nearly covered with blotches and freckles of light red. Forty-eight eggs average 18·3 × 14·2 mm. and the extremes are: maxima **21·0** × 14·2 and 19·1 × **15·0** mm.; minima **16·0** × 15·0 and 17·9 × **12·9** mm.

Habits. Practically nothing on record, but, according to Scully, it is a bird of the wilds and not a domestic, village-haunting bird like the European form. In Persia, however, when breeding, it appears to frequent the vicinity of human habitations, orchards and gardens. The South Palestine breeding-bird is also found frequenting the orange groves and orchards round towns and villages and seems as tame a bird as the European one. It is only a very rare straggler to India in winter.

Genus HEMICHELIDON.

Hemichelidon Hodgson, P. Z. S., 1845, p. 32.

Type, *Muscicapa sibirica* (Gmelin).

The genus *Hemichelidon* contains two species of Flycatchers which are permanent residents in the Himalayas, a considerable number descending to the lower ranges and plains in winter.

In *Hemichelidon* the bill viewed from above is almost an equilateral triangle, sharp-pointed, pinched in at the tip and very depressed; the rictal bristles are moderate; the wing is long, reaching nearly to the end of the tail, the first primary very minute and the second equal to the fifth; the tail is square. In this genus the sexes are alike and the plumage is brown or ferruginous.

It is unfortunate that both the names by which our Indian birds have hitherto been known have to be changed. The true *H. sibirica* of Gmelin is a larger and much greyer bird than any of the Indian forms and the name *fuliginosa* (Hodgson), by which the principal of these has hitherto been known, is twice preoccupied—by Sparrman, Mus. Carls., p. 147 (1787), and by Gmelin, S. N., p. 932 (1789). In the same way *ferruginea* is preoccupied by *Muscicapa ferruginea* Gmelin, p. 847.

Key to Species.

A. Breast chestnut, not extending to the chin or throat ..... *S. strophiata*, p. 208.
B. Chin and throat chestnut ..... *S. parva*, ♂, p. 210.
C. No chestnut on lower plumage ..... *S. parva*, ♀, p. 210.

Siphia strophiata.

Key to Subspecies.

A. Throat black ..... *S. s. strophiata*, p. 208.
B. Throat dark grey ..... *S. s. fuscogularis*, p. 209.

(636) Siphia strophiata strophiata.

THE ORANGE-GORGETED FLYCATCHER.

Siphia strophiata Hodgs., Ind. Review, i, p. 651 (1837) (Nepal); Blanf. & Oates, ii p. 8.

Vernacular names. *Siphia* (Nepal); *Phatt-tagrak-pho* (Lepcha).

Description.—Adult male. Upper plumage olive-brown, tinged with fulvous on the rump and upper tail-coverts; tail black, all



Fig. 28.—Bill of *S. strophiata*. ½

but the central rectrices with white bases; a narrow line across the forehead black; forehead to eye white; feathers above eye, ear-coverts and cheeks deep slaty changing to black on chin and throat; lesser wing-coverts slate-grey; other coverts and quills brown, edged with fulvous; breast and flanks slaty-grey changing to white on abdomen and under tail-coverts.

Colours of soft parts. Iris dark brown; bill black in the breeding-season, paler below and on base of lower mandible at other times; legs and feet black.

Measurements. Total length about 160 mm.; wing 68 to 80 mm.; tail 52 to 59 mm.; tarsus about 21 mm.; culmen about 11 mm.

Female. Similar to the male, but without the black and with very little white on the forehead; the rufous gular patch small and pale and the dark parts of the chin, throat, etc., replaced with ashy.

Young. Above brown, streaked and mottled with fulvous; below fulvous, squamated with black edges to the feathers; tail as in the adult.

Distribution. Breeding throughout the Himalayas from Kashmir to Eastern Assam, North Borneo and Western China. Winter South to Tenasserim and extreme Eastern Bengal.

Nidification. The Orange-gorgeted Flycatcher breeds between 8,000 and 12,000 feet in the end of April, May, and occasionally in early June. The nest, first described by Mr. B. B. Osmaston from the Tons River in Tehri, Garhwal, is a cup-shaped affair "of moss and maiden-hair rachides, lined with the latter chiefly but also with a few feathers and some yellow papery substance resembling birch bark." It is apparently invariably placed in a small natural hollow in a tree five to ten feet from the ground. The eggs, three in number, are unlike those of any other Indian Flycatchers, being pure white, rather glossy long ovals, measuring about 19·3 × 13·4 mm. I saw these little Flycatchers in May and June at about 6,000 feet both in N. Cachar and in the Khasia Hills, and they may possibly have bred there.

Habits. In Summer, when breeding, a very shy little bird; in Winter it is one of the boldest and is found in gardens and compounds as well as in clearings of forests. It has a sweet little song, which is seldom sung, and also a very low, rather croaky, little *churr*, uttered both when sitting and flying. It likes to take its perch on some low stump or garden-fence in the open, whence it sallies after insects, generally seizing them in the air but sometimes taking them on the ground. When not busy feeding it constantly flits and expands its tail, the white and black showing up very conspicuously as it does so. It is curiously constant to its perch, often occupying the same day after day for months together, and returning to it again the following season.

(637) Siphia strophiata fuscogularis.

THE ANNAM ORANGE-GORGETED FLYCATCHER.

Siphia strophiata fuscogularis Stuart Baker, Bull. B. O. C., xliii, p. 11 (1823).

Vernacular names. None recorded.

Description.—Adult male. Differs from *S. s. strophiata* in having the throat and sides of the neck grey and the head the same colour as the back.

Colours of soft parts. "Iris dark brown; bill black; legs black, feet brown, soles yellow" (*Robinson*).

Measurements. Wing 68 to 74 mm.

Distribution. At present Annam but it has been recorded from N. Shan States.

Type ♂, 1919.12.20.163, Langbian Peak, S. Annam.

Nidification. Robinson says that a nest and eggs taken by him in Annam are exactly like those of the preceding bird described by Mr. B. B. Osmaston in the Bombay Nat. Hist. Soc. Journal. Mr. Robinson's eggs were taken from a shallow hollow in a large

tree five feet from the ground. The three white eggs measured 19·0 × 13·5 mm.

Habits. Nothing recorded.

Siphia parva

Key to Subspecies.

A. Chin, throat and breast chestnut, crown of different colour to back	*S. p. parva*, ♂, p. 210.
B. Chin and throat chestnut, breast ashy, crown and back of the same colour ...	*S. p. albicilla*, ♂, p. 211.
C. Chin, throat, breast and upper abdomen chestnut, bordered on either side by a black band	*S. p. hyperythra*, ♂, p. 212.
D. No chestnut on lower plumage.	
a. Paler above	*S. p. parva*, ♀, p. 210. *S. p. albicilla*, ♀, p. 211.
b. Darker above	*S. p. hyperythra*, ♀, p. 212.

(638) Siphia parva parva.

THE EUROPEAN RED-BREASTED FLYCATCHER.

Muscicapa parva Bechst., Getrue Abbild., (2) p. 26 (1793) (East Holland).
Siphia parva. Blanf. & Oates, ii, p. 9.

Vernacular names. *Turra* (Hindi).

Description.—Adult male. Forehead, crown and nape ashy-grey, becoming paler on the latter and changing to fulvous-brown on the back, scapulars and wing-coverts; upper tail-coverts and tail black, the lateral tail-feathers with the basal two-thirds white; wing-quills brown, the primaries narrowly, the secondaries increasingly widely edged with fulvous-brown; a ring of white feathers round the eye; lores mixed white and slate; a patch under the eye-ring almost black; sides of head and neck bluish ashy; chin, throat and breast bright chestnut; remainder of lower plumage white, tinged with grey and buff on the flanks.

Colours of soft parts. Iris deep bright brown; bill dark horny above, fleshy-brown below and at the base, black in the breeding-season; legs and feet black.

Measurements. Total length about 125 mm.; wing 64 to 69 mm.; tail 48 to 50 mm.; tarsus 17 to 18 mm.; culmen about 9 mm.

Female. Whole upper plumage fulvous-brown; sides of head the same, paling to almost white on the chin and throat; breast fulvous-white; otherwise as in the male.

The Nestling is spotted on the upper plumage with fulvous and mottled on the breast; the wing-coverts are conspicuously tipped with bright dark fulvous.



SIPHIA PARVA ALBICILLA.
The Eastern Red-breasted Flycatcher.

The young male is like the female, but assumes more chestnut on the chin and throat at the Autumn moult, even whilst still retaining the fulvous edgings to the wing-feathers. The fully adult plumage is attained at the second moult.

Distribution. Breeding from North-East and Central Europe to West Russian Siberia, and wandering into India in Winter as far South as Malabar, Travancore, and the Nilgiris and as far East as Behar and Singbhum in Bengal. Many of the young birds and females of this and the next race are indistinguishable, so that some of the records from West Bengal, Behar, etc. may well be that of either subspecies.

Nidification. This little Flycatcher breeds in Europe during May and early June, making a cup, or half-cup shaped nest of moss, roots and lichen, lined thickly with grass or hair, which is placed either against a tree-trunk or a stone wall, or in some natural hollow in a stump. The eggs number three to five and the ground-colour varies from pale sea-green to a pale pink-stone, more or less profusely covered with pinkish brown. Fifty-two eggs average 16·7 × 12·7 mm.: maxima **17·6** × 13·2 and 17·3 × **13·4** mm.; minima **15·8** × **12·0** mm.

Habits. A quiet but active little bird, very crepuscular in its habits and often it may be seen making little sallies from its perch when the dusk is fast settling down. It has a sweet little song, though it is but seldom heard, its most usual note being the soft low *chur-r-r* common to all the genus. It is found both in the wilder parts of the country and in the immediate vicinity of houses and villages. In India it does not usually arrive until late October, leaving again in April or the first few days of May.

(639) Siphia parva albicilla.

THE EASTERN RED-BREASTED FLYCATCHER.

Muscicapa albicilla Pall., Zoogr. Rosso-Asiat., i, p. 462 (1827) (Dauria).
Siphia albicilla. Blanf. & Oates, ii, p. 10.

Vernacular names. *Turra* (Hindi); *Chatki* (Beng.).

Description.—Adult male. Differs from the male of *S. p. parva* in having the breast ashy instead of chestnut; the crown is fulvous-brown like the back; the ear-coverts are brown, instead of bluish ashy.

Colours of soft parts as in *S. p. parva.*

Measurements. Wing 68 to 73 mm.

Female and **Young** not distinguishable from those of *S. p. parva.*

Distribution. Eastern Siberia, from the Yenesei to Kamschatka, Trans-Baikalia and Ussuri, South to Tibet, North-Eastern India, Burma, and China.

Nidification. Only two certain nests of this little Flycatcher

tree five feet from the ground. The three white eggs measured 19·0 × 13·5 mm.

Habits. Nothing recorded.

Siphia parva

Key to Subspecies.

A. Chin, throat and breast chestnut, crown of different colour to back ..... *S. p. parva*, ♂, p. 210.
B. Chin and throat chestnut, breast ashy, crown and back of the same colour ... *S. p. albicilla*, ♂, p. 211.
C. Chin, throat, breast and upper abdomen chestnut, bordered on either side by a black band ..... *S. p. hyperythra*, ♂, p. 212.
D. No chestnut on lower plumage.
a. Paler above ..... *S. p. parva*, ♀, p. 210. / *S. p. albicilla*, ♀, p. 211.
b. Darker above ..... *S. p. hyperythra*, ♀, p. 212.

(638) Siphia parva parva.

THE EUROPEAN RED-BREASTED FLYCATCHER.

Muscicapa parva Bechst., Getrue Abbild., (2) p. 26 (1793) (East Holland).
Siphia parva. Blanf. & Oates, ii, p. 9.

Vernacular names. *Turra* (Hindi).

Description.—Adult male. Forehead, crown and nape ashy-grey, becoming paler on the latter and changing to fulvous-brown on the back, scapulars and wing-coverts; upper tail-coverts and tail black, the lateral tail-feathers with the basal two-thirds white; wing-quills brown, the primaries narrowly, the secondaries increasingly widely edged with fulvous-brown; a ring of white feathers round the eye; lores mixed white and slate; a patch under the eye-ring almost black; sides of head and neck bluish ashy; chin, throat and breast bright chestnut; remainder of lower plumage white, tinged with grey and buff on the flanks.

Colours of soft parts. Iris deep bright brown; bill dark horny above, fleshy-brown below and at the base, black in the breeding-season; legs and feet black.

Measurements. Total length about 125 mm.; wing 64 to 69 mm.; tail 48 to 50 mm.; tarsus 17 to 18 mm.; culmen about 9 mm.

Female. Whole upper plumage fulvous-brown; sides of head the same, paling to almost white on the chin and throat: breast fulvous-white; otherwise as in the male.

The Nestling is spotted on the upper plumage with fulvous and mottled on the breast; the wing-coverts are conspicuously tipped with bright dark fulvous.

(648) Cyornis superciliaris astigma.

THE LITTLE BLUE-AND-WHITE FLYCATCHER.

Muscicapa astigma Hodgs., in Gray's Zool. Misc., p. 84 (1844) (Nepal).
Cyornis astigma. Blanf. & Oates, ii, p. 19.

Vernacular names. *Tuni-ti-ti* (Lepcha).

Description.—Adult male. This race is a little less deep a blue in colour than the preceding race but differs principally in having no white supercilium. In a few specimens from Nepal and Sikkim there is just a trace visible of white above and behind the eye, but there is never a broad conspicuous white streak as in *C. s. superciliaris*. Birds from Assam and farther East never show any white.

Colours of soft parts and **Measurements** as in the White-browed Blue Flycatcher but with a smaller bill. Wing about 62 to 68 mm.; culmen about 9 mm.

Female. Very similar to that of the preceding race but usually has the upper tail-coverts more tinged with fulvous and less with blue.

The young male, like that of the preceding bird, acquires a semi-adult plumage at the first moult retaining the brown head of the female, which grades into the blue of the male on the lower back and wings. The rusty throat and breast of the younger nestling is also retained as well as the broad pale margins to the wing-feathers. At this stage the two races are quite indistinguishable.

Nestling similar to that of *C. s. superciliaris*.

Distribution. Nepal and Sikkim to the East of Assam; hills of South Assam, Manipur and Lushai; Chin and Kachin Hills, Karenni, Yunnan. A nestling in Col. Stevenson Clarke's coll. from Yunnan labelled *Muscicapa blythi* (=*melanoleuca*) is obviously not that bird but is probably this.

Nidification. This little Flycatcher breeds at much lower elevations than the preceding bird; in the Khasia Hills I found it breeding at 5,000 feet, whilst in North Cachar I took a few nests even lower than this. Neither nests nor eggs can be distinguished from those of the last race.

The breeding-season seems to be from the end of April to early June. In North Cachar the males were all breeding in the semi-adult plumage and in the Khasia Hills there were very few birds in the full blue plumage of the old male.

Habits. Those of the last bird.

have been taken; the first of these was one taken for Col. A. E. Ward on the 30th May in Ladak, both male and female being shot off the nest. This latter was a tiny cup of green and dry moss lined with soft hair and fur, and had been placed beside a stone, half hidden in a shallow hollow in one of the high stone boundary-walls. The second, taken in Tibet, north of Rhamtso, was similar to the last but had been built against a stunted willow and half hidden in a hollow near the crown. The eggs are indistinguishable from those of the last bird and measure about 17·5 × 12·8 mm.

Habits. Similar to those of the preceding bird. Both this bird and the next seem very partial to bamboo-jungle.

(640) Siphia parva hyperythra.

THE INDIAN RED-BREASTED FLYCATCHER.

Siphia hyperythra Cab., J. f. O., 1866, p. 391 (Ceylon); Blanf. & Oates, ii, p. 10.

Vernacular names. *Turra* (Hindi); *Chutki* or *Kala Chutki* (Beng.).

Description.—Adult male. Above a much darker brown than in *S. p. albicilla*; the chestnut of the chin and throat much deeper and richer and extending on to the whole of the breast and flanks; abdomen pure white in the centre suffused with chestnut on the flanks and vent; under tail-coverts pale chestnut; a broad black line runs down either side of the chestnut throat and breast, and is often produced as a broken pectoral band.

Colours of soft parts as in the other races.

Measurements. Wing 67 to 74 mm.

Female and **Young** both differ from those of *S. p. albicilla* only in being much darker and browner.

Distribution. Breeding from the Afghan boundary and Gilgit to Garhwal and probably Western Nepal. It winters in Ceylon, and, curiously enough, there are practically no records of its occurrence between that island and the Punjab and North-West Frontier Province.

Nidification. The Indian Red-breasted Flycatcher breeds in some numbers in Kashmir during May and June between 6,000 and 8,000 feet and also, though less commonly, in the Simla States and Garhwal. The nest is cup-shaped and is made of moss and dead leaves, mixed, more or less, with scraps of grass, chips of leaves and dead wood, hairs and feathers with a lining of the two last articles. It seems to be invariably placed in holes in trees at any height between 6 and 40 feet from the ground. The eggs number four or five and are like those of *S. p. parva*, though decidedly paler as a rule in the ground-colour and less profusely marked. Thirty eggs average 16·1 × 12·6 mm.: maxima 17·3 × 12·3 and 16·8 × 13·1 mm.; minima 14·9 × 12·4 mm. and 15·6 × 12·0 mm.

Habits. This Flycatcher is found in Summer between 5,000 and 9,000 feet, migrating in Winter to the plains of India as far South as Ceylon. Records of its occurrence between the foot-hills of the Himalayas and Ceylon are rare, but I have notes of its being observed in the Neliampathy Hills and Travancore, once at Poona, and once in Hyderabad, Deccan. It does not differ in habits, flight, voice, or diet from the other species of this genus.

Genus CYORNIS.

Cyornis Blyth, J. A. S. B., xii, p. 941 (1842).

Type, *Phœnicura rubeculoides*, Vigors.

The genus *Cyornis* contains a very large number of species of Flycatchers in which the sexes are always different in colour, and which appear to be congeneric in structure, habits and in type of coloration. They are birds which are often very difficult to discriminate from one another, and with some of the females it is impossible to do so. The difficulty is greatly added to by the fact that frequently species are separated from one another by characters which, in the majority of Passerine genera, would only infer geographical or subspecific variation. Species of this genus are found all over India, Burma and China, and South into Malaya and the Islands.

In *Cyornis* the bill is about half the length of the head, depressed and rather broad at the base; the rictal bristles are moderate; the first primary is generally small but varies considerably and the wing is pointed; the tail is square or nearly so.

In this genus all the males are blue or black on the upper plumage, whilst the females are of various shades of brown or rufous.

By some ornithologists the genus *Cyornis* is split up into several genera, whilst by others it is lumped into the all-embracing genus *Muscicapa*. Oates' arrangement seems to be a convenient one, retaining a group of birds which, to most observers, would seem very closely allied, yet differentiated from other groups by certain characters by which they can be obviously and easily distinguished.

Key to Species.

Males.

A. Base of tail white.
  a. White on tail extending nearly to tip of 3rd pair ..... *C. cyanea*, p. 215.
  b. White on tail confined to base.
    a'. Upper plumage blue.
      a''. Breast orange-chestnut.
        *a*³. No white supercilium ..... *C. hodgsonii*, p. 216.
        *b*³. A white supercilium ..... *C. hyperythra*, p. 217.
      b''. Breast white to buff or fulvous-grey.

c^1. Breast and abdomen greyish white, tinged fulvous	*C. tricolor*, p. 219.
d^3. Breast and abdomen pure white.	*C. superciliaris*, p. 221.
b'. Upper plumage black	*C. melanoleuca*, p. 224.
B. No white on tail.	
c. Upper plumage blue.	
c'. Crown and rump different blue to back.	
c''. Axillaries and under wing-coverts white	*C. sapphira*, p. 225.
d''. Axillaries and under wing-coverts chestnut	*C. rivida*, p. 226.
d'. Crown, rump and back same colour.	
e''. Chin, throat and breast dark blue; abdomen white	*C. pallipes*, p. 227.
f''. Chin and throat blue	*C. rubeculoides*, p. 231.
g''. Point of chin black, breast and flanks rufous	*C. banyumas*, p. 233.
h''. Whole lower plumage blue	*C. unicolor*, p. 229.
i''. Point of chin black, breast bright ferruginous.	
e^3. Culmen under 13 mm.	*C. tickelliæ*, p. 234.
f^3. Culmen over 13 mm.	*C. magnirostris*, p. 236.

Females.

A. Upper plumage brown or rufescent.	
a. Base of tail white	*C. cyanea*, p. 215.
b. No white on tail.	
a''. Breast chestnut or ferruginous.	
a^3. First primary not less than half second	*C. pallipes*, p. 227.
b^3. First primary less than half second.	
a^4. Culmen under 13 mm.	*C. rubeculoides*, p. 231.
b^4. Culmen over 13 mm.	*C. banyumas*, p. 233.
b''. No chestnut on breast.	*C. magnirostris*, p. 237.
c^3. Whole lower plumage earthy-brown	*C. unicolor*, p. 229.
d^3. Lower plumage never brown.	
c^4. Wing always over 90 mm.	*C. vivida*, p. 226.
d^4. Wing always under 85 mm.	
a^5. Second primary equal to 9th; tail under 45 mm.	*C. hyperythra*, p. 217.
b^5. Second primary shorter than 1st secondary; tail over 46 mm.	*C. tricolor*, p. 219.
c^5. Second primary between 6th and 7th.	
a^6. Lower plumage ashy-brown, white on abdomen	*C. hodgsonii*, p. 216.
b^6. Chin, throat and breast buff	*C. melanoleuca*, p. 224.
c^6. Chin, throat and breast chestnut	*C. sapphira*, p. 225.

B. Upper plumage with some blue.	
c. Blue confined to rump, upper tail-coverts and tail	*C. superciliaris*, p. 221.
d. Whole upper plumage dull blue	*C. tickelliæ*, p. 234.

(641) Cyornis cyanea.

THE WHITE-TAILED BLUE FLYCATCHER.

Muscitrea cyanea Hume, S. F., v, p. 101 (1877) (Muleyit).
Cyornis cyaneus. Blanf. & Oates, ii, p. 13.

Vernacular names. None recorded.

Description.—Adult male. Lores and narrow frontal line black, remainder of forehead, crown, nape and lesser wing-coverts cobalt-blue, brightest over the eye; remaining wing-coverts and upper plumage deep blue; wing-quills dark brown edged with blue; tail, four central feathers dull blue, the third pair broadly white on both webs almost to the tip, the white decreasing in extent on each pair, and confined to a broad line on the edge of the base of the inner web of the outermost pair; sides of head, chin, throat



Fig. 29.—Bill of *C. cyanea*.

and breast dull blue fading to grey on the flanks and lower breast, and to white on the abdomen, vent and lower tail-coverts.

Colours of soft parts. Iris dark brown; bill black; legs and feet fleshy-brown.

Measurements. Total length about 175 mm.; wing 91 to 93 mm.; tail 66 to 72 mm.; tarsus about 23 to 24 mm.; culmen about 18 to 19 mm.

Female. Lores and forehead next the bill mottled white and fulvous; upper plumage olive-brown tinged with rufous, mostly so on the rump and least so on the crown; wing-feathers dark brown edged with bright rufous; tail like that of the male, but brown, not blue; ear-coverts olive-brown pale-shafted, a bold patch of white on the throat; remainder of lower plumage dull rufous-brown paling to white on the abdomen, vent and under tail-coverts.

Colours of soft parts as in male.

Measurements rather smaller than male; wing 89 mm.

Young are probably brown, richer in colour than the female, spotted above with fulvous and squamated below. Not quite

adult specimens show traces of this plumage, but there appear to be no really juvenile specimens in any museum.

Distribution. The mountains of Tenasserim down the Malay Peninsula as far as Perak. A single specimen was also obtained by Dr. H. N. Coltart through the Nagas from the higher ranges of hills, over 5,000 feet, above Margherita.

Nidification. Nothing on record except that a nest was brought to Dr. Coltart, with the bird above referred to, containing a single egg. The remains of the nest were those of a deep cup made almost entirely of moss, which had, according to the Nagas, been placed in a hollow in a rocky bank in deep forest. These Nagas came from a range well over 5,000 feet. The single egg is a pale yellow-grey stone-colour, freckled all over with innumerable tiny specks of reddish brown. It measures 23·9 × 18·0 mm., and was taken on the 25th June. Other eggs subsequently obtained, and believed by Dr. Coltart to be those of this Flycatcher, are, I find, referable to *Cyornis unicolor*.

Habits. According to Davison this is a bird of deep forests, never descending to the ground, but catching its prey on the wing like most other Flycatchers. When resting it has a habit of expanding its tail to show the white pattern just as *Siphia* does.

(642) Cyornis hodgsonii.

The Rusty-breasted Blue Flycatcher.

Siphia hodgsonii Verr., Nouv. Arch. Mus., vi, p. 34 (1870 (Moupin).
Cyornis hodgsoni. Blanf. & Oates, ii, p. 14.

Vernacular names. *Paon-pali* (Tibet).

Description.—Adult male. Whole uppper plumage and wing-coverts slaty-blue, the upper tail-coverts almost black; lores and cheeks velvety-black; tail black, the lateral feathers narrowly edged with blue and the base of all but the central pair white; chin to breast and flanks bright orange-chestnut, posterior flanks, vent and under tail-coverts pale ferruginous olive; wing-quills brown edged with olive-rufous.

Colours of soft parts. Iris deep brown; bill all black in the breeding-season, the base horny-brown in the non-breeding season; legs and feet dark reddish brown.

Measurements. Total length about 140 mm.; wing 69 to 74 mm.; tail 50 to 53 mm.; tarsus about 17 mm.; culmen about 9 mm.

Female. Upper plumage olive-brown tinged with fulvous on the upper tail-coverts; lores and a pale ring round the eye whitish; lower plumage ashy-brown fading to almost white on the vent and abdomen.

Colours of soft parts and **Measurements** as in the male, but the bill is never wholly black.

Young birds are dark brown above, spotted and streaked with fulvous and with broad fulvous tips to the wing-coverts. The under plumage is much deeper and richer fulvous than the female, and the breast and flanks are squamated with deep brown.

Distribution. Sikkim, Bhutan, the Hills North and South of the Brahmaputra in Assam, Lushai, and Manipur, Chin Hills, the Salween, Karen Hills and Muleyit in Tenasserim, Yunnan and Kansu in Western China.

Nidification. This Flycatcher is probably resident and breeds throughout its area above 4,000 feet. It lays from the middle of April to the end of June, making a beautiful nest of living green moss lined with fine moss- and maiden-hair roots, which it places in some natural hollow in a rocky bank or, very rarely, in a hole in a stump of a tree. In the Khasia Hills it breeds above 5,000 feet and Col. Tytler found it breeding in the Naga Hills at about 6,000 feet.

The eggs vary a good deal in colour. The ground is very pale yellowish or greenish stone, sometimes tinged with reddish. The marks consist of fine reddish stippling, sometimes numerous everywhere, but generally confined to the larger end, where they coalesce to form a ring or cap. Forty eggs average 17·8 × 13·4 mm. and the extremes are **19·2** × 14·0, 19·0 × **14·1**, and **16·2** × **13·0** mm.

Habits. The Rusty-breasted Blue Flycatcher is a forest-bird, but is found both in pine-forest and in dense humid forests of oak, rhododendrons, etc. It is a quiet little bird but has a very sweet little song in the breeding-season, which it utters perched high up on a tree-top. It catches its insect-prey almost entirely on the wing but does occasionally descend to the ground for this purpose. Like so many other birds which live principally in lofty trees, they in great part desert these during the breeding-season and resort to the scrub and lower growths.

Cyornis hyperythra.

Key to Subspecies.

A. Above paler, underparts less richly coloured.	*C. h. hyperythra*, p. 217.
B. Above darker, underparts more richly coloured	*C. h. malayana*, p. 219.

(643) Cyornis hyperythra hyperythra.

The Rufous-breasted Blue Flycatcher.

Muscicapa hyperythra Blyth, J. A. S. B., xi, p. 885 (1842) (India).
Cyornis hyperythrus. Blanf. & Oates, ii, p. 15.

Vernacular names. None recorded.

Description.—Adult male. A narrow supercilium from the forehead to the eye white: forehead, lores, chin and cheeks black; whole upper plumage and wing-coverts slaty-blue; wing-quills

brown, edged with pale dull rufous; tail brown, suffused with blue and with all but the two central pairs of feathers with white bases; throat and breast bright orange-chestnut, duller and darker on the lower breast and flanks, and paler on the abdomen and lower tail-coverts.

Colours of soft parts. Iris dark brown; bill black; legs and feet silvery-white to pale fleshy-brown or fleshy-pink, the claws a little darker and browner.

Measurements. Total length about 110 mm.; wing 55 to 63 mm.; tail 38 to 40 mm.; tarsus about 19 mm.; culmen about 9 mm.

Female. Whole upper plumage, wings and tail olive-brown, tinged with fulvous on the rump; primary coverts dark brown; wing-quills brown edged with ferruginous; lower plumage ochraceous, darkest on breast and flanks, palest on chin and abdomen.

Colours of soft parts and **Measurements** as in the male, but the base of the bill is sometimes paler and rather horny in colour.

Nestling. Dark brown above, streaked with rufescent fulvous; below dark fulvous, mottled and squamated with dark brown.

Distribution. Garhwal to Nepal, Sikkim and hills of Assam, Chin Hills. The bird from Annam has been separated as *C. h. annamensis* by Robinson and Kloss ('Ibis,' 1919, p. 447).

Nidification. This little Flycatcher breeds throughout its range between 4,000 and 8,000 feet during April, May and June, making a neat little cup of green moss lined with fine moss and fern roots. The internal cup is a tiny hemisphere about 50 mm. in diameter by 25 mm. deep, but outwardly the nest fits the hollow in which it is placed. This may be either in a bank, among stones and boulders in the side of a ravine or stream, or in a hole in some old stump or dead tree. The eggs number four or five and vary in ground-colour from pale yellowish grey to a fairly deep pinkish red. The markings consist of innumerable freckles of reddish brown scattered all over the egg or, less often, confined to a cap or ring at the larger end. Forty eggs average 17·5 × 13·8 mm., and the extremes are: maxima **18·9 × 14·0** mm.; minima **16·3 × 13·9** and 17·1 × **13·4** mm.

Habits. The Rufous-breasted Blue Flycatcher is locally migratory, being found above 4,000 feet in Summer but descending to the foot-hills and adjacent plains in Winter. It is extremely common in Lakhimpur in the latter season and, as odd birds occur in Summer, it possibly breeds in the adjacent hills at some 2,000 feet. It is a lively, cheerful, little bird in the non-breeding season, feeding alike in high trees, low scrub and frequently descending to the ground. In the breeding-season it is shy and skulking, keeping much to low scrub.

(644) Cyornis hyperythra malayana.

THE MALAY RUFOUS-BREASTED BLUE FLYCATCHER.

Muscicapula malayana Ogilvie-Grant, Bull. B. O. C., xix, p. 10 (1906) (Gunong Tahan, Malay Peninsula).

Vernacular names. None recorded.

Description. Both male and female differ from the Indian Rufous-breasted Flycatcher in being rather darker above but, more especially, in being more richly coloured below. The difference between the females is more marked than in the males.

Colours of soft parts and **Measurements** as in the preceding race. Wing 58 to 61 mm., Bornean birds 52 to 56 mm.

Distribution. The Malay Peninsula, including the extreme South-west of Siam and Tenasserim, Sumatra, Borneo and Formosa. Birds from Java, which are very close indeed to those from Sumatra, have been separated by Robinson as *C. h. vulcani*.

Nidification. Not known.

Habits. The same as those of the Indian race.

Cyornis tricolor.

Key to Subspecies.

A. Underparts white or white merely washed with rufescent ..... *C. t. tricolor*, p. 219.
B. Underparts strongly suffused rufous or quite rufous ..... *C. t. cerviniventris*, p. 220.

(645) Cyornis tricolor tricolor.

THE SLATY-BLUE FLYCATCHER.

Digenea tricolor Hodg., P. Z. S., 1845, p. 26 (Nepal).
Cyornis leucomelanurus. Blanf. & Oates, ii, p. 16 (part.).

Vernacular names. None recorded.

Description.—Adult male. Upper plumage, edges of wing-coverts and inner secondaries dark dull slaty-blue, the forehead and sides of the crown a paler brighter grey-blue; lores and sides of the head black; upper tail-coverts and tail black, the bases of the rectrices white on a quarter to half their length; wing-quills brown edged with rufous; lower plumage greyish white, often tinged with fulvous, especially on the flanks and breast.

Colours of soft parts. Iris dark brown; bill black; feet and legs pale horny-brown to dark brown.

Measurements. Total length about 115 to 120 mm.; wing 57 to 72 mm.; tail 48 to 50 mm.; tarsus about 19 to 20 mm.; culmen about 9 mm.

Female. Whole upper parts olive-brown, tinged with rufous on the rump; upper tail-coverts and tail ferruginous; a fulvous ring

round the eye; lores and sides of the head mixed fulvous and brown; lower plumage fulvous-white, more fulvous on the breast and flanks and often pure white on the chin and belly.

Colours of soft parts and **Measurements** as in the male.

Young birds are brown above, the feathers with bright fulvous centres and black margins; below the plumage is dull ferruginous, the breast squamated with dark brown. The adult plumage is attained by degrees, and many young males breed in a halfway plumage between that of male and female.

Distribution. Himalayas from Kashmir to the extreme East of Assam North of the Brahmaputra and also in the Khasia Hills South of that river. Birds from the Khasia Hills are rather darker below, on an average, than are those from the North, but they overlap and vary too greatly *inter se* to permit their being definitely described as another race.

Nidification. The Slaty-blue Flycatcher breeds between 4,000 and 10,000 feet throughout its range, occasionally higher, as a nest sent me from the Chumbi Valley, Tibet, was taken at over 10,000 feet. The nest is made of moss, with an inner lining of roots or finer moss, over which there is placed a thick pad of fur, hair or wool. It is placed in any convenient hollow in bank, wall or tree but most often in the latter and is sometimes very conspicuous. The eggs number three or four and in colour appear superficially to be a pale pink or yellowish pink but really are very pale pink finely freckled with pale reddish, sometimes all over, sometimes principally in a ring or cap at the larger end.

One hundred eggs average 15·8 × 12·1 mm.: maxima 17·1 × 12·0 and 15·5 × 12·5 mm.; minima 14·9 × 12·0 and 15·3 × 11·8 mm.

Habits. This little Flycatcher is resident between 8,000 feet and 12,000 feet in the Himalayas, having been obtained by the Everest Expedition at Kama at the latter elevation. In the Khasia Hills it is obtained occasionally in Summer as low as 4,000 feet. It is found throughout the plains adjacent to the hills in Winter, and at that time of the year is given to frequenting heavy reed-beds and elephant-grass land as well as forest. They are very sociable little birds, a couple of pairs often hunting in company. The song is sweet, though feeble.

(646) Cyornis tricolor cerviniventris.

THE EASTERN SLATY-BLUE FLYCATCHER.

Digenea cerviniventris Sharpe, Cat. B.M., iv, p. 460 (1879) (Remtee, Manipur).
Cyornis leucomelanurus. Blanf. & Oates, ii, p. 16 (part.).

Vernacular names. None recorded.

Description.—Adult male. Differs from *C. t. tricolor* in being a much darker fulvous below, almost rufous-fulvous and in being slightly darker above.

Colours and Measurements as in the preceding bird.

Female differs from *C. t. tricolor* in being much darker fulvous below and in being darker and browner, less fulvous above.

Distribution. North Cachar, Manipur, Chin Hills to Yunnan, Shan States, Northern Siam and the hills of Central Burma to Karenni, Yunnan. It is common throughout the plains of South Assam in Winter and in Cachar, Sylhet, Tippera and Chittagong.

Nidification. Two nests of this race taken by Mr. C. Hopwood in the Chin Hills are said to have been just like those of the last bird and the eggs also are indistinguishable. They measure about 15·9 × 11·8 mm. and were taken at 5,000 feet on the 29th April and 1st May, 1914.

Habits. Those of the preceding bird.

Cyornis superciliaris.

Key to Subspecies.

A. A broad conspicuous supercilium from eye to nape ..... *C. s superciliaris*, p. 221.
B. No white eyebrow, or merely an obsolete trace of it ..... *C. s. astigma*, p. 223.

(647) Cyornis superciliaris superciliaris.

THE WHITE-BROWED BLUE FLYCATCHER.

Muscicapa superciliaris Jerdon, Madr. Jour. L.S., xi, p. 16 (1840) (N. Indian Ghats).
Cyornis superciliaris. Blanf. & Oates, ii, p. 17.

Vernacular names. None recorded.

Description.—Adult male. Whole upper plumage and wing-coverts rather dull, but not very dark blue; lores and edges of



Fig. 30.—Bill of *C. s. superciliaris.*

forehead black; a broad white supercilium from the front of the eye to the nape; tail blackish brown, edged with blue and with white bases to all but the central pair of feathers; wing-quills blackish brown edged with blue; sides of head, neck, and breast blue, a little darker than the back, sometimes extending as a collar across the breast but generally broken in the centre; remainder of lower plumage white.

Colours of soft parts. Iris dark brown; bill black; legs and feet deep brown or "purplish black" (*Hume*).

Measurements. Total length about 110 mm.; wing 61 to 64 mm.; tail 43 to 45 mm.; tarsus 16 to 17 mm.; culmen about 10 mm.

Female. Above olive-grey, more or less tinged with brown; forehead fulvous and lores mixed fulvous and white; rump just showing a tinge of blue and upper tail-coverts quite blue; tail blackish edged with blue; lower plumage dull buff, tinged with brown on the breast and albescent on the centre of the abdomen, vent and under tail-coverts.

Colours of soft parts and **Measurements** as in male.

Nestling. Above ashy-brown, the feathers centred with fulvous and with black edges; tail and upper tail-coverts showing a good deal of blue; below fulvous-white squamated with black. The white marks on the tail of the male are present from the earliest stage.

The young male breeds in a plumage rather like that of the female, but with much more blue above.

Distribution. The Himalayas from the Afghan Frontier to Garhwal and Western Nepal.

Nidification. In the Himalayas this Flycatcher does not breed much below 7,500 feet though, in the hills South of the Brahmaputra, I found *C. s. astigma* breeding in small numbers at about 5,000 feet. It commences breeding at the end of April and continues until the middle of June, making a nest of moss, lined with roots or fibres and placed in some small hole in a tree between ten and thirty feet from the ground. Mr. J. Davidson took a nest from a Woodpecker's nest-hole in Kashmir and Mr. B. B. Osmaston found it appropriating the deserted nest of a Wren. The eggs number four or five and in colour are a very pale olive-yellow or olive-green dusted over with fine reddish freckles, sometimes over the whole surface, sometimes over the larger end only where they form a ring or cap. In the former case they look almost unicoloured reddish buff, in the latter olive-green with a reddish cap or ring. One hundred eggs average 16·0 × 12·2 mm.: maxima **17·2** × 12·2 and 17·1 × **13·0** mm.; minima **14·2** × 11·9 and 14·5 × **11·5** mm.

Habits. The White-browed Blue Flycatcher is found up to at least 10,000 feet in Summer, wandering in Winter as far South as the Central Provinces and to Khandesh in the Bombay Presidency. They are typical little Flycatchers in all their ways. In Summer rather shy and retiring, frequenting forests, in Winter they come far more into the open and even into gardens when they are very fearless and confiding. The song is sweet and like that of the Slaty-blue Flycatcher but stronger and better sustained.

Distribution. Assam South of the Brahmaputra, the hills of Burma and the Malay Peninsula, Shan States, Yunnan, Siam.

Nidification. In the hills South of the Brahmaputra this Flycatcher breeds during April, May and June at elevations between 3,000 and 7,000 feet but generally between 5,000 and 7,000. The nest is a tiny cup of moss, in most cases very compact and well put together but sometimes rather rough and flimsy. The lining is of soft shreds of grass or of fine hair-like roots (? rachides). Most nests are placed in holes in high rocky banks or in hollows of the rocks themselves but a few are placed in holes and hollows in trees. The eggs, three or four in number, appear at first sight to be almost uniform olive-brown but are really a pale yellow stone-colour or yellowish green covered all over with tiny freckles of reddish brown. In shape they are broad blunt ovals and thirty eggs average 15·1 × 11·5 mm.: maxima **16·1** × 12·2 and 15·9 × **12·3** mm.; minima **14·1** × 11·5 and 15·0 × **11·2** mm.

Habits. In Winter the Little Pied Flycatcher is found all over the plains of Assam and Eastern Bengal and throughout nearly all Burma. It is a very cheerful lively little bird often associating in flocks and ever on the move from one vantage spot to another, catching most of its insect-prey on the wing but also chasing it along the branches or snatching it from the bark of a tree. It has a sweet but very short little song, which it often utters even in winter. It is a very fearless little bird, entering gardens and orchards and hawking for flies within a few feet of the watcher.

(651) Cyornis sapphira.

THE SAPPHIRE-HEADED FLYCATCHER.

Muscicapula sapphira Tickell, Blyth, J. A. S. B., xii, p. 939 (1843) (Darjiling).
Cyornis sapphira. Blanf. & Oates, ii, p. 20.

Vernacular names. None recorded.

Description.—Adult male. Forehead, crown and nape brilliant ultramarine-blue; sides of head, neck, back, rump and wing-coverts deep purplish blue; upper tail-coverts bright blue; tail black, edged with bright blue; wing-quills and primary-coverts black, edged with deep blue; lores and a line through the eye black; chin, throat and upper breast light chestnut; an interrupted band below the chestnut deep blue; remainder of lower parts a very pale blue-grey; axillaries and under wing-coverts white.

Colours of soft parts. Iris brown or hazel; bill black; legs and feet light horny-brown to dark ashy-brown.

Measurements. Wing 60 to 63 mm.; tail 40 to 46 mm.; tarsus about 16 mm.; culmen about 8·5 to 9 mm.

Female. Whole upper plumage rufous-olive, more rufous on the forehead; upper tail-coverts bright ferruginous; tail dark brown

(653) Cyornis pallipes pallipes.

THE WHITE-BELLIED BLUE FLYCATCHER.

Muscicapa pallipes Jerdon, Madr. Journ. L. S., xi, p. 15 (1840) (Coonoor Ghat).
Cyornis pallidipes. Blanf. & Oates, ii, p. 22.

Vernacular names. None recorded.

Description.—Adult male. Forehead and supercilium ultramarine-blue; lores black fading to bluish black on ear-coverts and sides of head; whole upper plumage and exposed parts of wings and tail indigo-blue; concealed portions of wing dark brown, the first few primaries edged paler and not blue; chin blackish, throat and breast indigo-blue, changing to blue-grey on the lower breast and flanks and to white on the abdomen, under tail-coverts, axillaries and under wing-coverts.

Colours of soft parts. Iris hazel; bill black; legs and feet fleshy-white, pale horny-white or fleshy tinged with purple.

Measurements. Total length about 150 to 160 mm.; wing 73 to 79 mm.; tail 56 to 60 mm.; tarsus about 18 mm.; culmen 13·0 to 13·5 mm.

Female. Lores, forehead and point of chin white; a very indistinct supercilium and feathers under the eye pale grey; upper plumage rufescent olive-brown, more grey on the head; upper tail-coverts and exposed parts of tail chestnut; wings dark brown, all the feathers edged with fulvous-rufous; throat and breast orange-chestnut; remainder of lower plumage white tinged with grey on the flanks and next the breast.

Colours of soft parts and **Measurements** as in the male.

The Nestling is dark brown above, the feathers boldly spotted with fulvous and narrowly margined with black; below white, chestnut on the breast, squamated with dark brown and with large fulvous spots.

Distribution. South-West India on the Western Ghats from Belgaum to the extreme South of Travancore.

Nidification. First taken by Messrs. J. Davidson and T. R. Bell in Kanara, S. Bombay, the nests have since been taken in great numbers by Mr. J. Stewart in Travancore. He describes them as roughly made of moss and placed either on a ledge of rock or in a hole of a tree-stump a few feet from the ground. They are always built in damp forest at elevations between 1,000 and 4,000 feet, most often under 2,000 feet. The usual breeding-season is March to April, but Mr. Stewart has taken nests from February to September.

The number of eggs laid is nearly always three, and in appearance they are not unlike boldly marked eggs of the Common Spotted Flycatcher. The ground-colour is a pale yellow or reddish stone, sometimes distinctly green, and the markings consist of small blotches of rather bright reddish, numerous everywhere and generally forming a ring or cap at the larger end. They are nowhere so numerous as to make the eggs appear unicoloured as in the eggs of *Cyornis rubeculoides*, etc.

Forty eggs average 20·2 × 15·5 mm.: maxima 22·0 × 16·0 and 20·9 × 16·5 mm.; minima 19·4 × 15·0 and 20·1 × 14·6 mm.

Habits. This Flycatcher keeps almost entirely to dense forest from the foot-hills up to some 6,000 feet. Its song is said to be sweet but melancholy and it sings very early in the morning and late in the evening. Mr. Stewart notes that this bird and *Myiophoneus horsfieldii* may be heard singing, on the same stream, before other birds have started and again after all the others have ceased.

(654) Cyornis pallipes hainana.

GRANT'S BLUE FLYCATCHER.

Siphia hainana O.-Grant, Bull. B.O.C., x, p. 36 (1899) (Hainan).

Vernacular names. None recorded.

Description.—Adult male. Similar to *C. p. pallipes*, but with the upper parts a brighter blue and with the supercilium and forehead much more highly developed.

Measurements. Wing 67 to 72 mm.; tail 50 to 55 mm.; tarsus about 16 mm.; culmen 10·5 (Hainan) to 11·5 mm. (S. China).

The female differs from the female of the preceding bird in being much darker and greyer above, in having the tail almost concolorous with the back, and in being a much paler weaker chestnut on the throat. One or two individuals have the lores and feathers round the eye tinged with rust.

Colours of soft parts and **Measurements** as in the male.

Nestling. Like that of the preceding race.

Distribution. Hainan, Annam, South China, Siam and Peninsular Burma.

Nidification and **Habits.** Practically nothing recorded.

Cyornis unicolor.

Key to Subspecies.

A. Above light blue.	
a. Above and below brighter	*C. u. unicolor*, ♂, p. 230.
b. Above and below much darker	*C. u. infuscata*, ♂, [p. 231.
B. Above olive-brown.	
c. Above paler and more fulvous olive-brown	*C. u. unicolor*, ♀, p. 230.
d. Above darker, more a rufescent olive-brown	*C. u. infuscata*, ♀, [p. 231.

tinged strongly with ferruginous; lores and edge of forehead mixed fulvous and brown; a ring of bright fulvous round the eye; chin, throat and breast pale, bright orange-chestnut; remainder of lower plumage dull white, the flanks and under tail-coverts suffused with brown.

Colours of soft parts as in the male.

Measurements. A little smaller than the male, wing 58 to 61 mm.

Nestling. Similar to that of *C. superciliaris*, but a deeper fulvous on the throat and breast.

Distribution. Sikkim to Eastern Bengal, Chin and Kachin Hills.

Nidification. I found this bird breeding in North Cachar between 3,500 and 6,000 feet and Dr. H. N. Coltart obtained nests, eggs and birds from the Trans-Dikhu Nagas at Margherita, probably taken at about 6,000 feet. The nest is the usual moss cup, lined with fine hair-like roots and placed either in a hollow in the face of a steep bank or in a hole in a tree or dead stump.

The eggs, three or four in number, are just like those of *C. superciliaris*. I found all those I obtained myself in nests in forest, either dense evergreen or of oak, but the latter were covered all the year round with masses of orchids, ferns and moss and the undergrowth was always green.

This Flycatcher breeds throughout May and June.

Habits. The birds seen by me in North Cachar were all either in pairs or single, frequenting high undergrowth or small trees, from the tops of which they made their sallies after insects. I never heard their song.

Cyornis vivida.

Cyornis vivida Swinh., Ibis, 1864, p. 463 (Formosa).



Fig. 31.—Bill of *C. vivida oatesi*.

(652) Cyornis vivida oatesi.

THE RUFOUS-BELLIED BLUE FLYCATCHER.

Niltava oatesi Salvadori, Ann. Mus. Civ. Gen., 2, v, p. 514 (1887) (Pegu).
Cyornis oatesi. Blanf. & Oates, ii, p. 20.

Vernacular names. None recorded.

Description.—Adult male. Forehead, lores and sides of head deep black; crown, nape, rump, upper tail-coverts, lesser and median wing-coverts glistening cobalt-blue; tail black, the central pair of feathers and outer webs of lateral suffused with bright dark blue; back, sides of neck, wing-coverts and edges of quill-feathers deep blue; chin, throat, and sides of neck deep blue; remainder of lower plumage, axillaries and under wing-coverts chestnut, deepest on the breast.

Colours of soft parts. Iris deep brown to reddish chocolate (*Hume*); bill black; legs and feet dark horny-brown to blackish brown.

Measurements. Total length about 180 mm.; wing 92 to 102 mm.; tail 70 to 95 mm.; tarsus about 18 to 19 mm.; culmen 10 to 11 mm.

This bird differs from *vivida* from Formosa only in having a darker, more blackish back, in being slightly less brilliant blue on the upper tail-coverts and also in being larger. The Formosan bird has a wing measuring from 82 to 90 mm. and other measurements in proportion.

Female. Forehead, lores, sides of head, chin and upper throat rufous, speckled and barred with brown; crown, nape and sides of neck ashy-brown, becoming more and more fulvous-olive towards the upper tail-coverts which are fulvous-brown; a large patch below the throat, axillaries, under wing-coverts and under tail-coverts pale buff; remainder of lower plumage ashy tinged with buff on the breast and purer and paler on the abdomen.

Colours of soft parts and **Measurements** as in the male.

Young birds are dark brown above speckled with fulvous; below rufous, the breast mottled and barred with dark brown.

Distribution. Hills of Assam South of the Brahmaputra, Chin and Kachin Hills, Shan States and mountains of Central Burma, South to Tenasserim, Siam.

Nidification. Unknown.

Habits. Davison found this bird always single, haunting both tree-tops and low bushes. Those seen by myself in Assam and by Hume in Manipur were in pairs and invariably skulking in brushwood, from which they sallied after insects which they captured in the usual Flycatcher manner. They keep to hills above 4,000 feet in Assam and to greater heights than this in Burma.

Cyornis pallipes.

Key to Subspecies.

A. Upper plumage blue.
  a. Above duller, supercilium not very bright. *C. p. pallipes*, ♂, p. 228.
  b. Above brighter, supercilium very bright . *C. p. hainana*, ♂, p. 229.
B. Upper plumage olive-brown.
  c. Above paler; tail strongly chestnut .... *C. p. pallipes*, ♀, p. 228.
  d. Above darker; tail only tinged chestnut. *C. p. hainana*, ♀, p. 229.

(655) Cyornis unicolor unicolor.

THE PALE BLUE FLYCATCHER.

Cyornis unicolor Blyth, J. A. S. B., xii, p. 1007 (1843) (Darjeeling); Blanf. & Oates, ii, p. 22.

Vernacular names. None recorded.

Description.—Adult male. Forehead, front and sides of the crown, a narrow ring round the eye and lesser wing-coverts ultramarine-blue; whole upper plumage, exposed portions of wings and tail light blue, deeper on the upper tail-coverts and edges of the tail-feathers; lores black; lower plumage very pale dull blue, becoming greyish albescent on abdomen, flanks and under tail-coverts, the latter broadly edged with white; axillaries and under wing-coverts fulvous-white.

Colours of soft parts. Iris hazel; bill black; legs and feet dark purplish fleshy or fleshy-brown.

Measurements. Total length about 165 to 170 mm.; wing 78 to 85 mm.; tail 68 to 75 mm.; tarsus about 17 to 18 mm.; culmen 14 to 15 mm.

Female. The whole upper plumage fulvous olive-brown; tail-feathers ferruginous and wing-quills brown edged with ferruginous; lores and a ring round the eye pale fulvescent; whole lower plumage pale earthy-brown, often tinged with ochraceous on the sides of the head, chin and throat.

Colours of soft parts. Bill horny-brown, darker on culmen and tip; legs horny-brown.

Measurements as in the male.

Nestling. Above dark brown with bold black edges to each feather and large bright fulvous spots; below fulvous-white with darker fulvous mottlings and black squamations.

Distribution. Himalayas from Sikkim to Eastern Assam, Chin Hills.

Nidification. Two nests and eggs brought to Dr. H. N. Coltart and myself by Trans-Dikhu Nagas were taken in the first week of April and second week of June respectively, from the higher ranges of hills, probably well above 5,000 feet, behind Margherita. The nests were bulky affairs of moss mixed with moss and fern-roots and lined with the latter and had, according to the Nagas, been wedged into holes, one in a tree-stump near water and one in a bank between stones. Six eggs vary from 21·5 × 17·3 to 23·1 × 17·1 mm. in length, whilst in breadth they vary between 23·0 × 16·8 and 21·5 × 17·3 mm. In appearance they are like large eggs of *Cyornis pallipes*, though in one clutch the markings are rather pale and small.

Habits. This was a very common Flycatcher in the South Assam Hills, in summer being found from 3,000 feet upwards and in winter wandering down below 1000 ft. It has a magnificent song, richer than that of any other *Cyornis*; it sings early and late from March onwards. It keeps entirely to wet humid forest where the ground is much broken on the steeper hillsides and where there is an ample growth of underwood always more or less green. We found it hawking insects both from high up in big trees and from low down in bushes and we noticed that it used regular perches for this purpose much less than most of the family. It is by no means shy but has a wild rapid flight.

(656) Cyornis unicolor infuscata.

BLYTH'S PALE BLUE FLYCATCHER.

Muscicapa infuscata Müller, Blyth, Ibis, 1870, p. 165 (Java).

Vernacular names. None recorded.

Description. Sex for sex like the last race, but very much darker both above and below.

Colours of soft parts as in the last bird.

Measurements. Wing 77 to 82 mm.

Distribution. From Tenasserim and Siam throughout the Malay Peninsula, Java and ? Sumatra.

Nidification and **Habits.** Nothing recorded.

(657) Cyornis rubeculoides rubeculoides.

THE BLUE-THROATED FLYCATCHER.

Phœnicura rubeculoides Vigors, P. Z. S., 1831, p. 35 (Himalayas, Darjeeling).
Cyornis rubeculoides. Blanf. & Oates, ii, p. 23.

Vernacular names. *Ghatki* (Beng.); *Manzil pho* (Lepcha).

Description.—Adult male. Forehead and a streak over the eye glistening azure-blue; lores, feathers at the base of the bill, in



Fig. 32.—Bill of *C. r. rubeculoides.*

front of and behind the eye black; lesser wing-coverts bright blue; whole upper plumage and exposed portions of wings and tail dark blue; inner webs of lateral tail-feathers and concealed portions of wing-feathers brown; chin, throat, sides of neck and breast deep blue; breast bright ferruginous, paler on flanks and lower breast and pure white on abdomen and under tail-coverts; axillaries and under wing-coverts fulvous-white.

Colours of soft parts. Iris hazel; bill black, flesh-coloured at the gape; legs and feet pale fleshy to pale fleshy-brown.

Measurements. Total length about 145 mm.; wing 65 to 75 mm., two birds from Siam and China have wings of 78 mm.; tail 53 to 60 mm.; tarsus about 20 mm.; culmen about 11·5 to 12·5 mm.

Female. Lores and a ring round the eye pale fulvous; upper plumage olive-brown tinged with rufous on the forehead and rump and more ashy on the posterior crown and nape; wing and tail feathers brown edged with ferruginous; chin and throat fulvous-ferruginous; breast bright ferruginous, abdomen and vent white; sides of breast and flanks washed with olive-brown.

Colours of soft parts. Iris hazel-brown; bill black, horny at the base; legs and feet pale horny-brown.

Measurements. Wing 69 to 74 mm.; tail 49 to 52 mm.; tarsus about 19 mm.; culmen about 11 to 12 mm.

Young. Above brown streaked and spotted with fulvous and the wing-coverts broadly tipped with fulvous; throat and breast fulvous squamated with brown. The young male moults direct from the spotted into the blue plumage.

Distribution. In Summer the Blue-throated Flycatcher is found throughout the Himalayas from Kashmir to Burma; the hills of Burma South to Tenasserim. East it is found in Yunnan, Assam, Siam and Cochin China. In Winter it occurs throughout Eastern and North-Eastern India, Burma, etc.

Nidification. This Flycatcher breeds throughout the hill-portions of its habitat between 2,000 and 7,000 feet, but principally between 3,000 and 5,000 feet, in the months of April, May and June. It makes a cup-shaped nest of moss and moss-roots, often with a few leaves or scraps of grass in the base, lined with fine roots. It is placed in any convenient hollow in bank, rock or tree but preferably in natural holes in old stumps which are well concealed by moss or creepers. The eggs vary from three to five. In ground-colour they are a pale clay, sometimes with a pink or greenish tinge but they are so covered with microscopic specks of reddish brown that they appear to be unicoloured clay-brown or olive-brown eggs. Forty eggs average 18·3 × 14·0 mm.: **maxima** **19·4 × 15·1** mm.; minima **17·5 × 14·3** and 18·4 × **13·6** mm.

Habits. Like most other Flycatchers of the genus *Cyornis* this species is a bird of the forest throughout the breeding-season, but when migrating may be found in almost any kind of well-wooded country, cultivated or wild, and is very frequently found in open bamboo-jungle. Many individuals are undoubtedly resident all the year round between 2,000 and 5,000 feet, but others wander a great distance into the plains. They are cheerful lively little birds and will be found principally haunting the lower growths of bush and scrub, seldom mounting big trees to any height. They have a very sweet little song but are silent birds seldom uttering any note but a soft, deep *chur-r-r-r.*

Cyornis banyumas.

Cyornis banyumas Von Martens, J. f. O., 1866 p. 11 (Java).

Key to Subspecies.

A. Whole lower surface rufous or strongly washed with rufous	*C. b. banyumas.*
B. Breast and flanks rufous, abdomen and under tail-coverts white or almost white.	
a. Above a deeper blue; below, abdomen purer white	*C. b. cærulifrons*, p. 233.
b. Above a duller blue: below, abdomen more strongly washed with rufous	*C. b. dialilæma*, p. 233.

(658) Cyornis banyumas cærulifrons.

THE SOUTHERN BLUE FLYCATCHER.

Cyornis magnirostris cærulifrons Stuart Baker, Bull. B. O. C., xxxix, p. 8 (1918) (Klong-bong-lai, South Siam).

Vernacular names. None recorded.

Description.—Adult male. Very like *C. rubeculoides*, but has only the front and sides of the chin black, instead of the whole chin and upper throat deep blue; the upper parts are also a duller and darker blue with a more indigo shade in it.

Colours of soft parts. Iris brown; bill black; legs and feet grey to neutral tint. The bill is pale at the base of the lower mandible in winter.

Measurements. Wing 68 to 73 mm.; tail 54 mm.; tarsus 20 mm.; culmen 12 mm.

Female. Lores and ring round eye pale fulvous; whole upper plumage fulvous olive-brown; rufescent on the upper tail-coverts; wing-quills and rectrices brown edged with rufous; chin, throat, breast and flanks orange-chestnut; abdomen and under tail-coverts white suffused with rufous. It cannot be distinguished from many female specimens of *C. rubeculoides* but has possibly a stronger fulvous tinge.

Distribution. North Malay Peninsula and Peninsular Burma and Siam.

Nidification. Not recorded.

Habits. Apparently the same as those of *Cyornis magnirostris*, from which this bird hardly differs except in size and its small bill—both forms, however, occurring together over a considerable area.

(659) Cyornis banyumas dialilæma.

SALVADORI'S BLUE FLYCATCHER.

Cyornis dialilæma Salvadori, Ann. Mus. Civ. Genova, xxvii, p. 387 (1889) (Taho, Karenni).

Vernacular names. None recorded.

Description.—Adult male. Differs from the Southern Blue Flycatcher only in being a duller blue and in having the abdomen and under tail-coverts much more suffused with rufous.

Colours of soft parts and **Measurements** as in the preceding bird. Wing 71 to 74 and one specimen 79 mm.

Female. Only differs from that of *Cyornis rubeculoides* in being darker below.

Young. Above rufous-brown, with pale central streaks to the feathers of the back, head and scapulars; the wing-coverts with fulvous spots and the breast bright orange-rufous mottled with brown.

Distribution. Hills of Central Burma, North to Shan States and Yunnan and the Kachin Hills East of the Irrawaddy. It is quite impossible to distinguish between *Cyornis whitei* (Harington), *Cyornis glaucicomans* (Oberholser) and *Cyornis dialilæma* (Salvadori), the last of these names has priority. Gyldenstolpe says it is the most common form of Blue Flycatcher in Northern Siam.

Nidification. Harington and Grant both found this bird breeding in the Bhamo Hills and Shan States. Nests obtained with eggs differed in no way from those of *Cyornis tickelliæ* and *C. rubeculoides*. Twenty eggs average 18·6 × 14·2: maxima **20·5** × 14·5 and 18·5 × **15·2** mm.; minima **16·9** × 14·0 and 17·4 × **13·5** mm.

Habits. Those of the genus but it seems to be more entirely a forest-bird, summer and winter, than most. The extent to which it is migratory is not at present known.

Cyornis tickelliæ.

Key to Subspecies.

A. Abdomen and flanks decidedly washed with pale rufous and not conspicuously separated from rufous breast.
  a. Above both males and females paler .... *C. t. tickelliæ*, p. 234.
  b. Above darker ..... *C. t. mescea*, p. 236.
B. Abdomen sharply divided from rufous breast and very white; above a richer blue than either of above ..... *C. t. sumatrensis*, p. 235.

(660) Cyornis tickelliæ tickelliæ.

TICKELL'S BLUE FLYCATCHER.

Cyornis tickelliæ Blyth, J. A. S. B., xii, p. 941 (1843) (Central India).
Cyornis tickellii. Blanf. & Oates, ii, p. 25.

Vernacular names. None recorded.

Description.—Adult male. Lores, feathers round the eye and a narrow line next the bill black; forehead, supercilium and lesser wing-coverts glistening azure-blue; whole upper surface blue, less deep than in *C. rubeculoides*; point of chin black; sides of head and neck deep blue-black; throat and breast bright ferruginous fading into white on the abdomen, vent and under tail-coverts; axillaries and under wing-coverts white or very pale buff.

Colours of soft parts. Iris brown; bill black or dark horny-brown, paler at the base; legs and feet bluish brown, dusky bluish, or bluish grey.

Measurements. Total length about 155 mm.; wing 72 to 77 mm.; tail 54 to 59 mm.; tarsus 18 to 19 mm.; culmen 11 to 12 mm.

Female. Similar to the male but duller and paler; the supercilium very pale; lores and round the eye grey and white; whole chin very pale rufous and breast paler than in the male.

Colours of soft parts as in the male.

Measurements. Wing 69 to 72 mm.

Young. Above brown with bold fulvous spots, below dull fulvous-white, the breast rusty with dark brown margins to the feathers.

Distribution. Practically the whole of India, except Sind and the extreme N.W. Province; Assam, Manipur, North and Central Burma as far South as Karenni where it meets the next race; Yunnan, Shan States, Northern Siam and Annam.

Nidification. Tickell's Blue Flycatcher breeds from all levels up to about 5,000 feet but invariably in hilly or broken country. The nest is always placed in a hole of some kind, in a tree, bank or wall, possibly in most cases in hollows in trees and is built of grass, roots, dried moss and leaves and lined with roots; rather untidy and rather large for the bird. The eggs number three to five and are not distinguishable from those of *Cyornis rubeculoides*, but perhaps *average* a rather brighter brown. Eighty eggs average 18·4 × 14·2 mm.: maxima **19·6** × 14·3 and 18·5 × **15·3** mm.; minima **16·8** × 13·6 and 18·3 × **13·4** mm.

The breeding-season is April, May and June, but General Betham found them breeding at Poona as late as August and, on the other hand, in Monghyr, Behar and Burma they breed as early as February and March.

Habits. This is a Flycatcher of small woods and *sholas* and of well-wooded cultivated country. It is an active lively little bird with a sweet but rather metallic little song which it utters far more freely than most of its relations. It is not shy and does not mind being watched.

(661) Cyornis tickelliæ sumatrensis.

SHARPE'S BLUE FLYCATCHER.

Siphia sumatrensis Sharpe, Cat. B.M., iv, p. 451 (1879) (Sumatra *in errore*).

Vernacular names. None recorded.

Description. Similar to *C. t. tickelliæ* but a much richer blue above and with the white abdomen contrasting more strongly with the rufous breast.

Colours of soft parts as in *C. t. tickelliæ*.

Measurements. Wing 67 to 73 mm.

Female. Similar to that of Tickell's Blue Flycatcher but whiter below; individuals vary greatly in the colour of the upper parts but newly moulted birds in full plumage are a deeper brighter blue than any specimens of Tickell's Flycatcher.

Distribution. Malay Peninsula and hills of Southern and Central Burma to Thounghoo and Karenni; South Siam, Annam.

Nidification and **Habits** differ in no way from those of Tickell's Blue Flycatcher. It is a resident bird wherever found and breeds from the level of the plains to some 4,000 or 5,000 feet. In winter it wanders about a good deal in the open and is therefore more conspicuous but it is nowhere more than locally migratory.

(662) Cyornis tickelliæ mesæa.

OBERHOLSER'S BLUE FLYCATCHER.

Cyornis tickelliæ mesæa Oberholser, Proc. Biol. Soc. Washington, xxxiii, p. 86 (1920) (Ceylon).

Vernacular names. None recorded.

Description. Differs from the Indian form in being decidedly darker above both in the male and female. It is not, however, as dark or richly coloured as *C. t. sumatrensis* and not nearly so white below.

Colours of soft parts and **Measurements** as in the other forms.

Distribution. Ceylon only.

Nidification. Very little known, but Legge obtained young in nestling-plumage in June and the middle of July, so presumably they lay in May and early June. They breed up to at least 4,000 feet and possibly higher than this, as I have had specimens procured at Newara Eliya in June.

Habits. Those of the genus.

(663) Cyornis magnirostris.

THE LARGE-BILLED BLUE FLYCATCHER.

Cyornis magnirostris Blyth, J. A. S. B., xviii, p. 814 (1849) (Darjiling); Blanf & Oates, ii, p. 26.

Vernacular names. *Daogatang* (Cachari).

Description.—Adult male. Differs from *Cyornis rubeculoides* in having the whole chin and throat chestnut. The blue of the upper parts is deeper but the chestnut below is paler and extends on to the lower breast and flanks.

Colours of soft parts. Iris hazel to dark brown; bill black; legs and feet very pale fleshy-white to light horny-brown.

Measurements. Wing 76 to 83 mm.; tail 55 to 61 mm.; tarsus 18·5 to 19·0 mm.; culmen 15 mm.

Female. Like that of *C. rubeculoides* but paler below.

Colours of soft parts like the male.

Measurements as in the male.

Nestling. Above brown, each feather with a pale fulvous centre and dark margin; tail rufous as in the adult female; below earthy-fulvous, the breast mottled with fulvous and brown. The males moult direct from the spotted plumage into the blue of the adult.

Distribution. Nepal, Sikkim, the whole of Assam, North and South of the Brahmaputra.

Nidification. Very similar to that of *Cyornis rubeculoides* but the nest is generally placed in a hole in a bank or rock and is larger and more untidy than it is in that species. The eggs, three to five in number, are rather larger, decidedly darker and duller and more definitely spotted. Forty eggs average 19·1 × 14·6 mm.: maxima **20·4** × 14·6 and 20·1 × **15·2** mm.; minima **17·1** × 14·1 and 18·0 × **13·5** mm. The breeding-season is May, June and July and they breed from 3,000 to about 7,000 feet.

Habits. Those of the genus but this is essentially a bird of evergreen, humid forests.

Genus NITIDULA.

Nitidula Jerd. & Blyth, P. Z. S., 1861, p. 201.

Type, *Nitidula hodgsoni*.

The genus *Nitidula* consists of a single species, a very small Blue Flycatcher distinguishable at once by its narrow slender bill with well-developed hairs over the nostril.

(664) Nitidula hodgsoni.

THE PIGMY BLUE FLYCATCHER.

Nemura hodgsoni Moore, P. Z. S., 1854, p. 76 (Nepal).
Nitidula hodgsoni. Blanf. & Oates, ii, p. 27.

Vernacular names. None recorded.

Description.—Adult male. Forehead, lores and sides of head black, tinged with blue in certain lights; whole upper plumage bright dark blue, brightest and more ultramarine on crown; wings and tail black edged with deep blue; whole lower plumage pale orange-yellow, almost white on the centre of the abdomen.

Colours of soft parts. Iris black or deep brown; bill horny-brown, paler and more yellow at the base and on lower mandible;

all black in breeding-season; legs pale reddish brown; "pinkish plumbeous horny" (*Stevens*).

Measurements. Total length about 105 mm.; wing 45 to 50 mm.; tail 30 to 35 mm.; tarsus about 13 mm.; culmen about 6 mm.

Female. Whole upper plumage olive-brown, more rufous on the lower back, rump and upper tail-coverts; tail and wing-feathers brown edged with rufous-brown; lores and cheeks fulvous-yellow mottled with brown; whole lower plumage pale saffron-yellow, albescent on centre of abdomen, vent and under tail-coverts.

Colours of soft parts as in the male but bill never black.

Measurements. Wing 43 to 46 mm.

Distribution. Sikkim, Bhutan and the hills of Assam, North and South of the Brahmaputra between 3,000 feet and the highest peaks of 9,000 feet or over.

Nidification. Unknown.



Fig. 33.—Bill of *N. hodgsoni*.

Habits. The few birds seen by me in North Cachar were always in deep forest, though preferably on the edge of some glade or open forest-stream. On each occasion three or four were seen together feeding on the bushes and lower trees and taking insects off the leaves and twigs just as often as in the air. They were very silent except for a sharp, sibilant, little *tsip*, uttered when the companions got separated. When catching insects on the wing in the flickering shade and sunlight they looked more like brilliant butterflies than birds. They are resident birds but move vertically with the seasons and Stevens records them as descending to the foot-hills in winter in North Lakhimpur.

Genus **STOPAROLA.**

Stoparola Blyth, J. A. S. B., xvi, p. 125 (1845).

Type, *Stoparola melanops*.

The genus *Stoparola* differs from *Cyornis* in having a shorter, very depressed bill which, viewed from above, forms an equilateral triangle. Both sexes have a certain amount of blue-green almost throughout their plumage but at the same time the sexes vary considerably in colour.

One of the three species found in the Indian Empire has a very widely extended range, the other two are confined to comparatively

small areas. *S. sordida* and *S. albicaudata* are good species in no way linked with *S. melanops*.

Key to Species.

A. With no white to the base of the tail.
  a. Under tail-coverts blue or green with broad white edges ..... *S. melanops*, p. 239.
  b. Under tail-coverts white or almost so .. *S. sordida*, p. 241.
B. Base of tail white..... *S. albicaudata*, p. 242.

Stoparola melanops.

Key to Subspecies.

A. No black spot on chin; line of black across forehead very narrow or obsolete..... *S. m. melanops*, p. 239.
B. A black spot at point of chin; black line on forehead better defined..... *S. m. thalassoides*, p. 241.

(665) Stoparola melanops melanops.

THE VERDITER FLYCATCHER.

Muscicapa melanops Vigors, P. Z. S., 1831, p. 171 (Himalayas, now restricted to Sikkim).
Stoparola melanops. Blanf. & Oates, ii, p. 28.

Vernacular names. *Nil-kat-katia* (Beng.); *Sibyell-pho* (Lepcha); *Dao-tisha, lili gadeba* (Cachari).



Fig. 34.—Bill of *S. m. melanops*.

Description.—Adult male. Lores to base of bill black, produced back under the eye; whole plumage verditer-blue, palest and brightest on forehead, sides of head, chin, throat, breast and upper tail-coverts; concealed portions of wing-feathers and edge of lateral tail-feathers brown, visible portions bright green-blue, still brighter and more blue on the outer edges; under tail-coverts edged with white.

Colours of soft parts. Iris hazel-brown; bill black, the corner of gape and mouth flesh-colour; legs, feet and claws black.

Measurements. Total length about 150 mm.; wing 79 to 89 mm.; tail 60 to 74 mm.; tarsus about 18 mm.; culmen about 11 mm.

Female. Generally similar to the male but much duller and greyer in tint; lores dull brown; chin and sides of throat mottled with brown and white.

Young birds are a grey-brown, more or less tinged with green; spotted above with small and below with large fulvous spots, the edges of the feathers being darker; on the head and nape the spots are often almost white.

Distribution. The whole Empire North of the Nilgiris and Travancore except Sind, the Andamans and Nicobars. In Burma it extends as far South as Tenasserim where it is replaced by the next race, birds from the extreme South of Burma being intermediate in size and in the extent of black on the forehead, lores and chin.

Nidification. The Verditer Flycatcher breeds throughout the Himalayas above 4,000 feet, Assam, the Burmese Hills, Yunnan, Shan States, Siam, Annam and Western China. It may also sometimes breed in the Hills of Southern India as Mr. Kinlock reports it as being extremely common in the Neliampathy Hills until March at comparatively low heights. It nests in April, May and early June, often having second broods in June and early July. The nest is cup-shaped, made principally of living green moss but sometimes mixed with tiny roots, scraps of bracken or grass, lichen, etc., the lining being always of the finest moss and fern-roots. It is most often placed among boulders on a mossy bank, in a crevice or niche in or between the stones or rocks, but it may also be built in holes in trees, walls or banks. The eggs number four almost invariably, very seldom three or five. In ground-colour they vary from almost pure white to a pale pink, generally profusely but minutely freckled or stippled with a darker shade of the same, a more pronounced ring circling the larger end. Two hundred eggs average 19·3 × 14·6 mm. and the extremes are: maxima **22·0** × 15·2 and 20·3 × **16·0** mm.; minima **17·0** × 14·0 and 19·0 × **13·8** mm.

Habits. In Summer this Flycatcher is found between 4,000 and 8,000 feet wandering up to 9,000 feet in the Himalayas and higher still in the Burmese and Chinese Hills. In winter it descends to the plains and spreads all over North and Central India, though it keeps more to the hilly and broken portions. It is very sociable and in the Khasia Hills I have often seen several pairs hunting quite amicably together for insects on some flowering shrub in my garden. It searches the leaves and twigs for insects in a very Tit-like manner in addition to the usual Flycatcher sallies after those on the wing. It has a very sweet song uttered in the mornings and evenings and, as it is very confiding and tame, will often sing within a few feet of the watcher. It keeps much to cultivated country, thin forests and pine-woods and is seldom found far inside dense evergreen forest.

(666) Stoparola melanops thalassoides.

THE MALAY VERDITER FLYCATCHER.

Glaucomyias thalassoides Cab., Mus. Hein., i, p. 53 (1850) (Sumatra)

Vernacular names. None recorded.

Description.—Adult male. Similar to *S. m. melanops* but having the black lores extending in a line across forehead and also to the angle of the chin. On the whole, it is perhaps a rather deeper-coloured bird.

Colours of soft parts as in the preceding bird.

Measurements. A smaller bird than *S. m. melanops*: wing 73 to 78 mm.; tail 62 to 64 mm.; tarsus about 17 mm.; culmen about 11 mm.

The female and **young** are inseparable from those of the Common Verditer Flycatcher except in size.

Distribution. Peninsular Siam and Burma, the Malay Peninsula, Sumatra and Borneo.

Nidification. Similar to that of the preceding bird.

Habits. Like the Indian Verditer Flycatcher it is found in the hills in Summer, descending to the plains in Winter but it seems to be a much less common bird and to keep to heavier forest. It is, however, sometimes seen in gardens and the open country round villages.

(667) Stoparola sordida.

THE DUSKY BLUE FLYCATCHER.

Glaucomyias sordida Wald., A. M. N. H., (4) v, p. 218 (1870) (Ceylon).
Stoparola sordida. Blanf. & Oates, ii, p. 29.

Vernacular names. None recorded.

Description.—Adult male. Lores, line across the forehead and point of chin black; forehead, short supercilium and chin bright cobalt-blue; general plumage ashy-grey tinged with blue, darker and more blue on the head; vent almost white and abdomen pale; under tail-coverts almost or quite white; wings and tail brown, the wing-coverts broadly and quills very narrowly edged with blue.

Colours of soft parts. Iris hazel-brown to reddish brown; legs and feet dark plumbeous, the latter sometimes blackish and darker than the tarsus.

Measurements. Wing 73 to 78 mm.; tail 57 to 61 mm.; tarsus about 19·0 mm.; culmen about 11 mm.

Female. Duller and with less blue on forehead, chin and head.

Young. Brown above, boldly spotted with fulvous and with dark edges to each feather; below fulvous, paler and whitish on

the centre of the abdomen, each feather edged and tipped dark brown.

Distribution. Ceylon only above 2,000 feet.

Nidification. The Dusky Blue Flycatcher breeds in the mountains and lower hills of Ceylon in February, March and April. The nest is like that of the Verditer Flycatcher and the eggs are quite indistinguishable from those of that bird but only two or three are laid. They average about 20·1 × 14·4 mm., and a small series vary in length between **20·0** × 14·2 and **21·0** × 15·0 mm. and in breadth between 20·3 × **14·1** and 21·0 × **15·0** mm.

Habits. The Dusky Blue Flycatcher breeds only above 2,000 feet and seems seldom to wander much below this even in non-breeding months. Like the Verditer Flycatcher it often associates in small flocks and has a similar sweet little song and the same soft low call-note sounding like *chip chip*. It is said to be very bold in the presence of man and to prefer the vicinity of villages and open country to deep forest.

(668) Stoparola albicaudata.

THE NILGIRI BLUE FLYCATCHER.

Muscicapa albicaudata Jerd., Madr. J. L. S., xi, p. 16 (1840) (Nilgiris).
Stoparola albicaudata. Blanf. & Oates, ii, p. 30.

Vernacular names. None recorded.

Description.—Adult male. Whole plumage indigo-blue, the forehead, a short supercilium, chin and edge of shoulder of wing bright blue, the blue extending to the fore crown and blending into the dull colour of the nape; concealed portions of the wing-feathers dark brown; median tail-feathers like the back, lateral tail-feathers dark brown edged with indigo-blue and white at the extreme base; abdomen paler and tail-coverts edged with white.

Colours of soft parts. Iris dark brown; bill, legs and feet black.

Measurements. Wing 71 to 82 mm.; tail 60 to 65 mm.; tarsus about 19 mm.; culmen about 11 mm.

Female. Dull grey-brown; the upper tail-coverts blue; whole lower parts paler grey-brown washed with green-blue; tail and wings brown, the former with white bases to all but the median pair.

Measurements. In this species, unlike the others, the female seems to be rather smaller than the male: wing only 72 to 77 mm.

Young. Above dark brown with bold fulvous spots and dark edges to each feather; below pale grey-brown with broad pale fulvous spots and dark edges, the spots and edgings most definite on throat and breast

Distribution. The hills of Southern India from 2,000 feet upwards. Mr. J. Stewart found it common in Travancore in suitable places and I have records of its occurrence in the Wynaad, Palghat and Southern Malabar.

Nidification. Breeds in March, April and May at all elevations from 2,500 feet upwards but more frequently above 4,000 feet than below this height. The nest is cup-shaped, made of moss and moss-roots, lined with the latter. Very rarely (*C. Williams*) there are a few feathers in the lining. Most nests are placed in holes in banks but others are placed in holes in walls, rotten trees or under bridges and culverts. The eggs number three, sometimes two only, and are like those of the other species of *Stoparola*. Sixty eggs average 19·9 × 14·8 mm.; the extremes are: maxima **22·0** × 15·5 and 20·5 × **16·0** mm.; minima **18·4** × 15·0 and 18·8 × **14·0** mm.

Habits similar to those of other species of this genus. This species does not appear to visit the plains in the winter.

Genus ANTHIPES.

Anthipes Blyth, J. A. S. B., xvi, p. 122 (1847).

Type, *Anthipes monileger*.

The genus *Anthipes* contains two Indian species of Flycatcher so different in habits and nidification that many naturalists might consider these, combined with a certain amount of differentiation in colour-characters, sufficient to split them into two genera.

In this genus the sexes are alike, the plumage brown or rufous but relieved in the *monileger* group by a bold white patch on the throat. The bill is flat but longer than wide at the base; the lower mandible is dark; the rictal bristles are long but few in number; the first primary is large and the tail square and rather shorter than the wing.

Key to Species.

A. Chin and throat white, contrasting with the surrounding parts ..... *A. monileger*, p. 243.
B. Chin and throat buff or buffy-white, not contrasting with, but blending into, the surrounding parts ..... *A. olivaceus*, p. 246.

Anthipes monileger.

Key to Subspecies.

A. White of chin and throat surrounded by a black line.—
  a. Forehead and eyebrow fulvous ..... *A. m. monileger*, p. 244.
  b. Forehead and eyebrow golden rufous. *A. m. leucops*, p. 245.
B. White of chin and throat not surrounded by a black line ..... *A. m. submonileger*, p. 245.

(669) Anthipes monileger monileger.

HODGSON'S WHITE-GORGETED FLYCATCHER.

Dimorpha monileger Hodgs., P. Z. S., 1845, p. 26 (Sikkim).
Anthipes moniliger. Blanf. & Oates, ii, p. 32.

Vernacular names. *Phatt-tagrak-pho* (Lepcha).

Description. Short broad supercilia almost meeting on the forehead, bright fulvous; crown to rump olive-brown, tinged with rufous on the latter; upper tail-coverts and tail dull ferruginous; wings brown, all the feathers except the primary coverts edged with rufous; sides of head olive-brown; lores, ear-coverts and under the eye grey-brown; chin and throat white surrounded with black, lower plumage fulvous-olive, albescent on the abdomen.

Colours of soft parts. Iris dark brown; bill dark horny-brown, paler at base but all black in breeding-season; legs and feet fleshy-white.

Measurements. Total length about 125 mm.; wing 60 to 65 mm.; tail 45 to 50 mm.; tarsus about 23 mm.; culmen about 10 mm.



Fig. 35.—Bill of *A. m. monileger*.

Nestling olive-brown, with an ill-defined white throat and with fulvous streaks on the upper plumage and fulvous edges to the wing-feathers.

Distribution. Sikkim and hills of Northern Assam.

Nidification. Two nests of this species were taken by Mandelli at Lebong at an elevation of 5,800 feet in May and June. The nests were made of grass mixed with dried moss and in one case coated with skeleton-leaves. They were cup-shaped and placed in depressions in a bank amongst grass. Eggs taken by Mandelli on the 3rd April have the ground-colour almost pure white and they are speckled with brownish red, principally in a zone about the larger end and less profusely over the rest of the surface. In shape they are broad ovals and they measure about 18·8 × 13·7 mm.

Habits. Hodgson's White-gorgeted Flycatcher appears to be resident between 4,500 and 8,000 feet, descending to 3,000 or even 2,000 feet in the Winter. It frequents light forest intersected with open grass and bracken-covered patches and does not as a rule enter very deep forest.

(670) Anthipes monileger submonileger.

HUME'S WHITE-GORGETED FLYCATCHER.

Anthipes submoniliger Hume, S. F., v., p. 105 (1877) (Muleyet Mt.); Blanf. & Oates, ii, p. 33.

Vernacular names. None recorded.

Description. Similar to the preceding bird but paler both above and below and either entirely wanting the black round the white throat or having this less strongly marked. The forehead, lores and short supercilia are rich golden-rufous.

Colours of soft parts and **Measurements** as in *A. m. monileger* but the bill larger and longer, 11 to 12 mm.

Distribution. Peninsular Burma and Siam. A fine series collected by Mr. E. G. Herbert in Southern Siam have the rufous of the head very rich, somewhat approaching *A. m. malayana* of the S. Malay Peninsula in this respect.

Nidification. Not recorded.

Habits. Hume's White-gorgeted Flycatcher is found from the level of the plains up to some 4,000 feet and is not migratory. Apparently it is found most often in light open forest but at other times in the deepest and most humid forests.

(671) Anthipes monileger leucops.

SHARPE'S WHITE-GORGETED FLYCATCHER.

Digenea leucops Sharpe, P. Z. S., 1888, p. 246 (Shillong).
Anthipes leucops. Blanf. & Oates, ii, p. 33.

Vernacular names. *Inrephatki* (Kacha Naga).

Description. Differs from *A. m. monileger* in having the forehead and eyebrow white, the lores mixed white and brown and the sides of the head more grey.

Colours of soft parts. Iris very dark brown; bill black; legs and feet fleshy-white, the claws paler still.

Measurements. As in *A. m. monileger*; culmen 11 to 12 mm.

The Young bird is dark brown on the upper plumage streaked with fulvous; below dull fulvous, the breast mottled with dark brown.

Distribution. Mountains of Assam South of the Brahmaputra, Manipur, Lushai, Chin Hills and hills of Central Burma to Karenni.

Nidification. This little Flycatcher breeds in the hills south of Assam from the end of April to early June, most eggs being laid during the first fortnight of May. The nests are globular, roughly put together affairs of grass, bamboo-leaves and a few other dead leaves, thickly lined with the finest grass-stems.

Outwardly the nests average about 6½ by 5 inches and inwardly about 3½ by 2½ inches. Most nests are placed actually on the ground on a bank, among grass or scrub, but occasionally they are placed in bushes two or three feet above it. In these latter cases, however, the scrub is always very dense and the nest well hidden. The eggs number three or four, rarely five, and are quite unlike those of any closely allied genera. The ground-colour varies from pure white to pale pink, and they are sparsely speckled everywhere and rather more numerously at the larger end with pinkish red and reddish brown. In shape they are broad-ovals and the texture is fine and close, though they have little gloss. Twenty eggs average 18·0 × 13·0 mm. and the extremes are **19·7** × 14·0, 19·1 × **14·1**, **17·2** × 13·9 and 17·3 × **13·2** mm.

The birds breed between 3,000 and 6,000 feet.

Habits. This is nowhere a very common bird and is so shy and retiring in its habits that one sees little of it. It is found quite as often in light as in the heavier evergreen forest but it is partial to thick scrub or grass undergrowth and feeds close to the ground. Its usual perch is one some two to three feet high from which it makes little sallies after insects, usually capturing these in the air but occasionally taking them on the ground. During the breeding-season it has a weak but pleasant little song and at the commencement of that season it is rather more conspicuous than usual from its courting antics, flying into the air and then sailing down to its perch with its feathers all fluffed out, its head thrown back and its pure white throat with its black border visible from a considerable distance. It has a habit, like *Siphia*, of spreading and jerking its tail up and down when perched. It is not migratory, though it may move vertically to some extent with the seasons.

Anthipes olivaceus.

Key to Subspecies.

A. General colour of lower plumage white, more or less tinged with buff on breast and flanks. — *A. o. olivaceus*, p. 246.

B. General colour of lower plumage orange-buff ..... — *A. o. poliogenys*, p. 247.

(672) Anthipes olivaceus olivaceus.

HUME'S FLYCATCHER.

Cyornis olivacea Hume, S. F., v, p. 333 (1877) (extreme S. of Tennasserim).

Anthipes olivaceus. Blanf. & Oates, ii, p. 34.

Vernacular names. None recorded.

Description. Upper plumage greyish brown, tinged with fulvous on the back and rump; lores and sides of the head ashy-grey, the shafts of the ear-coverts paler; tail reddish brown tinged with ferruginous; wing-coverts and quills brown edged with rufescent olive-brown; lower plumage whitish, the breast and flanks suffused with grey and ochraceous in varying degree.

Colours of soft parts. Iris brown; bill black in summer, dark horny-brown in winter in the male; always brown, paler at the base, in the female; legs and feet fleshy-white.

Measurements. Total length about 140 to 145 mm.; wing 68 to 75 mm.; tail 53 to 60 mm.; tarsus about 18 mm.; culmen about 13 mm.

Distribution. Peninsular Burma and Siam and Malay Peninsula.

Nidification. Not recorded.

Habits. Like the better-known Brooks' Flycatcher, this bird is a frequenter of the outskirts or open glades of dense forests, feeding much from perches high up in trees and never descending to the ground, though sometimes working through scrub and brushwood. It is found from the level of the plains up to some 4,000 or 5,000 feet and wherever found is resident.

(673) Anthipes olivaceus poliogenys.

BROOKS' FLYCATCHER.

Cyornis poliogenys Brooks, S. F., viii, p. 469 (1879) (Salbari, Sikkim Terai).

Anthipes poliogenys. Blanf. & Oates, ii, p. 33.

Vernacular names. *Duo-patti* (Cachari).

Description. Above similar to Hume's Flycatcher, but generally rather darker; below orange-buff, paler and albescent on the chin and pale buff on the centre of the abdomen, vent and under tail-coverts.

Colours of soft parts. As in Hume's Flycatcher.

Measurements. Wing 69 to 77 mm.; culmen 11·5 to 12·5 mm.

Young. Dark brown striated with pale fulvous above, below deep, dull fulvous, the feathers margined with dark brown.

Distribution. Sikkim Terai and Bhutan Dooars through the lower hills of both North and South Assam; Manipur, Lushai, Chin Hills as far East as Irrawaddy.

Nidification. This Flycatcher breeds freely throughout the hills of Assam from the foot-hills of a thousand feet or so up to some 5,000 feet, during the months of April, May and June. The nest is cup-shaped and is made of moss, often mixed with grass and leaves, sometimes with no real lining but the moss itself, at others with quite a well-made lining of roots. It is placed either on a bank in a hollow or between boulders, or in a hollow of a stump or dead tree, but is always well concealed. The eggs vary from three to five in number and bear no resemblance to those of Brooks' Flycatcher, but are typical *Cyornis* eggs in appearance. The ground-colour is pale sea-green, pale buff or stone-colour, and the markings consist of tiny but profuse freckles of reddish brown which sometimes cover practically the whole

surface, whilst at other times they are somewhat less numerous at the smaller end, though they never form rings and very seldom caps. The average of 40 eggs is 18·5 × 14·6 mm.: maxima 20·4 × 15·3 and 19·3 × 16·0 mm.; minima 16·8 × 13·4 mm.

Habits. This Flycatcher is resident from the foot-hills and plains in their immediate vicinity to about 3,000 feet and less often up to some 2,000 feet higher. They keep much to forest in the breeding-season, though they prefer the more open parts of these, feeding from some height up in trees and also visiting scrub and lower bushes when there is anything special to tempt them. In the Winter they frequent more open country and will even enter compounds or scrub in the vicinity of villages. The song is sweet, though rather weak and broken.

Genus **ALSEONAX**.

Alseonax Cabanis, Mus. Hein., Th. i, p. 52 (1850).

Type, *A. adusta* (Boie). South Africa.

The genus *Alseonax* is very closely allied to *Anthipes*, but has a very small first primary. The sexes are alike and both are dull-coloured rufous or brown birds.

Oberholser, Proc. U.S. Nat. Mus., xxviii, p. 910, 1905, divides *Alseonax* into two genera, placing *latirostris* in a genus which he calls *Arizelomyia*. In so small a genus the division seems to be unnecessary and I retain all our Indian birds under *Alseonax*.

Some of the Indian species are migratory and one (*latirostris*) resident or only locally migratory.

Key to Species.

A. Whole upper plumage, including upper tail-coverts, ashy-brown ..... *A. latirostris*, p. 248.
B. Upper plumage olive-brown, the upper tail-coverts chestnut-brown ..... *A. ruficaudus*, p. 250.
C. Upper plumage ruddy-brown, upper tail-coverts ferruginous; tail brown, suffused with rufous on the outer edges of the tail-feathers only ..... *A. muttui*, p. 251.

Alseonax latirostris.

Key to Subspecies.

A. Brown; ashy tinge very slight ..... *A. l. latirostris*, p. 248.
B. Ashy-grey, the grey tinge very pronounced. *A. l. poonensis*, p. 249.

(674) Alseonax latirostris latirostris.

THE SUMATRAN BROWN FLYCATCHER.

Muscicapa latirostris Raffl., Trans. L. S., xiii, p. 312 (1821)(Sumatra).
Alseonax latirostris. Blanf. & Oates, ii, p. 35.

Vernacular names. None recorded.

Description. Above brown, in some cases with a slightly ashy tinge; feathers of crown centred darker; tail, wing-quills and greater coverts dark brown edged with rufescent or rufescent-white; lores and a ring round the eye dull white; sides of the head brown; lower plumage dull white; the breast, throat and flanks streaked and mottled with ashy-brown.

Colours of soft parts. Iris brown; bill black, the base paler, more conspicuously so in winter, mouth orange; legs and feet black.

Measurements. Length about 130 mm.; wing 65 to 70 mm.; tail 47 to 52 mm.; tarsus about 15 mm.; culmen about 11 mm.

Young. Crown dark brown streaked with fulvous; upper plumage and wing-feathers with bold fulvous spots; lower plumage more distinctly mottled with dark brown. The bill is yellowish horny.



Fig. 36.—Bill of *A. l. latirostris.*

Distribution. Borneo, Sumatra, the Malay Peninsula, Burma, Siam and Annam. Probably also extending into Yunnan and Western China, but not Assam, where the birds are all of the next form.

Nidification and **Habits.** Nothing recorded, but they probably do not differ from those of the next and better-known race.

(675) Alseonax latirostris poonensis.

THE INDIAN BROWN FLYCATCHER.

Muscicapa poonensis Sykes, P. Z. S., 1832, p. 85 (Poona).
Alseonax latirostris. Blanf. & Oates, ii, p. 35 (part.).

Vernacular names. *Zakki* (Hindi).

Description. Similar to the preceding bird but very much more grey both above and below. This is the "ashy-grey" bird as described by Oates.

Colours of soft parts as in *A. l. latirostris.*

Measurements. Wing 69 to 80 mm. (Japan to Himalayas), 66 to 72 mm. (birds from the plains of India).

Distribution. Breeding from Japan to Lake Baikal and throughout the sub-Himalayas and Himalayas and also in the plains of the Central Provinces, United Provinces and the Western Ghats to South Travancore and probably in Ceylon, where it has been recorded in June.

Nidification. This bird is probably resident and breeds, wherever found, from Japan, Northern China, the Himalayas to the plains of India. Nests were taken in Dagshai by Capt. R. A. Skinner, in Kanara by Mr. J. Davidson, in Mhow and the adjacent Ghats by Mr. B. Shelley, Mr. F. E. Kemp, Genl. R. Betham and others. The nest is a rather large compact cup made of moss and lichen and lined with roots, fibres and feathers. It is generally placed on a horizontal bough at its junction with the trunk but, also, often well away from the latter. The height selected may be anything from five to thirty feet from the ground.

The breeding-season everywhere seems to be May and June.

The eggs are like small *Cyornis* eggs; the ground-colour is a pale stone, sometimes tinged with red, sometimes with green and the markings consist of the finest freckles of reddish, generally covering practically the whole surface of the egg, at other times leaving part of the smaller end visible. Fifty eggs average 17·0 × 13·2 mm.: maxima **19·2 × 14·0** mm.; minima **15·0 × 12·4** and 16·2 × **12·3** mm.

Habits. This Flycatcher is a bird of the more secluded well-wooded country, especially where it is broken and rugged and is apparently not found in the more open level country. It is a very quiet little bird, singing an insignificant little song and more often uttering a soft vibrant *churr*. It feeds entirely on the wing and does not venture on to the ground to capture its insect-food. According to Scully, it is a sociable bird in winter, consorting with, but also fighting with, others of its kind.

(676) Alseonax ruficaudus.

THE RUFOUS-TAILED FLYCATCHER.

Muscicapa ruficauda Swains., Nat. Lib., x, p. 251 (1838) (India, restricted to Kashmir).
Alseonax ruficaudus. Blanf. & Oates, ii, p. 36.

Vernacular names. None recorded.

Description. Whole upper plumage, sides of neck and wing-coverts dull olive-brown; greater coverts, primary coverts and wing-quills dark brown edged with rufescent olive-yellow: tail-coverts and tail chestnut, browner at the end; lores and a ring round the eye white; ear-coverts ashy-brown with pale shaft-stripes; below pale ashy-brown: almost white on vent, centre of abdomen and under tail-coverts.

Colours of soft parts. Iris dark brown; upper mandible pale brown, lower mandible fleshy; legs and feet purplish brown.

Measurements. Total length about 130 mm.; wing 72 to 81 mm.; tail 58 to 64 mm.; tarsus about 15 mm.; culmen 11 to 12 mm.

Young. Brown above spotted with fulvous, more streaky on the head; below pale ashy-brown mottled with dark brown. The feathers of the back have dark margins.

Distribution. N.W. Himalayas from Baluchistan, Afghanistan and Gilgit to the Simla Hills and Garhwal. In Winter it wanders far and is found all over North-West and Western India to Travancore. To the East it has been recorded from Raipur, and I twice obtained specimens of this species, both males, in the North Cachar Hills.

Nidification. The Rufous-tailed Flycatcher breeds very commonly between 7,000 and 10,000 ft. in Kashmir during the end of May and June, making a compact, well-built, cup-shaped nest of moss and lichen, lined with hair or feathers, or with both, placed on a branch of a pine or other tree some five to fifteen feet from the ground. The eggs number three or four and in colour are a very pale sea-green or olive-green profusely freckled all over with reddish; many eggs appear to be a uniform reddish olive or olive-green but in some the freckles form a cap at the larger end. Forty eggs average 17·2 × 12·8 mm.: maxima **19·1 × 13·5** and 18·0 × **13·6** mm.; minima **15·6** × 12·9 and 15·7 × **12·1** mm.

Habits. This is a shy retiring Flycatcher, keeping almost entirely to forested country. It seems to have no song worthy of the name, its principal note being a call-note of a single syllable followed by a low vibratory sound. It is very restless and active and keeps rather high up in the trees when feeding, making its sallies from a branch at some height and seldom, if ever, descending to the ground. According to Mr. Osmaston, it has a Chat-like habit of flicking its wings and bobbing forward.

(677) Alseonax muttui.

LAYARD'S FLYCATCHER.

Butalis muttui Layard, A.M.N.H., (2) xiii, p. 127 (1854) (Ceylon).
Alseonax muttui. Blanf. & Oates, ii, p. 36.

Vernacular names. None recorded.

Description. Crown dark olive-brown shading into ruddy-brown on the back and upper plumage, the feathers of the head faintly centred darker; upper tail-coverts and tail ferruginous; quills dark brown, the inner secondaries edged with ferruginous; lores and ring round the eye white; a line from the corner of the bill to under the eye dark brown and often a trace of a second line from below the bill; between these two lines, chin and throat white; ear-coverts olive brown; breast and flanks olive-brown with a chestnut tinge; abdomen, vent and under tail-coverts white suffused with chestnut: under wing-coverts pinkish grey.

Colours of soft parts. Iris brown; bill black with a tiny pale tip and the lower mandible yellowish; legs and feet fleshy-yellow or wax-yellow.

19·2 × 13·2, 18·9 × 13·4 and 17·8 × 13·0 mm. The breeding-season is during April and May.

Habits. In Summer this Flycatcher is found from about 3,000 feet to the tops of the Nilgiris and other hills, wherever there is sufficient tree-forest deep and shady enough to satisfy its requirements. It feeds from a branch at no great height from the ground and is said to descend to it sometimes for the purpose of capturing insects. Its note or song does not appear to have been described.

Genus **CULICICAPA.**

Culicicapa Swinhoe, P. Z. S., 1871, p. 381.

Type, *C. ceylonensis.*

The genus *Culicicapa* contains one species of Flycatcher with a very wide distribution, from Ceylon to West China and Borneo etc. Probably resident throughout this area in the hills and wandering into the plains locally in India.

In this genus the sexes are alike and the plumage is grey and yellow. The bill is very much depressed and when viewed from above is almost an equilateral triangle, the sides being but little longer than the base; the rictal bristles are very numerous and long, the first primary is short and the tail is square.

Key to Subspecies.

A. Above bright yellowish green, with well-marked brighter and more yellow upper tail-coverts ..... *C. c. ceylonensis*, p. 254.

B. Above rather darker yellowish green, with no marked increase of yellow on the tail-coverts ..... *C. c. orientalis*, p. 256.

C. Above much darker, more green, less yellow; back and upper tail-coverts practically concolorous ..... *C. c. meridionalis*, p. 256.

(679) **Culicicapa ceylonensis ceylonensis.**

THE GREY-HEADED FLYCATCHER.

Platyrhynchus ceylonensis Swains., Zool. Ill., i, p. 13 (1820-1) (Ceylon).
Culicicapa ceylonensis. Blanf. & Oates, ii, p. 38.

Vernacular names. *Zird-phutki* (Beng.).

Description. Whole head, neck and breast ashy-grey, darker and centred with brown on the crown, paler in the centre of the throat and breast; above bright yellowish green, the rump brighter and almost pure yellow; wing-coverts like the back; quills dark brown, all but the first two primaries narrowly, the secondaries broadly edged with yellow; tail brown, the rectrices edged with greenish yellow; under plumage bright yellow.

Colours of soft parts. Iris hazel to dark brown; bill above black, below horny-brown, paler still at gape and base; legs yellowish brown or fleshy.

Measurements. Wing 58 to 67 mm.; tail 41 to 52 mm.; tarsus about 13 to 14 mm.; culmen about 7·5 to 8 mm.

Young. Not yet described.

Distribution. Ceylon, the whole of India (except Sind, the Punjab and Rajputana), North Burma, Central Burma and Northern Siam.

Nidification. The Grey-headed Flycatcher breeds during the months of April, May and June between 3,000 and 8,000 feet over the whole of its range but generally, more especially in Southern, Western and North-Western India between 3,500 and 6,000 feet. In Assam it breeds freely at about 1,000 feet in the northern foot-hills and down to 2,500 feet in the southern hills and Manipur. It makes a charming little nest of bright green moss



Fig. 38.—Bill of *C. ceylonensis.*

and lichen, shaped like half a cone or half a hemisphere, and placed against a moss-covered trunk of tree or rock, in among the living moss and lichen, from which it is practically impossible to discriminate it. The eggs number three or four and are tiny, broad, blunt, little ovals with a ground-colour varying from dead white to a pale dull yellowish or, rarely, greenish white; the markings consist of grey and yellowish-grey blotches and spots, generally disposed in a dense ring round the larger end and sparse elsewhere. One hundred eggs average 15·1 × 11·96 mm.; and the maxima and minima are 17·5 × 12·1 and 15·1 × 12·6 mm.; 13·9 × 11·8 and 14·8 × 11·4 mm.

Habits. The Grey-headed Flycatcher is a resident bird in the hill-country, ascending a little higher in the Summer and descending lower in the Winter, when it spreads to the adjacent plains. It is a forest-bird, though preferring open to deep forest and is a lively cheerful little bird flitting backwards and forwards after insects, sometimes descending to the ground for this purpose and often hunting among the leaves and moss for spiders etc., much after the manner of a Titmouse. It has a sweet little song and is less silent than the birds of the genera *Alseonax*, *Hemichelidon* and *Siphia.*

Measurements. Wing 70 to 75 mm.; tail 54 to 64 mm.; tarsus about 13 to 13·5 mm.; culmen about 13 to 14 mm.

Young. Above brown, spotted with fulvous and with obscure dark margins to the feathers of the back and innermost secondaries; below the breast is rufous, the feathers boldly edged with black.

Distribution. Resident above 4,000 feet in Sikkim, Bhutan and the hills of Assam, both North and South of the Brahmaputra. It is found both Summer and Winter between 4,000 and 6,000 feet but in the latter season some birds migrate south to Travancore and Ceylon. Brooks observed it at Madhapur in Bengal and it is not rare in Winter in that Province and in the plains of Assam but its Winter movements are still very imperfectly known. It will most probably be found to be resident and to breed over much of its supposed Winter habitat, where there are mountains of sufficient height.

Nidification. Layard's Flycatcher breeds in Sikkim and the Assam Hills in May and June, making a very compact and beautifully put together small cup nest of green moss lined with roots and hair. This it places either in a hollow in a tree or bank, or in a tangle of creepers, raspberry-vines, or similar thick cover. The eggs three to five in number are typical little *Cyornis* eggs, the general shade of colour being perhaps rather more grey-green than olive-green. They measure about 17·0 × 13·2 mm.

Habits. Except that it is a much more retiring and secretive bird than any of those of the genus *Siphia*, it greatly reminds one of them in its ways. As a rule, it selects a perch on one of the lower branches of a tree in heavy forest, where it sits motionless, every now and then launching itself into the air after some passing insect, often capturing those of considerable size. In the breeding-season it often gives vent to a soft low note, at the same time puffing out its feathers and rapidly vibrating its half-opened wings. At the same season it has a pleasant, but rather feeble, little song, very seldom uttered. It does not seem to mind observation and I have often watched one, half an hour at a time, from a distance of not more than four or five yards.

Genus **OCHROMELA.**

Ochromela Blyth, J. A. S. B., xvi, p. 128 (1847).

Type, *O. nigrorufa* Jerdon. Nilgiris.

The genus *Ochromela* contains a single species of Flycatcher remarkable for its coloration.

In this genus the sexes are slightly dissimilar, though both preserve the characteristic black and orange plumage. The bill is blunt and thick, and the rictal bristles are numerous and very long; the wing is rounded, the first primary being longer than half the second; the tail is considerably rounded.

(678) **Ochromela nigrorufa.**

THE BLACK-AND-ORANGE FLYCATCHER.

Saxicola nigrorufa Jerd., Madr. Jour. L. S., x, p. 266 (1839) (Nilgiris).
Ochromela nigrorufa. Blanf. & Oates, ii, p. 37.

Vernacular names. None recorded.

Description. Whole of the upper parts of the head and the wings black, the lesser coverts and innermost secondaries edged with orange; remainder of plumage rich orange, paler on the abdomen, richest on the upper breast.

Colours of the soft parts. Iris dark brown; bill black; legs fleshy-plumbeous.

Measurements. Total length about 125 mm.; wing 57 to 65 mm.; tail 50 to 55 mm.; tarsus about 20 to 21 mm.; culmen about 9·5 to 10 mm.

Female. Similar to the male, but the black of the head replaced by dark olive-brown and the black of the wings with dark brown.

Measurements. Wing 55 to 59 mm.



Fig. 37.—Bill of *O. nigrorufa*.

Distribution. The hill-ranges of South India from Cape Cormorin to the Wynaad at 2,500 feet upwards. Neither Col. McMaster's record of its occurrence in the Berars or Mr. Mitford's in regard to Ceylon have ever been confirmed. It is very common in the Nilgiri, Palni and Travancore Hills.

Nidification. This strikingly coloured little Flycatcher makes a nest not unlike that of *Anthipes monileger*, a ball of leaves and fern-fronds with no lining, except sometimes a little grass, which it places low down in some dense bush, cluster of reeds, ferns or cane. Sometimes it is built on a bank actually on the ground and occasionally in a thick mass of twigs growing from a tree-stump. The site selected is always deep forest, generally in the valleys or ravines covered with evergreen forest through which a stream of some kind finds its way. The eggs, almost always two only in number, are rather like those of *Alseonax*, *Cyornis*, etc., and not like the eggs of *Anthipes monileger*. The ground-colour is greyish or greenish white, and the markings consist of freckles and tiny specks of reddish, generally most numerous at the larger end, where they coalesce to form a cap. In shape the eggs are unusually long ovals. 20 eggs average 18·4 × 13·1 mm. and the extremes a-

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(680) Culicicapa ceylonensis orientalis.

THE CHINESE GREY-HEADED FLYCATCHER.

Culicicapa ceylonensis orientalis Stuart Baker, Bull. B. O. C., xliv, p. 11 (1923) (Szechuan).
Culicicapa ceylonensis (part.). Blanf. & Oates, ii, p. 38.

Vernacular names. None recorded.

Description. Decidedly darker above than in *C. c. ceylonensis*, with a darker grey head and less yellow on the rump and upper tail-coverts.

Colours of soft parts as in the preceding bird.

Measurements. About the same as in the preceding bird.

Distribution. The hills of South and Central Western China, Yunnan, Shan States, Northern Siam and North Cochin China.

Nidification. Not recorded.

Habits. According to La Touche, the habits of this race do not differ from those of the Indian bird.

(681) Culicicapa ceylonensis meridionalis.

THE MALAYAN GREY-HEADED FLYCATCHER.

Culicicapa ceylonensis meridionalis Stuart Baker, Bull. B. O. C., xliv, p. 12 (1823) (Keotung Song, Siam).

Vernacular names. None recorded.

Description. A much darker bird than either of the preceding races, the rump and upper tail-coverts practically concolorous with the darker green back; the throat and breast a decidedly darker grey.

Colours of soft parts as in the preceding races.

Measurements. Wing 55 to 64 mm.

Distribution. Java, Sumatra, Borneo, Malay Peninsula, Peninsular Burma and Siam; South Annam, and South Cochin China.

Nidification and Habits. Nothing recorded.

Genus NILTAVA.

Niltava Hodgs., Ind. Rev., i, p. 650 (1837).

Type, *Niltava sundara* Hodgs.

The genus *Niltava* contains three species of Flycatcher remarkable for the brilliant plumage of the males. The sexes differ in colour, but both may be recognized by the presence of a brilliant blue spot on either side of the neck. *Cyornis vatesi* and *C. sumatrensis*, though rather similarly coloured as regards the males, have females without any blue neck-spot.

In *Niltava* the bill is rather narrow and somewhat compressed laterally and the base is covered by numerous dense plumelets, almost concealing the nostrils; the rictal bristles are moderate in length and number; the first primary is large, being at least half the length of the second; the tail is slightly rounded. ♀

Key to Species.

A. Wing always over 95 mm.	*N. grandis*, p. 257.
B. Wing always under 95 mm.	
a. Under wing-coverts and axillaries chestnut or buff; wing over 75 mm.	*N. sundara*, p. 259.
b. Under wing-coverts and axillaries white or ashy-white; wing under 70 mm. ..	*N. macgrigoriæ*, p. 260.

Niltava grandis.

Key to Subspecies.

A. Heads of females indistinctly washed with bluish grey	*N. g. grandis*, p. 257.
B. Heads of females distinctly washed with blue	*N. g. decipiens*, p. 258.

(682) Niltava grandis grandis.

THE LARGE NILTAVA.

Chaitaris grandis Blyth, J. A. S. B., xi, p. 189 (1842) (Darjiling).
Niltava grandis. Blanf. & Oates, ii, p. 40.

Vernacular names. *Margong* (Lepcha).

Description.—Adult male. Crown; rump, upper tail-coverts, lesser and median wing-coverts and a patch on either side of the

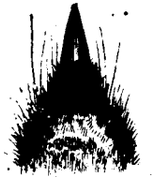


Fig. 39.—Bill of *N. grandis*.

neck brilliant cobalt-blue; back and scapulars dark purplish blue; tail black, the central feathers and edges of the lateral feathers purple-blue, brighter than the back; greater coverts and wing-quills black, edged with the same blue as the back; lores, forehead and sides of the head, chin, throat and upper breast black changing to blue-black on lower breast and flanks and to bluish-ashy on the abdomen and lower tail-coverts, the latter edged with white.

Colours of soft parts. Iris hazel to deep brown; bill black; legs and feet deep horny-brown to black.

Measurements. Total length about 205 to 215 mm.; wing 99 to 106 mm.; tail 65 to 70 mm.; tarsus about 23 to 24 mm.; culmen about 15 mm.

Young male moults from the nestling-plumage into that of the adult but is at first duller and less blue.

Female. Lores, forehead and round the eye, ear-coverts and cheeks fulvous with pale shafts; on the crown this grades into olive-brown and on the posterior crown and nape into bluish ashy-brown; back, rump and upper tail-coverts fulvous-brown; tail and wing-quills brown, the central tail-feathers and edges of lateral ones and of the wing-quills deep rufous; a patch of bright blue on either side of the neck; middle of chin, throat and upper breast clear pale buff; remainder of lower plumage rich olive-brown, the sides of the chin mottled with darker and pale-shafted; axillaries and under wing-coverts buff.

Colours of soft parts. Iris brown; bill dark horny-brown; legs and feet fleshy-pink to light brown.

Measurements. Wing 97 to 106 mm.

Nestling. Above dark brown with fulvous spots, becoming almost chestnut on the back, and with black edges to the feathers; below chestnut-brown, richest on the breast and squamated with black.

Distribution. Nepal, Sikkim, Bhutan, Assam, Manipur, Chin Hills.

Nidification. The Large Niltava breeds during the last week in April, in May, June and early July between 3,000 and 7,000 feet, making a cup-shaped nest of moss lined with very fine roots. Inwardly the cup measures about 3½ to 4 inches in diameter by about half that in depth, outwardly it generally fits the hollow in which it is placed, often being very bulky. It may be placed in almost any kind of hollow in bank, rock or old tree. The eggs are in ground-colour a cream or yellow clay, but they are so densely covered with fine freckles of pinkish brown that they look unicoloured buffy or pinky brown; more obviously spotted eggs are not, however, rare and some eggs are very pale. Four are nearly always laid. One hundred eggs average 24·3 × 17·3 mm., and the extremes are: maxima **26·1** × 18·0 and 23·0 × **19·0** mm.; minima **20·4** × 17·0 and 21·0 × **16·0** mm.

Habits. This beautiful Flycatcher is very common between 3,000 and 5,000 feet in the hills of South Assam, less so in the Northern Himalayas. It is resident wherever found but wanders into the foot-hills in Winter. It is not shy but keeps much to undergrowth and the lower trees in thick forest and feeds quite a lot on the ground. It is said to eat berries as well as insects but the numbers I have examined had fed entirely on insects, except for some tiny berries evidently eaten with the insects infesting them.

(683) Niltava grandis decipiens.

THE MALAY LARGE NILTAVA.

Niltava grandis decipiens Hartert, Nov. Zool., ix, p. 551 (1902) (Sumatra).

Vernacular names. None recorded.

Description.—Adult male. Almost indistinguishable from *N. g. grandis* but is smaller with the blue of the head and rump rather brighter.

Colours of soft parts as in the last bird.

Measurements. Wing 94 to 103 mm., generally under 98 mm.

Female similar to that of *N. g. grandis*, but with the crown and nape strongly washed with blue, though never bright blue as in *N. g. decorata* of Robinson and Kloss (Annam).

Young and **Nestling.** Similar to those of the Indian Large Niltava.

Distribution. Sumatra and Malay Peninsula.

With some hesitation I place two females from Muleyit with this race. In colour, as Hartert points out, they agree with the Sumatran birds but they have wings of 99 and 101 mm. respectively, rather large for this race, though one male from Sumatra has a wing of no less than 103 mm.

Habits and **Nidification.** Nothing recorded.

(684) Niltava sundara sundara.

THE INDIAN RUFOUS-BELLIED NILTAVA.

Niltava sundara Hodgs., Ind. Rev., i, p. 650 (1837) (Nepal); Blanf. & Oates, ii, p. 41.

Vernacular names. *Niltava* (Nep.); *Margong* (Lepcha).

Description.—Adult male. Crown, nape, rump, upper tail-coverts and lesser and median wing-coverts bright cobalt-blue; a patch on the side of the neck a paler, even brighter blue; tail black, the central feathers and edges of lateral tail-feathers like the rump; back, scapulars and edges of greater wing-coverts and quills deep purplish blue; forehead, lores, sides of head, chin and throat black with deep blue reflections; remainder of lower plumage and under wing-coverts bright orange-chestnut.

Colours of soft parts. Iris brown; bill black; legs dark horny-brown.

Measurements. Total length about 160 to 170 mm.; wing 80 to 86 mm.; tail 65 to 75 mm.; tarsus about 20 mm.; culmen about 10 to 11 mm. (the feathers of the forehead are very thick and well cover the base of the culmen).

Female. Forehead, lores and a ring round the eye fulvous; whole upper plumage fulvous olive-brown, greyish on the crown, more fulvous on the rump and chestnut on the longest tail-feathers; tail chestnut; wing-feathers brown edged with chestnut-rufous; a brilliant patch of blue on either side of the neck; a large round patch of white or fulvous-white below the throat; point of chin and sides of chin fulvous; centre of chin and remainder of lower plumage rich olive-brown, paler and tinged with buff on the abdomen and under tail-coverts.

Colours of soft parts as in the male but bill a horny-black.

Measurements. Wing 76 to 81 mm.

Nestling. Brown above with fulvous-rufous spots; below ochraceous-brown, squamated with blackish brown.

Niltava sundara davidi from Fohkien is a larger bird, wing 88 to 93 mm.; *N. s. denotata* from S.E. Yunnan is easily separable from the other races by its pale under plumage.

Distribution. Himalayas from Simla to the extreme East of Assam, South to Manipur, Lushai, Chin and Kachin Hills, hills of Central Burma to Tenasserim; Peninsular Siam, Northern Siam, probably Shan States and Szechuan in Western China.

Nidification. Quite similar in all respects to that of *N. grandis grandis*, though the nest is smaller and is generally placed in clefts in rocks or in between boulders. It breeds from the end of April to early July and I have taken nests, probably second broods, in August. The eggs only differ from those of *N. grandis* in being smaller and in being more often definitely speckled or blotched. One hundred eggs average 21·4 × 15·8 mm.: maxima **22·1** × 16·0 and 21·9 × **16·1** mm.; minima **19·7** × 15·1 and 20·0 × **1·46** mm.

Habits. Very common in the Khasia Hills, much less so in the other ranges South and North of the Brahmaputra. It is found principally between 3,500 and 6,000 feet, wandering higher in Summer and right into the foot-hills in Winter. Like the preceding bird, it keeps much to low jungle and shuns observation, though it is not really shy. It is a beautiful singer, as are all the Niltavas.

(685) Niltava macgrigoriæ.

THE SMALL NILTAVA.

Phœnicura macgrigoriæ Burton, P. Z. S., 1835, p. 152 (Himalayas).
Niltava macgrigoriæ. Blanf. & Oates, ii, p. 42.

Vernacular names. *Phat-tagrak-pho* (Lepcha).

Description.—Adult male. Forehead, lores and around the eye black; posterior forehead, sides of crown, rump and upper tail-coverts and a patch on either side of the neck brilliant cobalt-blue; remainder of upper plumage and exposed parts of wings and tail deep but bright, purple-blue; quills and greater wing-coverts brown narrowly edged with purple-blue; chin, throat, sides of neck and upper breast deep purple-blue, shading to ashy-grey on the lower breast and to pale ashy on the abdomen, flanks and under tail-coverts; axillaries and under-wing-coverts white.

Colours of soft parts. Iris bright hazel to deep brown; bill black; legs and feet horny-brown to reddish black (*Jerdon*).

Measurements. Total length about 125 to 130 mm.; wing 63 to 67 mm.; tail 54 to 58 mm.; tarsus about 15 mm.; culmen about 8·5 to 9 mm.

Female. Upper plumage fulvous olive-brown, tinged with rufous on the back and more strongly so on rump and upper tail-coverts; wings and tail brown, edged with rufous and the central rectrices wholly of this colour; a spot of brilliant blue on either side of the neck; lower plumage ochraceous ashy, paling on abdomen and under tail-coverts; chin paler and more rufous; under wing-coverts and axillaries pure white.

Colours of soft parts as in the male but bill more horny-black.

Measurements. Wing 60 to 65 mm.

Nestling. Above dark brown, each feather with a broad central streak of rufous; below dull rufous-brown, the feathers of the breast edged dark brown.

Distribution. Himalayas, Mussoorie to Eastern Assam, Manipur, Chin and Kachin Hills, hills of Central Burma to Tenasserim; Shan States, Siam.

Nidification. The Small Niltava breeds between 4,000 and 7,000 feet, rarely down to 3,000 feet, in April, May and June. The nest is a small replica of those of *N. grandis* and *N. sundara*, and is generally placed in hollows between rocks and boulders so common in all the broken forest-land in the hills. Occasionally it is placed in a bank or in a hole in tree or stump and the site selected is frequently near a tiny stream. The eggs are nearly always four in number, as with all Niltavas, but they are not so unicoloured or so pink or red in general tone as those of the others. Most eggs are well blotched over the whole surface with dull reddish, but in many specimens the markings form a ring or cap at the larger end and in others the ground-colour is very pale and shows up well everywhere. One hundred eggs average 18·1 × 13·6 mm.: maxima **19·1** × 14·1 and 18·0 × **14·2**; minima **16·0** × 13·1 and 19·0 × **12·9** mm.

Habits. This is a much more sprightly, active little bird than either of the other species of *Niltava*, feeding almost entirely on the wing, not venturing on to the ground and frequenting open places such as rivers and forest-glades. Its sweet little jerky song is often uttered, especially in the mornings and evenings and it is very crepuscular in its habits. It wanders some distance into the plains in Winter.

Genus PHILENTOMA.

Philentoma Eyton, Ann. N. H., xvi, p. 229 (1845).

Type, *P. pyrrhopterum* Temm.

The genus *Philentoma* is represented within our limits by two species, birds of very peculiar coloration, chiefly indigo-blue with certain amount of maroon or chestnut.

In this genus the sexes are dissimilar, the bill is very large and

coarse with the base concealed by dense frontal plumelets; the wing is rounded and the first primary is much longer than half the second; the tail is square.

Key to Species.

A. Wings and tail blue ..... *P. velatum*, p. 262.
B. Wings and tail chestnut ..... *P. pyrrhopterum*, p. 263

(686) Philentoma velatum.

THE MAROON-BREASTED FLYCATCHER.

Drymophila velata Temm., Pl. Col., No. 334 (1823) (Timor, Java).
Philentoma velatum. Blanf. & Oates, ii, p. 43.

Vernacular names. None recorded.

Description.—Adult male. Forehead, a short supercilium, lores, cheeks and chin black; throat and breast deep maroon; remainder of plumage including exposed portion of wings and



Fig. 40.—Bill of *P. velatum*.

tail indigo-blue; concealed part of wing-quills and inner webs of rectrices dark brown.

Colours of soft parts. Iris lake to crimson; bill black; legs and feet bluish or purplish black (*Hume and Davison*).

Measurements. Total length about 175 mm.; wing 93 to 100 mm.; tail 74 to 84 mm.; tarsus about 18 mm.; culmen 14 to 16 mm.

Female. All indigo-blue, the sides of the head, chin, throat and upper breast blackish and the white bases and feathers of the vent and abdomen showing through.

Colours of soft parts as in male but bill horny-brown and feet usually paler than in the male.

Measurements. Wing 87 to 97 mm.

Young bird. The only young bird in the British Museum collection is in a transition-stage from an almost entirely chestnut to a blue adult plumage. There are indications of barring on the upper plumage and the wing-feathers appear to have been brown boldly tipped or barred with chestnut.

Distribution. Peninsular Burma and Siam, from Tenasserim South to Sumatra, Java and Borneo.

Nidification. Unknown.

Habits. This Flycatcher is quite typical in all its ways, only catching its prey on the wing and never descending to the ground. It keeps entirely to the interior of evergreen forest and is generally found in pairs. According to Davison, they are neither shy nor wary and have a very harsh call similar to that of the genus *Hypothymis*.

(687) Philentoma pyrrhopterum.

THE CHESTNUT-WINGED FLYCATCHER.

Muscicapa pyrrhoptera Temm. Pl. Col., No. 596 (1823) (Borneo).
Philentoma pyrrhopterum. Blanf. & Oates, ii, p. 43.

Vernacular names. None recorded.

Description.—Adult male. Whole head, neck, upper back and lesser wing-coverts indigo-blue, shading into rufous-grey on the lower back and rump; upper tail-coverts, outer parts of scapulars, greater coverts and visible portions of secondaries chestnut; primary coverts blackish edged with blue; primaries dark brown, all but the two outermost edged with chestnut-brown; lower plumage from breast pale buff, almost white on the abdomen and suffused with grey on the lower breast and flanks.

Colours of soft parts. Iris crimson; bill black; legs and feet purplish blue.

Measurements. Total length about 175 mm.; wing 79 to 86 mm.; tail 68 to 78 mm.; tarsus 15 mm.; culmen 14·5 to 15·5 mm.

Female. The blue of the upper parts replaced by earthy-brown, shaded with bluish on the crown; below the blue is replaced by rufous-buff, darkest on the breast and albescent on the abdomen

Colours of soft parts. Iris dull red; upper mandible pale horny-brown, lower mandible flesh-colour; legs and feet plumbeous-olive.

Nestling and **Young** unknown.

Distribution. Peninsular Burma and Siam, throughout the Malay Peninsula to Sumatra and Borneo. Also Cochin China.

Birds from Siam and Burma are, on the whole, paler below than are those from Borneo and Sumatra but there is no other difference in colour or measurements and they hardly constitute a separable race.

Nidification unknown.

Habits. Similar to those of the preceding bird. They are resident birds wherever found and are restricted to the plains or the foot-hills of the higher ranges.

Genus TERPSIPHONE.

Terpsiphone Gloger, in Froriep's Notiz., xvi, p. 278 (1827).

Type, *T. paradisi.*

In the genus *Terpsiphone* the young are less definitely barred or spotted than those of most Flycatchers, otherwise the typical characteristics are developed to a greater extent than in any other genus.

The bill is very large, depressed and swollen at the base, whilst the rictal bristles are long, coarse and numerous. The tarsus is short but fairly stout, the head is crested and the tail long and graduated, with the central pair of rectrices greatly lengthened. The sexes are alike at first but are very dissimilar in fully adult plumage.

There is only one species which occurs over the whole of Ceylon, India, Burma, Malaya and the Indo-Chinese countries, varying considerably in the females and young males, though but slightly in the adult males, in different parts of its habitat.

Terpsiphone paradisi.

Key to Subspecies.

A. Plumage all black and white.
- *a.* Crest long and pointed, reaching to upper part of back. Black edges to feathers and black shaft-lines all very faint or obsolete ..... → *T. p. paradisi*, p. 264. / *T. p. leucogaster*, p. 268. / ♂, adult plumage.
- *b.* Crest short and rounded. Black lines more developed ..... → *T. p. affinis*, p. 267. / *T. p. nicobarica*, p. 269. / ♂, adult plumage.

B. Plumage nearly all black and chestnut.
- *c.* Crest long and pointed.
  - *c'.* Chestnut parts rich and dark .. .. → *T. p. paradisi*, p. 265. ♂ ♀ in chestnut stage.
  - *d'.* Chestnut parts paler ..... → *T. p. leucogaster*, p. 268. ♂ ♀ in chestnut stage.
- *d.* Crest short and rounded.
  - *e'.* Chestnut parts rich and dark ..... → *T. p. affinis*, p. 267. ♂ ♀ in chestnut stage.
  - *f.* Chestnut upper parts more ashy-brown. → *T. p. nicobarica*, p. 269. ♂ ♀ in chestnut stage.

(688) Terpsiphone paradisi paradisi.

THE INDIAN PARADISE FLYCATCHER.

Muscicapa paradisi Linn., S. N., 12th ed. p. 324 (1766) (India).
Terpsiphone paradisi. Blanf. & Oates, ii, p. 47.

Vernacular names. *Shah Bulbul, Hosseini Bulbul, Sultana Bulbul, Taklah, Doodhraj* (Hind.); *Tonka pigli pitta* (Tel.); *Wal Bunda-lati* (Tam.).

Description.—Adult male. Whole head and neck metallic-blue black; remainder of plumage pure white; the feathers of the back and scapulars have very fine black shafts; the wing-quills are black, the primaries and outer secondaries edged on the outer webs with white, the inner secondaries nearly all white with broad black mesial lines and narrow black edges; the shafts of the tail-feathers are black and there are also black edges to the lateral feathers; the long central tail-feathers have generally only the basal half of the shaft black, but the extent of the black varies greatly.

Colours of soft parts. Iris bright hazel to dark brown; bill pale blue, the tip almost black; legs and feet dull leaden-blue to bright mauve-blue.

Measurements. Wing 89 to 99 mm.; tail, outer feathers 100 to 115 mm.; the long central feathers anything from 350 to 500 mm.; tarsus about 16 mm.; culmen about 16 to 17 mm.

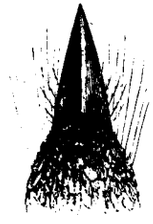


Fig. 41.—Bill of *T. p. paradisi.*

Male in third year. Head as in adult, the breast grey shading into white on the abdomen; upper plumage, wings and tail rich chestnut, the shafts, including those of the long tail-feathers, also chestnut. Males breed freely both in this plumage and in the next.

Male in second year. Forehead, crown with rather short crest and nape glossy blue-black; hind neck, chin, throat and upper breast dark ashy changing to white on the abdomen. The long tail-feathers are not fully assumed until the second autumn moult, though they are generally prolonged some 20 to 60 mm. beyond the lateral ones.

The changes noted above are approximate only. Some individuals moult into full adult male plumage at the second autumn moult, but this is very exceptional. Most males, even after the third moult, retain signs of immaturity such as a red feather or two or a suffusion of chestnut on some of the wing- or tail-feathers. The wholly white plumage is assumed most irregularly but the black head sharply defined from the white breast is always fully attained at the third moult.

Female. Similar to the male in its first and second year. The female often acquires lengthened central tail-feathers, though

these seldom exceed 250 mm.; the breast, chin and throat are always grey.

Colours of soft parts as in the male but much duller.

Measurements. Wing 82 to 90 mm.; central tail-feathers normally about 10 to 30 mm. longer than the next pair.

Nestling. Above chestnut, the head darker and brownish; wing-feathers brown edged chestnut; chin, throat and breast brownish tinged with chestnut fading to white on belly and posterior flanks. The breast shows obsolete pale centres and dark fringes to the feathers, as would be expected in a young Flycatcher, but there is no spotting to the upper plumage, though there are often obsolete dark tips to the feathers, especially on the wing-coverts.

Distribution. Ceylon and the whole of India including the foot-hills of the Himalayas but not the higher hills. The birds from Mahabaleshwar are very pale and must, for the present, be referred to *leucogaster*. East this form extends to the Bay of Bengal but is replaced in Assam, South of the Brahmaputra, by the Burmese form. I include Ceylon and South Travancore in the typical race, though specimens from these localities are all very richly coloured in the chestnut stages.

The type-locality as given by Linnæus ex Brisson is Cape of Good Hope; this is corrected by Stephens in Shaw's 'Zoology,' pt. ii, vol. xiii, p. 111 (1826), to India. This may now be restricted to Madras.

Nidification. The Paradise Flycatcher breeds in Ceylon and Travancore in February and March, in South India in March and April, and in Northern India in May and June. The nest is a very neat cup of soft grass, scraps of leaf and moss, all very firmly and compactly wound together and bound with spiders' webs and often decorated outside with spiders' "egg-bags," scraps of moss and lichen, etc. The lining consists merely of the finest grasses, sometimes mixed with hair. In shape the nest varies from a shallow to a very deep cup and it is placed in a vertical or upright fork in a small branch of almost any kind of tree, generally within six to ten feet from the ground. When, however, it is placed in Mango-trees, which form very favourite sites in Bengal, the nest may be thirty or even forty feet from the ground. It is not very well concealed and the cock-bird, which shares in the duties of incubation, is a very conspicuous object when sitting. The eggs number three to five, most often four. In ground-colour they vary from the palest cream to a fairly rich salmon-pink and they are rather sparsely speckled and blotched with bright reddish brown, the markings sometimes forming a ring or cap at the larger end.

One hundred eggs average 20·2 × 15·1 mm.: and the extremes are: maxima **22·2** × 15·6 and 21·9 × **16·0** mm.; minima **19·0** × 15·0 and 20·7 × **14·2** mm.

Habits. There is no more beautiful avian sight in India than a graceful, long-tailed, white, male Paradise Flycatcher, as it flits backwards and forwards in the deep green shade of the Mango-orchards it so often haunts. They are tame confiding birds, frequenting gardens, open country and the vicinity of villages but they are also found in forest-land, especially deciduous light forests such as Sal etc. They feed entirely on the wing, never descending to the ground and never searching the foliage for insects as some Flycatchers do. Their ordinary flight is rather slow, the long tail undulating behind as the bird flies but they are capable of very quick movement when hawking for insects. Their notes are normally very harsh and shrill but they sometimes copy the softer notes of other birds not unsuccessfully. It is a common bird in plains and low hills alike but above 3,000 feet its place seems to be always taken by the Himalayan Paradise Flycatcher. The Paradise Flycatcher is a resident bird wherever found, but moves about locally in parts of its habitat, probably on account of food-conditions.

(689) Terpsiphone paradisi affinis.

THE BURMESE PARADISE FLYCATCHER.

Tchitrea affinis Hay, Blyth, J. A. S. B., xv, p. 292 (1846) (Malay Peninsula and Tenasserim).
Terpsiphone affinis. Blauf. & Oates, ii, p. 47.

Vernacular names. *Dao-rajah-gophu* (Cachari).

Description. In the fully adult plumage the Burmese Paradise Flycatcher differs from the Indian bird only in having a shorter more rounded crest and in having the black shaft-lines and edges to the wing- and tail-feathers more developed.

The young male in the third year appears to moult direct from the grey-throated stage into the complete black and white plumage, but more material may possibly disprove this theory. Certainly, birds in South Assam, which are much nearer *affinis* than *paradisi*, go through the same stages as the latter.

Females and young males have considerably more grey on the lower parts, the under tail-coverts are nearly always, and the abdomen generally, suffused with chestnut.

The chestnut of the upper parts is also, on the whole, duller.

Colours of soft parts and **Measurements** as in *T. p. paradisi*.

Nestling rather more definitely barred above than in *T. p. paradisi*.

Distribution. Assam, South of the Brahmaputra, the whole of Burma, West Siam, Annam, Cochin China, Yunnan.

Nidification. Differs in no way from that of the Indian Paradise Flycatcher, but—in Assam, at all events—thin bamboo-jungle forms a very favourite nesting-site. In Burma three eggs appear to be laid more often than four, and Mr. J. M. D. Mackenzie has taken two hard-set. The eggs do not differ either in size or appearance from those of its Indian cousin.

One hundred eggs average 20·0 × 14·9 mm.: maxima **21·4** × 15·0 and 21·2 × **15·9** mm.: minima **18·6** × 14·4 and 20·2 × **14·3** mm.

The female of this form seems to acquire lengthened tail-feathers more frequently than the Indian birds and I have seen a pair with both birds in exactly the same plumage with equally long tails. The breeding-season is May and June.

Habits. Similar to those of the preceding bird. It is found both throughout the plains and in the lower hills up to 3,000 feet, and occasionally higher. In the Chindwin and the Bhamo Hills it is found up to at least 6,000 feet but the few specimens I have been able to examine from these hills are very pale and more material may prove that in Burma there is a pale form of *affinis* inhabiting the higher elevations, just as in India *leucogaster* takes the place of true *paradisi*.

The Burmese Flycatcher is perhaps more partial to thin secondary growth and bamboo-jungle than the Indian bird is but otherwise there is nothing to remark about it. It is very easily tamed and makes a charming pet.

(690) Terpsiphone paradisi leucogaster.

THE HIMALAYAN PARADISE FLYCATCHER.

Muscipeta leucogaster Swains., Nat. Lib., xiii, p. 205 (June 1838) (from Lady Dalhousie's Coll.).

Vernacular names. *Shah Balbul* (Hind.).

Description. Birds of both sexes in the chestnut plumage are pale and can be distinguished from all other races of *T. paradisi* by this character.

Young males which have assumed the wholly black head whilst still in chestnut plumage have the breast pure white, strongly contrasting with the black and with no intermediate area of ashy-grey as in typical *paradisi*.

Distribution. Afghanistan, Baluchistan, Kashmir and the Himalayas, East to Assam, North of the Brahmaputra.

Nidification. Similar to that of the other races in every respect. Fifty eggs average 20·1 × 14·9 mm.: maxima **21·0** × 14·4 and 20·4 × **15·2** mm.; minima **19·3** × 14·9 and 19·7 × **14·0** mm. The usual breeding-season is May and June, though a few birds breed in April.

Habits. The present race of Paradise Flycatcher is found between 3,000 and 6,000 feet and less often up to 8,000 ft. It is probably locally migratory, to the extent that it moves from the higher to the lower hills in winter.

(691) Terpsiphone paradisi nicobarica.

THE NICOBAR PARADISE FLYCATCHER.

Terpsiphone nicobarica Oates, Fauna B. I., Birds, ii, p. 48 (1890) (Nicobars).

Vernacular names. None recorded.

Description. This form differs, both male and female, when in the chestnut stage, in having the chestnut much duller and browner, and in having the underparts from below the breast strongly suffused with chestnut throughout.

Colours of soft parts and **Measurements** as in the other races.

Distribution. Andamans and Nicobars.

Nidification and **Habits.** Nothing recorded.

Genus HYPOTHYMIS.

Hypothymis Boie, Isis, 1826, p. 973.

Type, *H. occipitalis*.

In *Hypothymis* the bill is like that of *Terpsiphone* but smaller and is covered at the base with dense plumules; the rictal bristles are numerous and long; the tail slightly rounded but without lengthened central rectrices. The sexes are dissimilar.

The genus *Hypothymis* is represented by one species in India which extends over the whole of Ceylon, India, Burma, the Indo-Chinese countries to Hainan, the Philippines, Borneo, Sumatra and Java.

Both Stresemann and Oberholser have recently reviewed this species and have created numerous subspecies, specimens of some of which, including *nicobarica* (=*calocara*) and *idiochroa*, are unfortunately not in the British Museum.

Hypothymis azurea.

Muscicapa azurea Bodd., Tabl. Pl. Enl., p. 41 (1783) (Philippines).

Key to Subspecies.

A. Lower parts from breast almost pure white; under wing-coverts white.
  a. Nuchal patch and collar across neck conspicuous.
    a'. Paler ..... *H. a. sykesi*, p. 270.
    b'. Darker and richer in colour ..... *H. a. styani*, p. 271.
  b. Neck-patch and collar inconspicuous .... *H. a. ceylonensis*, p. 272.
B. Whole of lower parts from breast blue .. *H. a. tytleri*, p. 273.
C. Lower parts from breast pale blue; under wing-coverts blue.
  c. Smaller, wing 65 to 69 mm. ..... *H. a. nicobarica*, p. 273.
  d. Larger, wing 69·5 to 75 mm. ..... *H. a. idiochroa*, p. 274.

from any of those of the other races of *Hypothymis*. Fifty eggs average 17·1 × 13·1 mm.: maxima 18·0 × 14·1 mm.: minima 15·9 × 12·1 mm.

The breeding-season is April, May and June.

Habits. This is an extremely common Flycatcher throughout the lower hills of Assam and Burma as well as in the plains in their vicinity. It may be found in almost any kind of well-wooded country and I have seen it, though not commonly, in the interior of the densest evergreen forest and in quite open cultivated districts. Undoubtedly, however, its favourite resorts are thin scrub and the secondary growth which springs up in deserted cultivation or bamboo-jungle. If these have running water near by, so much the better.

The voice of this Flycatcher is very harsh, but it is on the whole a silent bird and seldom indulges in its call. They are found almost invariably in pairs and never in flocks, though, where they are particularly common, two pairs may be seen hawking insects from the same tree.

(694) Hypothymis azurea ceylonensis.

THE CEYLON BLACK-NAPED FLYCATCHER.

Hypothymis ceylonensis Sharpe, Cat. B. M., iv, p. 277 (1879) (Ceylon).
Hypothymis azurea. Blanf. & Oates, ii, p. 49.

Vernacular names. *Marawa* (Cinghalese).

Description.—Adult male. Differs from all the other races of *Hypothymis* in having the band across the neck and the spot on the nape either obsolete or much smaller.

Females. Except when they vary in size the females of the various races are not distinguishable from one another.

Colours of soft parts and **Measurements** as in the preceding races.

Distribution. Ceylon only.

Nidification. Similar to that of the other races. According to Legge, it breeds during April and July from the plains up to about 4,000 feet. It appears, like so many other southern birds, to lay but two eggs in Ceylon instead of three or four as its more northern relations do. They are quite inseparable from any other *Hypothymis* eggs and measure about 16·7 × 13·7.

Habits. Found over all but the driest portions of Ceylon in well-wooded or forest country, keeping much to the lower cover during the breeding-season but resorting in flocks to the higher trees in the non-breeding season. It feeds entirely on the wing but not as a rule from a single sallying-point, constantly moving from one tree or branch to another.

(695) Hypothymis azurea tytleri.

THE ANDAMAN BLACK-NAPED FLYCATCHER.

Myiagra tytleri Beavan, Ibis, 1867, p. 324 (Andamans).
Hypothymis tytleri. Blanf. & Oates, ii, p. 50.

Vernacular names. None recorded.

Description.—Adult male. Similar to *H. a. styani* but with the whole of the underparts blue, only slightly paler on the centre of the abdomen. The upper parts *average* brighter and lighter than in that race but there is much overlapping in this respect.

Colours of soft parts as in the other races.

Measurements. Wing 68 to 76 mm.

Female differs from the preceding races in having the lower parts from breast to under tail-coverts dull grey-blue.

Distribution. Andamans only.

Nidification. Nests taken by Messrs. Osmaston, Wickham and others in the Andamans are described as being exactly similar in all respects to those of *H. a. styani* except that they are invariably decorated with spiders' egg-cases. The breeding-season is April, May and early June. The eggs are not separable from those of the other Black-naped Flycatchers, but on the whole seem to be more distinctly spotted and less deep a cream in their ground-colour. Thirty-two eggs measure on an average 17·9 × 13·9 mm.

Habits. Those of the genus.

(696) Hypothymis azurea nicobarica.

THE NICOBAR BLACK-NAPED FLYCATCHER.

Hypothymis azurea nicobarica Bianchi, Ann. Mus. Zool. St. Petersb. xii (i), p. 76 (1907) (Nicobars).

Vernacular names. None recorded.

Description.—Adult male. Similar to *H. a. sykesi* but smaller and with the underparts faintly blue; under wing-coverts light blue, not white.

Colours of soft parts as in *H. a. sykesi*.

Measurements. Wing 65 to 69 mm.

Distribution. Nicobars excluding Car Nicobar.

Nidification and **Habits.** Davison records it as tolerably abundant on the Nicobars, and remarks that its habits do not differ from those of the Indian bird. He failed to find a nest, though the birds were breeding.

D. Lower parts from breast practically white, merely washed with blue; under wing-coverts bluish white ..... *H. a. forrestia*, p. 274.

(692) Hypothymis azurea sykesi.

THE MADRAS BLACK-NAPED FLYCATCHER.

Hypothymis azurea sykesi Stuart Baker, Bull. B. O. C., xl, p. 6 (1920) (Deccan).
Hypothymis azurea. Blanf. & Oates, ii, p. 49.

Vernacular names. *Kala Kat-katia* (Beng.).

Description.—Adult male. A line across the forehead, point of chin, a large patch on the nape and a crescentic bar across the fore-neck black; crown and sides of black patch on the nape brilliant azure-blue; upper plumage and edges of wing- and tail-feathers a rather duller, darker blue; throat and breast the same blue but a little brighter, gradually becoming pure white on abdomen, vent



Fig. 42. Bill of *H. azurea*.

and under tail-coverts; flanks suffused with grey-blue; edge of wing underneath blue; axillaries and remaining under wing-coverts white.

Colours of soft parts. Iris hazel to dark brown; eyelids plumbeous-blue, more brilliant blue in the breeding-season; bill blue, the edges and tip black; the bill also is a brighter blue in the breeding-season; legs and feet pale plumbeous to dark slaty-blue.

Measurements. Total length about 160 to 170 mm.; wing 67 to 73 mm.; tail 70 to 82 mm.; tarsus about 18 mm.; culmen about 11 to 12 mm.

Female. Forehead and point of chin black; crown of head azure-blue, changing to brown on back and upper plumage; tail-feathers washed with blue on their outer webs, and wing-coverts and quills edged with the same; chin, throat and upper breast ashy-blue fading to white on the abdomen and under tail-coverts.

Colours of soft parts the same as those of the male in winter.

Measurements. Same as those of the male.

Distribution. India, South of lat. 22° on the West and lat. 18° on the East. Birds from Khandesh and the Berars on the West of India should be placed with this race, but material from

Eastern India is very scanty and it is difficult to define the limits.

Nidification. This Flycatcher breeds in Southern India principally in July and August but also a good deal earlier than this, as Mr. J. Davidson found nests with big young on the 12th July and others from which they had already flown. Mr. Howard Campbell also took eggs as early as April in Gooty. The nests are tiny deep cups, beautifully made of strips of fine grass, thin bark and odds and ends of moss etc. all welded together with many spider-webs. The walls are very thin, not more than 5 mm. thick. The nests are placed either in a vertical or horizontal fork or on a small horizontal branch without any side-supports. The site chosen may be deep jungle or forest, open country or even a tree in cultivated land or in a garden and it may be at any height from the ground between four and forty feet. The eggs are of the same type as those of *Terpsiphone* but vary from this to one more approaching the eggs of *Stoparola*. The ground varies from pale cream or yellowish pink to a warm salmon and the markings consist of specks and small blotches of red-brown or liver-brown, generally sparsely scattered over the larger end, sometimes forming a definite ring. Twenty eggs average 17·5 × 13·5 mm.

Habits. This Black-naped Flycatcher is found both in the plains and in the hills up to about 3,000 feet wandering some 2,000 feet higher than this on rare occasions in Summer. It is an active little bird on the wing, but does not descend to the ground, nor does it move about in the branches after insects. It is resident wherever found.

(693) Hypothymis azurea styani.

THE NORTHERN INDIAN BLACK-NAPED FLYCATCHER.

Siphia styani Hartl., Abh. Nat. Ver. Bremen, xvi, 2, p. 248 (1898) (Horkow, Hainan).
Hypothymis azurea. Blanf. & Oates, ii, p. 49.

Vernacular names. *Kala Kat-katia* (Beng.).

Description.—Adult male. Differs from *H. a. sykesi* in having the crown a still brighter blue and the blue of the upper parts deeper and richer. The blue of the breast below the black bar is also rather richer and often further produced on to the lower breast and flanks.

Colours of soft parts and **Measurements** as in *H. a. sykesi*. Wing 68 to 73 mm.

Distribution. All India north of the preceding bird; Assam, all Burma, Siam, Cochin China, Yunnan and Shan States, Annam, Hainan.

Nidification. Similar to that of the Southern Black-naped Flycatcher but it is exceptionally fond of bamboos in which it builds its nest. It lays three or four eggs, which cannot be distinguished

(697) Hypothymis azurea idiochroa.

THE CAR-NICOBAR BLACK-NAPED FLYCATCHER.

Hypothymis azurea idiochroa Oberholser, Proc. U.S. Nat. Mus., xxxix, p. 596 (1911) (Car Nicolars).

Vernacular names. None recorded.

Description. Similar to *H. a. nicobarica* but larger.

Colours of soft parts as in the other races.

Measurements. Wing 69·5 to 75·0 mm.

Distribution. Car Nicobar.

Nidification and **Habits.** Nothing recorded.

(698) Hypothymis azurea forrestia.

THE MERGUI ISLANDS BLACK-NAPED FLYCATCHER.

Hypothymis azurea forrestia Oberholser, Proc. U.S. Nat. Mus., xxxix, p. 601 (1911) (Mergui Archipelago).

Vernacular names. None recorded.

Description. Differs from *H. a. styani* in having more blue and less white below. It is, in fact, intermediate in colour between that form and the true *H. azurea azurea* of the Philippines, which has a strong dash of blue over the abdomen with the under tail-coverts also bluish.

Colours of soft parts as in the other races.

Measurements. Wing 72·5 to 77 mm.

Female differs from the female of *H. a. styani* in being darker and more blue-grey on the lower breast.

Distribution. Mergui Archipelago.

Nidification and **Habits.** Beyond the fact that this Flycatcher is found in thick forest, nothing has been recorded about it.

Genus CHELIDORHYNX.

Chelidorhynx Hodgs., P. Z. S., 1845, p. 32.

Type, *C. hypoxanthum*.

The genus *Chelidorhynx* contains only one species of Flycatcher remarkable for the shape of its bill, which, like that of *Stoparola*, when viewed from above, forms a perfect equilateral triangle; it is smaller, however, both actually and in proportion to the size of the bird. The rictal bristles are very numerous and long; the tail is long and well rounded with the shafts thickened and white. The sexes are practically alike.

(699) Chelidorhynx hypoxanthum.

THE YELLOW-BELLIED FLYCATCHER.

Rhipidura hypoxantha Blyth, J. A. S. B., xii, p. 935 (1843) (Darjiling).
Chelidorhynx hypoxanthum. Blanf. & Oates, ii, p. 51.

Vernacular names. *Sitte kloom* (Lepcha).

Description.—Adult male. Lores and a line round and through the eye black; forehead and broad supercilium and whole lower plumage bright yellow; ear-coverts blackish with pale shafts; upper plumage and wing-coverts dark olive-brown, the greater coverts tipped pale yellow; tail brown, all but the central pair broadly tipped white and all with conspicuous white shafts; wing-quills brown edged with olive.

Colours of soft parts. Iris dark brown; bill black above, yellowish fleshy to horny-brown on the lower mandible and more yellow at the gape; legs and feet pale horny-brown.

Measurements. Total length about 120 mm.; wing 54 to 57 mm.; tail 56 to 63 mm.; tarsus about 15 mm.; culmen 8 to 9 mm.



Fig. 43.—Head of *C. hypoxanthum*.

Female differs from the male only in having the lores and parts round the eye brown mixed with olive-green.

Distribution. Himalayas, from the Simla States to Eastern Assam, the hills of North and Central Burma to Tenasserim.

Nidification. The breeding area of this beautiful little Flycatcher is rather remarkable. Thompson found it breeding in the Kumaon Bhaber at an elevation of about 1,000 feet; in North Cachar I obtained it at about 5,000 feet, whilst Messrs. Osmaston and Whymper took nests between 9,000 and 14,000 feet in the Tons Valley and the Nila Valley in Garhwal. The nest is a beautiful little deep straight-sided cup made of fine moss well welded together, sometimes mixed with hair, lichen and wool and often decorated outside with lichen. The lining is of moss fruits with the stems attached, hair, or the very finest moss-roots and it is generally placed on a small vertical branch of a tree not very high from the ground. All the eggs recorded have been taken in June. They are like tiny eggs of *Stoparola* or *Niltava* but with a finer softer texture; pale creamy-white to a fairly warm cream with rings at the larger end of tiny indefinite freckles of a darker reddish. In shape they are broad blunt ovals. Twenty eggs average 14·0 × 11·1 mm.: maxima **14·7** × 11·6 and

14·6 × 11·7 mm.; minima 13·2 × 10·7 and 14·1 × 10·6 mm. The breeding-season is from the end of May to early July.

Habits. The Yellow-bellied Flycatcher is found between 5,000 and 15,000 feet in the summer, rarely at lower elevation, whilst in winter it occurs throughout the foot-hills and plains adjacent to them. It is an extraordinarily vivacious, cheerful little bird, constantly on the move, sallying into the air in the manner of all Flycatchers, bustling about the branches high up in tall trees, quivering its wings and flirting its widely spread tail. It haunts bushes and lofty trees alike and, though as a rule it is found in deep forest and generally near running streams, I have seen it in reed-beds hunting the reed-stalks for insects and twice I have noticed it in bamboo-jungle. It has a very sweet but very feeble, little song.

Genus **RHIPIDURA**.

Rhipidura Vigors & Horsf., Tr. L. S., xv, p. 247 (1825).

Type, *R. albiscapa*. Australia.

The genus *Rhipidura* is one containing many species which are found over a very great extent of country in the Oriental and Australasian Regions. It is represented in India by four species.

In this genus the bill is very large and about twice as long as it is broad at the base; the rictal bristles are very numerous and long; the tail is longer than the wing, the rectrices broad and graduated; the sexes are alike or practically so.

Key to Species.

A. Forehead and sides of the crown broadly white ..... *R. aureola*, p. 277.
B. Forehead black; white supercilium small.
  a. Abdomen black ..... *R. albicollis*, p. 279.
  b. Abdomen white or nearly so.
    a'. Outer tail-feathers conspicuously and abruptly tipped with white ..... *R. javanica*, p. 281.
    b'. Outer tail-feathers with inconspicuous pale tips ..... *R. pectoralis*, p. 282.

Rhipidura aureola.

Key to Subspecies.

A. Wing-coverts boldly tipped with white.
  a. Central tail-feathers tipped with white ..... *R. a. aureola*, p. 277.
  b. Central tail-feathers not tipped with white ..... *R. a. compressirostris*, p. 279.
B. Wing-coverts with no white tips or with very little ..... *R. a. burmanica*, p. 278.

(700) Rhipidura aureola aureola.

THE WHITE-BROWED FANTAIL WARBLER.

Rhipidura aureola Less., Traité, p. 390 (1830 or Jan. 1831) (Bengal).
Rhipidura albifrontata. Blanf. & Oates, ii, p. 52.

Vernacular names. *Marcharya* (Hindi in the south); *Manati* (Mal.); *Darari-pitta* (Tel.); *Chak dil* (United Provinces).

Description.—Adult male. Forehead and a broad supercilium to the nape white; lores, sides of face, ear-coverts and anterior crown black, posterior crown brownish black, changing to brown, slightly tinged with ashy on the back and wings; wing-coverts boldly tipped with white; tail dark brown, the central pair of feathers either immaculate or very narrowly tipped with white, the next pair more broadly tipped and the white increasing in extent until the outermost pair has only a patch at the base brown; chin and throat black, the chin and upper part of the throat with broad white fringes to the feathers, these fringes obsolete or absent on the lower throat leaving this as a black band between the upper throat and the white of the rest of the lower parts; sides of the breast and axillaries dark brown; under wing-coverts brown and white.

Colours of soft parts. Iris dark brown; bill, legs and feet black.

Measurements. Total length about 175 to 180 mm; wing 80 to 89 mm.; tail 90 to 100 mm.; tarsus about 19 to 20 mm.; culmen about 10 mm.

Female only differs from the male in being slightly paler and browner on the head.

Nestling. Supercilium white; upper plumage brown fringed with rufous; the white fringes of the chin and throat barely noticeable; breast brownish with obsolete rufous bars; wing-coverts broadly tipped with rufous.

Distribution. The whole of India with the exception of South Travancore and Assam South of the Brahmaputra.

Nidification. Breeds throughout its range up to about 5,000 feet and occasionally 1,000 feet higher. Its breeding-season is very protracted and eggs may be found any time from March to August, most birds apparently breeding at least twice. The nest is a beautifully made little cup of fine shreds of grass-blades, sometimes mixed with a few of the finer grass-stems, shreds of bamboo or other leaves; these are, however, never very conspicuous and, as a whole, the nest looks as if made of dry grey grass well coated with cobwebs and sometimes decorated with spiders' egg-bags. Often the bottom of the nest is prolonged into a cone and sometimes furnished with a long thin tail of loose scraps of grass. It is placed either on a small horizontal branch or in a small vertical or horizontal fork and may be at any height from four to forty feet

from the ground, though, as a rule, a site under fifteen feet is selected.

The eggs are generally three in number, sometimes two or four; in colour they are palé yellowish white or pale fawn, occasionally almost pure white and rarely tinged with pink; the markings consist of small blotches of yellowish brown with secondary markings of neutral tint and pale grey, nearly always distributed in a ring about the larger end and sparse elsewhere. One hundred eggs average 16·8 × 12·2 mm.

Habits. This Fantail Flycatcher, like others of the genus, is a bird of open but well-wooded country and is not found inside heavy forest either conifer or evergreen. It is a very lively, cheerful and energetic little bird, constantly on the move and constantly spreading and flirting its long fan-like tail so as to display the white tips. It feeds, as far as I have seen, entirely on the wing and never on the ground, though it will occasionally descend to the ground during the breeding-season and display there. It feeds largely on gnats, mosquitoes, and *ephemera*, often so tiny as to be invisible to the human eye, though the bird may be seen snapping here and there and obviously feeding.

It has a sweet song and a beautiful call-whistle, very like that of a human being ascending the scale for several notes.

(701) Rhipidura aureola burmanica.

THE BURMESE WHITE-BROWED FANTAIL FLYCATCHER.

Leucocerca burmanica Hume, S. F., ix, p. 175 (1881) (Thoungyan).
Rhipidura albifrontata. Blanf. & Oates, ii, p. 52 (part.).

Vernacular names. *Dao phari* (Cachari).

Description.—Adult male. Differs from *R. a. aureola* in being very much paler above and more ashy in tint. The *two* central pairs of tail-feathers are generally all brown and the white on the lateral tail-feathers is not so extensive; the spots on the wing-coverts are absent or obsolete.

Colours of soft parts as in the preceding bird.

Measurements. Wing 77 to 86 mm.

Female and **Young** differ from those of *R. a. aureola* in the same way as the male does.

Distribution. Assam, South of the Brahmaputra, Burma, Shan States and South-West Siam.

Nidification. Differs in no way from that of the last bird but this race is perhaps less exclusively an open-country bird. In North Cachar it was not rare in the wide expanses of park-like country to the north and wherever similar open country is found it occurs and breeds in the months April to July. The nest and eggs cannot be distinguished from those of *R. a. aureola*. One hundred eggs average 17·2 × 12·8 mm.: maxima **18·7** × **13·0** and 17·4 × 13·5 mm.; minima 16·0 × 11·6 mm. I obtained it breeding up to 5,000 feet in the Khasia Hills.

Habits. Similar to those of the Indian birds.

(702) Rhipidura aureola compressirostris.

THE CEYLON WHITE-BROWED FANTAIL FLYCATCHER.

Leucocerca compressirostris Blyth, J. A. S. B., xviii, p. 815 (1849) (Ceylon).
Rhipidura albifrontata. Blanf. & Oates, ii, p. 52 (part.).

Vernacular names. *Manati* (Malabar).

Description. Differs from *R. a. aureola* in being much darker and in having the two central pairs of tail-feathers not tipped with white. The black on the sides of the breast is better defined and is sometimes produced to form a broken band across the breast. The bill is often more compressed.

Colours of soft parts as in *R. a. aureola*.

Measurements. Wing 78 to 87 mm.

Distribution. Ceylon and South Travancore. Mr. W. E. Wait gives the following note on its distribution in Ceylon, which is worth quoting:—"It has a peculiar distribution. It occurs in the low country in the south of the Island, eastwards from Matara to Wingaru Bay; inland it is found as far as the Uva basin and in the Park country east of the main range as far north as Palonawara and has a range from the sea-level to 5,000 feet. In the south-west of the Island and in the North Central Province it seems to be absent."

Nidification. There is but little on record, but the nidification does not seem to differ in any way from that of the other races. The only three eggs in my own collection measure about 16·3 × 12·3 mm., and may be unusually small.

Habits. Those of the genus. Legge refers to the male during the breeding-season displaying both on the ground and on branches of trees, making little runs as it puffs itself out and flirts its widely spread tail. It haunts open country, cultivation, gardens, and village surroundings but is also sometimes to be seen in more open parts.

(703) Rhipidura albicollis albicollis.

THE WHITE-THROATED FANTAIL FLYCATCHER.

Platyrhynchus albicollis Vieill., Nouv. Dict. d'Hist. Nat., xxvii, p. 13 (1818) (Bengal).
Rhipidura albicollis. Blanf. & Oates, ii. p. 53.

Vernacular names. *Chok-dayal* (Beng.); *Chak-dil* (N.W. Provinces); *Nam-dit-nom* (Lepcha).

(705) Rhipidura pectoralis.

THE WHITE-SPOTTED FANTAIL FLYCATCHER.

Leucocerca pectoralis Jerd., Ill. Ind. Orn., text to pl. ii (1847) (Nilgiris).
Rhipidura pectoralis. Blanf. & Oates, ii, p. 55.

Vernacular names. None recorded.

Description. Similar to *R. j. javanica*, but with the lateral tail-feathers shading from dark brown at the base to pale whity-brown at the tip. The black of the breast-collar is produced lower down on the flanks and lower breast and is heavily spotted with white.

Colours of soft parts. Iris hazel; bill, legs and feet black.

Measurements. Total length about 170 to 175 mm.; wing 69 to 79 mm.; tail 84 to 93 mm.; tarsus about 20 mm.; culmen 10 mm.

Young have the upper parts brown, the feathers edged with rufous; the wing-coverts broadly edged with rufous; the lower parts more rufous than the adult and squamated on the breast with dark brown.

Distribution. From the extreme south of India, North through Travancore, Mysore, Bombay, the Aravalli Hills in Rajputana, East to Raipur, Chikalda, Goona and Chanda. It is very common in the Nilgiris and other hills of the South-West, but does not extend into the true plains to the East.

Nidification. This Flycatcher breeds from March to July, having two or more broods, at all heights from the foot-hills and broken country adjacent up to at least 6,000 feet. They frequent gardens, orchards and open country round about villages, building their nests either in big trees low down, in bushes and small fruit-trees or even in shrubs in verandahs of houses. Three is the normal number of eggs laid, occasionally four and sometimes two only. Neither nest nor eggs are in any way distinguishable from those of other birds of this genus. Forty eggs average 16·2×12·7 mm.: maxima **17·2**×12·2 and 16·7×**13·0** mm.; minima **15·0**×11·6 mm. and 16·2×**11·6** mm.

Habits. The White-spotted Fantail Flycatcher is only found in quite open country and more especially in gardens and cultivated areas. In its habits there is nothing differing in any way from those of other species of the genus *Rhipidura*.



Fig. 45.—*Lanius c. lahtora.*

Family LANIIDÆ.

The intrinsic muscles of the syrinx [illegible] the ends of the bronchial semi-rings; the edges of bo[illegible]les smooth, or the upper one simply notched or toothed; [illegible]; hinder aspect of tarsus smooth, composed of two entire long[illegible]adinal laminæ; wing with ten primaries; tongue non-tubular; nostrils clear of the line of forehead, the lower edge of the nostril nearer to the commissure than the upper edge is to the culmen; plumage of the nestling cross-barred; rectrices twelve; nostrils more or less overhung by bristles and hairs. An Autumn moult only.

The *Laniidæ* are in many respects very closely allied to the Flycatchers both in habits and in structure, the genus *Hemipus* even approaching the *Muscicapidæ* in the shape and character of the bill. The Shrikes are now generally admitted to be conveniently divided into three families: (1) the true *Laniidæ*, with normal

Description. Forehead, fore crown, lores, over and under the eye, ear-coverts and front of chin black; a short *supercilium* white; the crown of the head changes gradually into the sooty-brown of the rest of the plumage, slightly lighter and more ashy below; throat white, the feathers with black bases, the white produced as a semi-collar up the sides of the neck; all but the central pair of tail-feathers are tipped with white.

Colours of soft parts. Iris deep brown; the eyelids grey; bill, legs and feet black.

Measurements. Total length about 185 to 195 mm.; wing 73 to 87 mm.; tail 95 to 115 mm.; tarsus about 175 to 185 mm.; culmen about 10 mm.

Young. Dark brown above and below, the feathers edged and barred above with rufous and edged below with the same; the wing-coverts are edged with rufous; the white chin is absent in the very young and the white supercilium is small and broken.



Fig. 44.—Bill of *R. a. albicollis*.

Young birds in otherwise adult plumage are generally rather pale and rusty below.

Birds from the Southern Punjab, Central Provinces and Chota Nagpur are very pale and very rusty below, probably because they are all young birds. My *R. a. stanleyi* from the Abor Hills cannot be maintained, the supposed differences in its plumage being due partly to make up and partly to individual variation.

Distribution. The Himalayas from Murree to Eastern Assam, Burma, Shan States, Yunnan, Annam, Siam, Cochin Chin, Hainan and Malay States. Birds from Sumatra have been separated as *R. a. atrata* and Bornean birds seem to agree with these.

Nidification. Differs in no way from that of the species *R. aureola*. The nest is the same beautiful little compact cone or cup of fine, cobweb-covered grass placed in similar positions but perhaps more often found in open forest or on the extreme outskirts of evergreen forest. In the Khasia Hills and Chin Hills it also breeds in the lowest ranges of pine-forests between 4,000 and 5,000 feet. Eggs are laid from March to July, but the greatest number in May. They number three or four and are quite indistinguishable from those of the other species. One hundred

eggs average 17·3 × 13·0 mm.: maxima 18·2 × 13·5 mm.; minima 16·1 × 13·0 and 16·9 × 12·0 mm.

Habits. Those of the genus, but it ascends the Himalayas to a greater height than does *R. aureola*. It is found near Murree, Simla States and in Garhwal constantly up to 7,000 feet and more rarely up to 9,000 feet.

(704) Rhipidura javanica javanica.

THE JAVAN FANTAIL FLYCATCHER.

Muscicapa javanica Sparrm., Mus. Carls., iii, pl. 75 (1788) (Java).
Rhipidura javanica. Blanf. & Oates, ii, p. 54.

Vernacular names. *Yok-i-pert*, *Nok-pen*, *Nok-pi* (Siam).

Description.—Adult male. A short, nearly concealed supercilium white; crown, point of chin and a band across the breast, sides of neck and head sooty-black; whole upper plumage brown, the tail darker, all but the two central pair tipped with white; throat white; lower plumage from breast to under tail-coverts white suffused with buff; in quite fresh plumage the wing-coverts are very narrowly tipped with rufous.

Colours of soft parts. Iris brown; bill, legs and feet black.

Measurements. Total length about 180 mm.; wing 73 to 82 mm.; tail 90 to 100 mm.; tarsus about 19 to 20 mm.; culmen about 12 mm.

Female like the male, but rather more buff below.

Young barred above with rufous and breast mottled with rufous and brown.

Distribution. Cochin China, Siam, Burma south through the Malay States.

Nidification. Quite similar to that of the two preceding species. The nest, like that of those birds, is cone-shaped with a tail pendent below it and may be placed either on a small branch or from a small bamboo-twig in open country, gardens or compounds. The eggs, two in number and very rarely three, are like those of the other species of this genus. Fifty eggs average 7·4 × 13·0 mm.: maxima 19·1 × 13·2 and 17·4 × 12·6 mm.; minima 16·3 × 13·0 and 17·5 × 12·4 mm.

This bird breeds in Siam and Tenasserim from March to August, certainly having two broods as a rule and possibly sometimes three.

Habits. According to Messrs. Williamson and Herbert this Fantail Warbler is essentially a bird of the open country, especially affecting gardens and the vicinity of villages and cultivation. Shady trees seem to be equally a necessity and it is not found often in scrub and bush jungle. In flight, voice, food, etc., it differs in no way from its relations.

feathering to the rump; (2) the *Pericrocotidæ*, with the feathers of the rump spinous; (3) the *Artamidæ*, which differ entirely in their legs and wings from either of the other two families. Jerdon included the Drongos or Drongo Shrikes in the *Laniidæ*, but Oates kept them in a separate family, *Dicruridæ*, which arrangement seems most convenient. Close to the Flycatchers also come the Warblers, *Sylviidæ*, but these are more definitely separated by the plumage of the young, which is never barred.

In the *Laniidæ*, especially in *Lanius*, the bill is very strong and is both notched and hooked. The rictal bristles are always present and often highly developed; the tarsus is scutellated and the tail has twelve rectrices. The nestling is strongly barred, generally both above and below and this barring is retained throughout the first winter, though they gradually lessen in degree throughout these months. Some species, however, retain the barring to some extent for two or more years, whilst females retain it longer than males.

Key to Genera.

A. Head not crested.	
a. Tail-feathers strongly graduated.	
a'. Bill strong, deep and laterally compressed; margin of upper mandible near tip strongly notched and toothed.	LANIUS, p. 284.
b'. Bill depressed and broad; margin of upper mandible near tip merely notched	HEMIPUS, p. 305.
b. Tail square and not graduated	TEPHRODORNIS, p. 308.
B. Head with long crest	PLATYLOPHUS, p. 314.

ore.

Genus **LANIUS**.

Lanius Li[illegible] x, p. 93 (1758).

Type, *Lanius* [illegible] fixed by [illegible] mandible [illegible] both [illegible]

The genus *Lan*[illegible]ses a very extensive group of birds found over the who[illegible]pe, Asia, and Africa and parts of North America. The[illegible]nus has been split into several genera by some scientists but the characteristics employed in separating them seem trivial and the divisions quite unnecessary and, possibly, misleading. The genus is very well represented in India both by residents and by migratory species and subspecies.

In *Lanius* the sexes are alike; the bill is very strong and laterally compressed, with a large tooth and a deep notch near the tip of the upper mandible, which is bent down and hooked. The nostrils are nearly round and are almost hidden by numerous hairs and bristles. The wings are strong and pointed; the tail is either equal to or longer than the wing and is strongly graduated; the plumage is firm but not spinous.

Key to Species.

A. Upper tail-coverts and central tail-feathers of totally different colours.	
a. A white patch on primaries.	
a'. Tail all black and white, the colours sharply defined.	
a''. Back grey	*L. excubitor*, p. 285.
b''. Back chestnut.	
a³. Upper tail-coverts pale grey	*L. vittatus*, p. 289.
b³. Upper tail-coverts chestnut	*L. collurioides*, p. 291.
c''. Back black	*L. senator*, p. 299.
b'. Tail black or brown and rufous, the colours blending.	
d''. Crown of head black	*L. nigriceps*, p. 292.
e''. Crown of head grey	*L. schach*, p. 294.
b. No white patch on primaries.	
c'. Head and back grey	*L. tephronotus*, p. 297.
d'. Head grey, back chestnut	*L. collurio*, p. 298.
B. Upper tail-coverts and central tail-feathers same colour.	
c. Colour of crown and back nearly the same rufous or brown	*L. cristatus*, p. 300.
d. Crown grey; back chestnut, barred with black	*L. tigrinus*, p. 304.

Lanius excubitor.

Lanius excubitor Linnæus, S. N., ed. x, p. 94 (1758).

Type-locality: Europe; restricted to Sweden.

Key to Subspecies.

A. Middle pair of tail-feathers all black.	
a. Lesser wing-coverts black with or without grey tips	*L. e. lahtora*, p. 285.
b. Lesser wing-coverts entirely grey.	
a'. Inner webs of secondaries chiefly white	*L. e. pallidirostris*, p. 287.
b'. Inner webs of secondaries chiefly black	*L. e. aucheri*, p. 288.
B. Middle pair of tail-feathers with white bases	*L. e. przewalskii*, p. 289.

(706) Lanius excubitor lahtora.

THE INDIAN GREY SHRIKE.

Collurio lahtora Sykes, P. Z. S., 1832, p. 86 (Deccan).
Lanius lahtora. Blanf. & Oates, i, p. 459.

Vernacular names. *Dudiya latora* (Hind.); *Safed latora* (Hind. in the U.P. and N.W.); *Kach-kacha-latora* (Beng.); *Chinka-bilinchi*, *Pedda-kiriti-gadu* (Tel.).

Description. Forehead, lores, a band passing round the eye, ear-coverts, down the side of the neck and often turning down

towards the breast as a semi-collar black; upper plumage bluish grey, palest on the rump and upper tail-coverts; two middle pairs of tail-feathers black with very small white tips, the next two pairs with increasingly broader tips and also white bases; outer pairs white with only the shafts and a small portion of the inner webs black; scapulars white; wing-coverts black, the innermost lesser coverts more or less tipped with grey; primaries black, with broad white bases and the innermost with narrow white edges to the tips; secondaries with the outer webs black with white tips and most of the inner webs white except the innermost secondaries which are black with white tips only; whole lower plumage pure white.

Colours of soft parts. *Iris* dark brown; bill, legs and feet black.

Measurements. Total length about 250 mm.; wing 104 to 116 mm.; tail 100 to 115 mm.; tarsus 31 to 32 mm.; culmen 18 to 20 mm.



Fig. 46.—Head of *L. e. lahtora*.

Young have the feathers of the underparts, except on the abdomen, faintly barred and edged with brown and the wing-coverts edged with fulvous.

Nestling is heavily barred above and below with dark brown and the edges of the wing-coverts are broadly edged with fulvous. There are no nestling specimens of this extremely common bird in the British Museum collection.

Distribution. Throughout the plains of India as far South as Belgaum and throughout the Deccan and Central Provinces as far East as Calcutta, where it is rare and probably not resident. North it is found from Sind all along the bases of the Himalayas as far East as Behar, Chota Nagpore and the drier districts of Western Bengal.

Nidification. The Indian Grey Shrike is resident and breeds wherever found except in the wetter, more heavily forested portions of Eastern Bengal and possibly the Western Ghats, into which it only wanders in the dry season. It breeds throughout the plains, in the Deccan tableland up to 2,000 feet and in the Himalayas to about the same height. It makes a deep bulky nest of grass, roots, bark or almost any vegetable material, mixing

it with oddments of cloth, wool, hair, feathers, etc., lining it with any soft material such as hair, wool or grass but not feathers. It places it low down in any bush or tree but prefers such as are in the open, especially if they are thorny and dense, and it never breeds in forest or in damp shady cover. The eggs number three to six, generally four or five and are typical Shrikes' eggs but of the duller type. The ground-colour varies from the palest sea-green, buffy or white to a fairly warm buff or dull grey-green, whilst the markings consist of small specks and larger blotches of brown or reddish brown, with secondary markings of neutral tint and dark grey. As a rule, the blotches are most numerous at the larger end and rather sparse elsewhere but in a few eggs they are numerous everywhere. The creamy or pink type of egg is very rare in this species.

Habits. The Indian Grey Shrike is a bird of open country and prefers plains with thin scrub, thorny bushes or small trees and, though it is also often found in cultivated country or in the vicinity of towns and villages, it certainly keeps for choice to the wilder less frequented parts. It watches for its prey from the top of a tall bush or low tree, generally seizing it on the ground or taking it from a branch or twig though occasionally it will seize a passing grasshopper on the wing, often, also, catching termites in this manner. It feeds on all kinds of insects and also on young or weak birds, mice and small reptiles and is not above robbing a nest when unguarded. It does sometimes fix its captures on thorns, though it does not seem to keep a larder so regularly as does the Red-backed Shrike. Most of its notes are very harsh and grating, but during the breeding-season it has a sweet song. In the North-west it is said to have been formerly trained to catch small birds like a Falcon but this form of native sport seems now to have died out.

(707) Lanius excubitor pallidirostris.

THE ALLIED GREY SHRIKE.

Lanius pallidirostris Cassin, Proc. Acad. Philad., v. p. 244 (1852) (E. Africa).
Lanius assimilis. Blanf. & Oates, i, p. 460.

Vernacular names. None recorded.

Description. Similar to *L. e. lahtora* but has no black on the forehead and the black does not extend beyond the ear-coverts on the neck; the white above the eye is more distinct, forming a faint superciliam; the lesser wing-coverts are all grey; the secondaries have more black and less white and the under surface of the body is often suffused with pink.

Colours of soft parts. Iris dark brown; bill pale horny; legs and feet dark horny to blackish.

Measurements. Total length about 250 mm.; wing 105 to 111 mm.; tail 95 to 111 mm.; tarsus about 32 mm.; culmen 18 to 19 mm.

Distribution. Trans-Caspia to Syr Darya, through Persia to Persian Baluchistan, Central Asia to Lob Nor and Tian-Shan. In Winter to Nubia and Somaliland and as a straggler into North-west India where it has been obtained once only in the Punjab.

Nidification and Habits. There is practically nothing on record, though probably neither will be found to differ in any way from that of the preceding bird.

(708) Lanius excubitor aucheri.

BONAPARTE'S GREY SHRIKE.

Lanius aucheri Bonpte., Rev. Zool., 1853, p. 294 (Persia).
Lanius fallax. Blanf. & Oates, i, p. 460.

Vernacular names. None recorded.

Description. Very like *pallidirostris*, but with a very narrow black forehead, rather grey breast and abdomen, and more black and less white on the secondaries.

Colours of soft parts as in *pallidirostris* but with *the bill black*.

Measurements. Wing 104 to 110 mm., "107 to 116" (*Hartert*).

Distribution. Persia, Mesopotamia and Palestine to N.E. Africa in Winter; Afghanistan, Baluchistan and N.W. Frontier of India and very rarely into the Plains of the Punjab and N.W. Frontier Province.

The series of birds with black bills assigned by Oates in the first volume of the Avifauna to *Lanius assimilis* (=*L. e. pallidirostris*) are typical in all respects with this form. Its occurrence therefore within our limits is more frequent than has hitherto been considered to be the case, whereas the occurrence of *pallidirostris* is extremely rare.

Nidification. This Shrike breeds in considerable numbers in Palestine, making a bulky nest of thorny twigs, grasses and roots, lined with wool only, very similar to that of our Indian Grey Shrike. This it places in bushes and low trees, preferably such as are thorny and dense, standing in open country, occasionally in thickets or orchards. The eggs number four to six and are quite indistinguishable from those of *Lanius e. lahtora*. Eighty eggs average 26·2×19·4 mm.: maxima 29·2×19·2 and 27·5×20·6 mm.; minima 24·01×8·3 mm. The breeding-season is from early March to early May.

Habits. To what extent this Shrike is migratory is not well known. Even in its most Northern habitat many birds are resident throughout the year and probably its appearance in Winter in its most Southern latitudes is due more to individual wanderings rather than to any true migration. In its habits generally it differs in no way from its nearest allies.

(709) Lanius excubitor przewalskii.

BOGDANOW'S GREY SHRIKE.

Lanius przewalskii Bogd., Wur. der Russ. Faun., p. 147 (1881) (Tashkent).
Lanius homeyeri. Blanf. & Oates, i, p. 461.

Vernacular names. None recorded.

Description. Similar to *pallidirostris*, but generally paler; the forehead, rump and upper tail-coverts much whiter and the bases of all the tail-feathers white. The secondaries generally have more black and less white than in the Allied Grey Shrike, but this character is very unreliable and some individuals have the greater part of these feathers white.

Colours of soft parts. Iris brown; bill dark horny, paler on the mandible and base of maxilla, specimens killed in the breeding-season all have the bill black; legs and feet dark horny-brown to black.

Measurements. Wing 108 to 122 mm.; tail 106 to 118 mm.; tarsus about 30 mm.; culmen 18 to 19 mm.

Distribution. Turkestan to Samarkand and Ferghana, Kuldja, Tian Shan, East Turkestan to the Gobi Desert. In Winter to South Russia and to Gilgit.

Nidification. The only clutch of eggs I have seen of this Shrike are like those of *L. e. excubitor* and measure about 26·0×19·4.

Habits. Those of the species.

(710) Lanius vittatus.

THE BAY-BACKED SHRIKE.

Lanius vittatus Valenc., Dict. Sci. Nat., xi, p. 227 (1826) (Pondicherry); Blanf. & Oates, i, p. 462.

Vernacular names. *Pachanak* (Hind.); *Choto kilatora* (Beng.); *Chenna bilinki, Venne-dega* (Tel.); *Kichang-kuravi* (Tam.).

Description. Lores, forehead, anterior crown and a broad band including and behind the ear-coverts black; posterior crown white or pale grey shading into grey on the nape and hind neck; back and scapulars deep chestnut to maroon; rump white fading into grey on the upper tail-coverts; central tail-feathers all black, the next pair with white bases and tips, the white increasing in extent on each succeeding pair until the outermost is nearly all white; wings black, the coverts narrowly edged with maroon, the primaries with a broad patch of white at the base and the secondaries narrowly edged with whitish; chin, throat and centre of the abdomen white; breast and upper abdomen fulvous; flanks ferruginous; under wing-coverts and axillaries white. The colour of the plumage of this little Shrike varies very greatly individually,

but without any relation to habitat. Some birds have the crown practically pure white, others show no white at all; some specimens have the chestnut of the back very dull, with the grey of the nape running into it. Probably the oldest birds have the maroon back deepest in colour and the posterior crown the purest white.

Colours of soft parts. Iris dark brown; bill black in adults, dark horny-brown in the young; legs and feet dusky slate to black.

Measurements. Total length about 180 mm.; wing 81 to 88 mm.; tail 80 to 94 mm.; tarsus 23 to 24 mm.; culmen about 14 mm.

Nestling. Upper parts grey tinged with rufous and barred with brown; wing-coverts grey, greyish brown or light dull chestnut edged with dark brown; quills dark brown edged with white or pale chestnut; below white with faint narrow bars on breast and flanks.

The young appear to go through a transition-stage between this and the adult plumage; the upper parts become grey with a more or less pronounced chestnut back; a line through the eye and ear-coverts brownish black; breast and underparts white suffused with buff and retaining faint brown bars on the upper breast.

Distribution. The whole of India, South to Mysore, Nilgiris, Palni Hills and North Travancore; North to the Himalayas up to 6,000 ft.; East to Behar and the drier districts of Western Bengal, Chota Nagpore, etc.

Nidification. The Bay-backed Shrike breeds throughout the Plains of India and in the Himalayas up to at least 6,000 feet, at which elevation Dodsworth took its nest in the Simla States. The nest is a small replica of that of *Lanius e. lahtora*, a deep cup made of grass mixed with almost any kind of soft material, but with the inner part of grass alone. Usually it has more cobweb used in its construction than is used by the Grey Shrike. It builds its nest in trees or high bushes in gardens, by road-sides, in thin scrub or deciduous jungle but never in heavy forest. The eggs are like those of *Lanius e. lahtora* and go through the same variations, the pink type being equally or even more rare. One hundred eggs average 20·8 × 15·7 mm.: maxima **23·1 × 16·2** and 22·1 × **17·1** mm.; minima **19·7** × 15·1 and 20·3 × **14·1** mm. The breeding-season lasts from early April to the end of July, and they lay four or five eggs, often only three, sometimes, *fide* Hume, as many as six.

Habits. This little Shrike is a bird of the open drier country frequenting gardens, cultivated and barren tracts but not entering into the more heavily forested areas. It is very tame and confiding in its ways, has a sweet song of its own and is an admirable mimic of other birds.

(711) Lanius collurioides.

THE BURMESE SHRIKE.

Lanius collurioides Less., Voy. Bélang., p. 250 (1834) (Pegu); Blanf. & Oates, i, p. 462.

Vernacular names. *Hnet-beloo* (Burmese).

Description. Lores, forehead and ear-coverts black; the black of the forehead changes to dark grey on the crown and then to paler grey on the nape; back, rump, upper tail-coverts and scapulars deep chestnut; central tail-feathers black with very narrow white tips; the next three pairs with rather broader tips, the penultimate pair white, with the inner web broadly black; the outermost pair all white with black shafts; wing-coverts nearly black with chestnut edges; primary-coverts and quills black, the latter with a broad white patch at the base; secondaries black edged with chestnut; under plumage white, sometimes almost pure with the faintest fulvous tinge and, sometimes, with a strong fulvous-chestnut wash.

Colours of soft parts. Iris pale reddish brown to dark red; bill horny-brown, black at the tip and on the culmen, fleshy at the base and on the gonys; legs and feet slate-grey to almost black.

Measurements. Total length about 220 mm.; wing 82 to 90 mm.; tail 86 to 95 mm.; tarsus about 23 mm.; culmen 13 to 14 mm.

Nestling. Above fulvous-grey washed with chestnut on the back and barred with dull black; the lower plumage is dull white with narrow bars of dull brown on breast, flanks and abdomen; the ear-coverts are brown.

Young birds are grey above changing to dull pale chestnut on the back and rump; below fulvous-white washed with chestnut on the flanks.

Distribution. Cachar, Manipur and Hills South of the Brahmaputra to Tenasserim in the South, Annam, Siam and there is also a specimen from South-West China in the British Museum collection.

Nidification. The Burmese Shrike breeds in the hills of South Assam, Burma and Siam etc., between 3,000 and 6,000 feet in the months of April to June, a few birds laying in the end of March. Harington describes the nest as "neatly made of leaves, lichen and feathers etc., covered with cobwebs, and lined with fine grass. The size of the nest varies a good deal, if placed in between branches it is much smaller and matches the tree-trunk, if concealed by leaves it is much larger." Other nests found by him later in the Bhamo Hills were made principally of grass. The eggs are of many types, the ground being white, cream, pink-buff or pale greenish and the marks consist of blotches, spots and

specks of reddish brown or grey-brown with secondary markings of neutral tint or pale lavender; generally they are distributed in a dense ring at the larger end and are sparse elsewhere but the distribution varies greatly. One hundred eggs average 21·1 × 16·4 mm.: maxima **25·0 × 17·0** and 22·1 × **18·0** mm.; minima **18·3 × 15·3** and 19·8 × **15·0** mm.

Habits. This handsome Shrike is resident throughout its range, but in the winter wanders lower down the hills almost to the foot-hills and in summer is found up to 8,000 feet. Except during the early part of the breeding-season they are bold birds not shunning observation but at this particular time they are very shy and secretive. They keep to open country or thin forest and are common in the vicinity of villages and in the cultivation round them. Their song is sweet and full and they have a large variety of other notes, both harsh and musical.

Lanius nigriceps.

Key to Subspecies.

A. Chestnut above less rich; base of tail with less white ..... *L. n. nigriceps*, p. 292.
B. Chestnut above much richer; base of tail more broadly white ..... *L. n. longicaudatus*, p. 294.

(712) Lanius nigriceps nigriceps.

THE INDIAN BLACK-HEADED SHRIKE.

Collurio nigriceps Frank., P. Z. S., 1831, p. 117 (Ganges, Calcutta, Benares).
Lanius nigriceps. Blanf. & Oates, i, p. 463.

Vernacular names. *Sakrik-pho* (Lepcha).

Description. Whole upper part of head, cheeks and neck black; upper back, shading from the black, ashy, this again merging into the light chestnut of the back, rump, scapulars and upper tail-coverts: tail tipped with pale dull chestnut, the two outermost pairs nearly all of this colour with black shafts and more or less black shading on the inner webs; wing-coverts blackish brown, with narrow rufous edges when quite fresh; primaries black with a rather small white patch at their bases; inner secondaries brown with broad chestnut edges; chin, throat and breast white grading into fulvous-chestnut on the flanks, vent and under tail-coverts; under wing-coverts and axillaries white with black bases.

Colours of soft parts. Iris dark brown; bill black in the breeding-season, but with horny-coloured base in winter; legs and feet dark slaty-black or dark brown.

Measurements. Wing 88 to 99 (1 specimen, Yunnan, 108) mm.; tail 108 to 126 mm., rarely up to 130 mm.; tarsus about 28 mm.; culmen about 16 mm. (Sikkim) to 18 mm. (Yunnan).

Young. Above fulvous-chestnut or chestnut-grey, each feather barred and edged with brown or black; below white washed with fulvous, well barred on the flanks with brown and less strongly barred on the breast. Some birds are almost unmarked below, whilst others are barred throughout distinctly.

Distribution. The Himalayas from Garhwal East to Assam, N. Chin Hills, Kachin Hills, N. Siam and Yunnan.

Nidification. The Indian Black-headed Shrike breeds in great numbers in the Hills of South Assam between 4,000 and 6,000 feet. In the Hills North of the Brahmaputra it is not nearly so common but ascends them up to 7,000 feet or perhaps even higher. It lays during April, May and June, sometimes having two broods. The nest is a very large compact cup made entirely of grass with the white feathery ends attached and so placed that all these are on the outside, making the nest look like a huge white powder-puff. It is placed in any kind of bush or small tree but, generally, more or less in the open or on the outskirts of forest, never far inside heavy forest. The eggs number four to six and range through an even greater variation than the Red-backed Shrike. The ground-colour may be pink, cream, yellowish, buff, greyish or greyish green or clear pale green; the markings consist of blotches and spots of reddish brown or light reddish on the pinker eggs or of grey-brown, greenish brown or purplish brown on the grey and green types, in each there being also a certain number of secondary markings of pale grey and neutral tint. In most eggs the markings form a ring at the larger end and are sparse elsewhere, but in some they are scattered all over the surface. Two hundred eggs average 23·6 × 17·9 mm.: maxima **26·2** × 19·0 and 24·0 × **19·2** mm.; minima **21·0** × 17·0 and 23·0 × **16·5** mm.

Habits. This fine Shrike is very common in the greater part of Assam wherever the country is at all open or wherever there is a certain amount of cultivation, even if this only means a few scattered fields of hill rice in among heavy forest. It is a bold fearless bird, in no way shunning observation and even breeding close to human habitations. It is, perhaps, the finest of all Indian songsters and, when the hen is sitting, the cock-bird will sing for a quarter of an hour at a stretch from some adjacent branch or post. The notes are very rich and full, wonderfully modulated, and the song itself varied and sustained.

It feeds principally on insects, especially grasshoppers, but does not disdain small birds and other prey, making a larder just as the English butcher-bird does but always at some distance from the nest.

In Winter it is found all over the foot-hills and also in the plains for some distance from them.

(713) Lanius nigriceps longicaudatus.

THE SIAM BLACK-HEADED SHRIKE.

Lanius nigriceps subsp. *longicaudatus* O.-Grant, Nov. Zool., ix, p. 480 (1902) (Bangkok, Siam).

Vernacular names. None recorded.

Description. Chestnut of the upper parts much richer than in the preceding bird; the patch of white at the base of the tail much larger and the tail itself generally longer. Otherwise similar to the typical form.

Colours of soft parts as in the Indian Black-headed Shrike.

Measurements. Wing 93 to 99 mm.; tail 130 to 155 mm.; tarsus about 29 mm.; culmen about 18 mm.

Distribution. Central South Siam, Tenasserim and Peninsular Siam and Burma. Two specimens sent me taken near Amherst with the nest and eggs were both of this race with tails measuring 140 and 144 mm. respectively.

Nidification. Mr. E. G. Hartert took several nests of this Shrike in Siam. He says, "The usual nesting-site is a small tree or bush in scrub-jungle or, not infrequently, a solitary 'Makam-tate' tree (*Pithecolobium dulce*) out among the paddy-fields. The nest is built at 10 to 20 feet from the ground and is a deep cup-shaped structure, composed of grass-stems and fine creepers firmly packed together, with a neat lining of roots and grasses. May and June is the nesting-season." The eggs, three to five in number, are indistinguishable from those of the last bird. Twenty-four eggs average 24·1 × 18·3 mm.: maxima **27·5 × 19·0** mm.; minima **20·3 × 17·0** mm.

Habits. Similar to those of the Indian Black-headed Shrike, but it is found in the plains and low hills during the breeding-season as well as in Winter and appears to be resident. According to Herbert and Williamson it is very common round about Bangkok.

Lanius schach.

Lanius schach Linn., S. N., ed. x, p. 94 (1758).

Type-locality: China.

Key to Subspecies.

A. Upper back more or less suffused with rufous ..... *L. s. erythronotus*, p. 295.
B. Upper back with no tinge of rufous .... *L. s. caniceps*, p. 296.

I retain *Lanius tephronotus* as a species. It has no white wing-speculum and has the tail always brown, not black. These two features are constantly present throughout all the races of *schach* from Europe to Formosa, and the absence of them in *tephronotus* seems to me of sufficient importance to warrant its specific separation.

(714) Lanius schach erythronotus.

THE RUFOUS-BACKED SHRIKE.

Collurio erythronotus Vigors, P. Z. S., 1831, p. 42 (Himalayas, Lucknow).
Lanius erythronotus. Blanf. & Oates, i, p. 464.

Vernacular names. *Maltiya latora*, *Kagala latora* (Hind.); *Yerra lilinchi* (Tel.).

Description. Forehead, lores and a broad band through the eyes and ear-coverts black; crown, nape, neck, back and a few lesser wing-coverts clear light grey merging into rufous on the lower back, rump, upper tail-coverts and scapulars; central two or three pairs of tail-feathers black tipped with rufous, outermost pair pale rufous-brown with broad rufous tips, remaining pairs intermediate in colour; wing-coverts black, the greater very narrowly edged with rufous; quills black; the outer primaries narrowly edged with rufous and all but the first three with a broad white patch at the base; inner secondaries broadly edged with rufous; below white, the flanks, vent and under tail-coverts rufous; the lower breast and sides of the abdomen are generally more or less washed with rufous.

Colours of soft parts. Iris dark brown; bill black; young birds and males in Winter have the base of the bill horny-brown; legs and feet brownish black.

Measurements. Total length about 250 to 260 mm.; wing 91 to 97 mm.; tail 100 to 113 mm.; tarsus 28 to 30 mm.; culmen about 18 to 19 mm.

Young. More rufescent throughout than the adults; the whole of the upper parts barred with black or dark brown; the under-parts fulvous, the breast and flanks with narrow wavy bars of black; the wing-feathers are very boldly edged with rufous and the black line through the eye is only faintly indicated.

Nestling like the young bird but with no black eye-line and a faint whitish supercilium.

The extent of rufous on the back varies considerably, and in specimens from the extreme North of India the whole of the back to the nape is sometimes strongly suffused with this colour. Birds from Central India, South Bombay and the Deccan are intermediate between this and the next race but, on the whole, nearer the Northern form.

Distribution. From the extreme North of India as far South, about, as Surat on the West and thence in almost a semicircular line to the mouths of the Godavary River on the East. The birds in the Southern parts of the Central Provinces are of the next race, but those from the Northern Central Province are quite typical of this one, those in between being, as we should expect, intermediate in their characteristics. It occurs commonly throughout Sind in the West and as far East as Eastern Bengal, where,

however, it is rare. It ascends the Himalayas up to at least 8,000 feet.

Nidification. The Rufous-backed Shrike breeds and is resident throughout the area recorded above from the Plains up to about 8,000 feet, its nest having been taken at this elevation near Gulmerg. The nest is a deep cup generally very compactly put together, but sometimes, for a Shrike's nest, it is very loose and untidy. The materials used are twigs, roots, grass, scraps of wool and all sorts of oddments, the lining being of grass alone and it is placed in a high bush or in a tree between four feet and twenty feet from the ground. The eggs are like those of *Lanius c. lahtora*, but 9 out of 10 have a clearer brighter ground-colour, whilst they are normally rather smaller. Eggs with a cream or pink ground, though not as rare as are red eggs of *L. c. lahtora*, are not common. Two hundred eggs average 23·7 × 18·1 mm.: maxima **27·4** × 18·0 and 25·0 × **19·5** mm.; minima **21·3** × 18·0 and 24·0 × **17·0** mm.

The principal breeding months are April, May and June, but nests and eggs may be found any time from March to September, and many birds must rear two or even three broods.

Habits. The Rufous-backed Shrike is not migratory in the true sense of the word, though it moves locally under stress of weather and food-conditions and, to some extent, vertically with the seasons. In its habits it is much like the Indian Grey Shrike but it is a much bolder bird, often having been known to attack small birds in cages as well as small birds and reptiles in a state of nature. Like all Shrikes, however, its principal food consists of large insects, such as beetles, locusts, grasshoppers, etc. It is said to have a harsh voice with no song worth the name but to be a good mimic.

(715) Lanius schach caniceps.

THE SOUTHERN GREY-BACKED SHRIKE.

Lanius caniceps Blyth, J. A. S. B., xv, p. 302 (1846) (South India).
Lanius erythronotus. Blanf. & Oates, i, p. 464 (part.).

Vernacular names. (Same as for the last bird.)

Description. Differs from the Northern Rufous-backed Shrike in having no trace of rufous on the upper back.

Measurements. Wing 87 to 95 mm.; tail 110 to 119 mm.; tarsus 28 to 29 mm.; culmen 18 to 19 mm.

Young birds and **Nestlings** are not separable from those of the last bird but are generally less rufous.

Distribution. Ceylon and South India as far North as Bombay and Poona in the West and the mouths of the Godavary River on the East. Over a very large area in Central India the birds are intermediate between the two races, varying very much individually.

Nidification. Similar to that of the last bird. The breeding-season in Ceylon seems to be February and March, in Travancore March and April, and in the Deccan May, June and July, but eggs may also be found in many other months. The eggs are in no way distinguishable from those of the Northern form, though red eggs seem to be most exceptional and I have seen none such. One hundred eggs average 22·6 × 18·0 mm.: maxima **24·9** × **19·2** mm.; minima **20·0** × 18·1 and 20·6 × **16·8**.

Habits differ in no way from those of the preceding bird.

(716) Lanius tephronotus.

THE GREY-BACKED SHRIKE.

Collurio tephronotus Vigors, P. Z. S., 1831, p. 43 (Himalayas, Gyantse, Tibet).
Lanius tephronotus. Blanf. & Oates, i, p. 465.

Vernacular names. *Bhadraya* (Nep. Hills); *Bagaha-tentha* (Nep. Plains); *Sakrik-pho* (Lepcha); *Totem* (Bhut.); *Dre-dre* (Tibet).

Description. Similar to *L. s. caniceps* but a very much darker grey, this colour extending on to the rump and lesser wing-coverts; the central tail-feathers are chestnut-brown, not black, slightly darker only than the lateral ones; there is no wing-speculum of white and the rufous edges to coverts and quills are more pronounced; below there is generally much more rufous.

Colours of soft parts. The same as in *Lanius schach.*

Measurements. Wing 96 to 106 mm.; tail 100 to 117 mm.; tarsus about 28 to 29 mm.; culmen about 17 mm.

Nestling not distinguishable from that of *L. schach.*

Young like that of the Rufous-backed Shrike but with no wing-speculum and a chestnut-brown tail.

Distribution. Gilgit, Northern Kashmir, Ladak and the greater part of Tibet to Western China; in Winter extending in India into the Punjab, United Provinces, Behar, Bengal and over the greater part of Burma as far South as Pakjan.

Nidification. The Grey-backed Shrike breeds in very great numbers in all the higher plateaus in Tibet from 10,000 to 15,000 feet. It makes a typical Shrike-like nest, a massive cup of fine twigs, grass, leaves and roots, nearly always mixed with wool and hair. It is generally lined with grass only but sometimes with wool or with wool and hair mixed. Almost any kind of site seems to satisfy this Shrike provided it is not too high. Some nests are placed low down in small thorny bushes within a foot of the ground, others in willows or small trees up to 20 feet high. The eggs number three to six, the number varying according to the year and possibly according to the food-supply. In some seasons three or four seems the normal clutch and the birds

themselves are comparatively scarce, in other years the birds swarm and clutches of six are quite common. The eggs are like those of *Lanius schach* but, as a whole, very dull-coloured, and I have only seen one egg of the pink type. Two hundred eggs average 24·9 × 18·7 mm.: maxima **27·3 × 19·3** mm.; minima **22·0** × 18·5 and 26·0 × **17·1** mm. The breeding-season lasts from May into August.

Habits. The Grey-backed Shrike is a bird of very great altitudes wandering up to 16,000 feet in Summer, whilst even in Winter many birds remain at 9,000 and 10,000 feet, though the great majority migrate down to the lower and foot hills or into the Plains themselves. As usual, the young migrate farthest afield and those found far South are nearly always immature. In their general habits they are like the rest of the genus but there is nothing on record about their song.

(717) Lanius collurio.

THE RED-BACKED SHRIKE.

Lanius collurio Linn., S. N., ed. x, p. 94 (1758) (Europe, Sweden); Blanf. & Oates, i, p. 466.

Vernacular names. None recorded.

Description. Forehead, lores and a line through the eye and ear-coverts black; above the back a faint line of white; crown, nape and neck clear grey; back, scapulars and wing-coverts dull chestnut to dull maroon; rump and upper tail-coverts grey, sometimes slightly tinged with rufous; central tail-feathers dark reddish brown to black, the lateral feathers white with a large patch of brown near the tip; concealed portions of wing-coverts brown; quills brown, the primaries narrowly, the secondaries broadly edged with rufous; lower plumage rosy-white, the chin, throat and under tail-coverts white and often without any rosy tint.

Colours of soft parts. Iris dark brown; bill and legs black.

Measurements. Wing 89 to 98 mm.; tail 74 to 80 mm.; tarsus 23 to 25 mm.; culmen 14 to 17 mm.

Nestling. Above grey or rufous-grey barred with black; below dull fulvous, mottled or squamated with dark brown.

Young bird like the adult but the breast and flanks squamated with narrow black crescentic bars.

Distribution. Practically the whole of Europe and Western Asia to Trans-Caspia and Persia and in Winter South to North Africa, Arabia and North-West India.

Nidification. Breeds during June and the last few days of May, second broods being found in July. The Red-backed Shrike makes a deep compact cup-shaped nest of grass, roots, small twigs etc., which it places in bushes, hedges or thorn-trees

at any height from three to twenty feet from the ground. The eggs number four to six or, rarely, eight and vary greatly in colour. The ground is white, pink, cream or some shade of yellow, buff or green and the markings consist of spots or blotches of various shades of red or brown, the ground-colour dominating their general tint. Three hundred and sixty eggs average 22·1 × 16·4 mm.: maxima **25·0** × 16·0 and 22·6 × **18·3** mm.; minima **18·3** × 15·0 and 22·2 × **14·0** mm. (*Hartert*).

Habits. This Shrike only wanders into Indian limits as the rarest of stragglers. Col. Butler obtained in at Deesa in Guzerat and Scully recorded it as occurring in Gilgit during migration. Since then Ticehurst has recorded several specimens from Sind, and he seems to think it is a regular visitor on the autumn migrations.

Lanius senator.

Lanius senator Linn., S. N., ed. x, p. 94 (1758).

Type-locality: Rhine.

(718) Lanius senator niloticus.

THE EASTERN WOODCHAT-SHRIKE.

Enneoctonus niloticus Bonpte., Rev. Zool., 1853, p. 439 (the White Nile).

Vernacular names. None recorded.

Description. Lores and feathers next the nostrils white; broad forehead and a line through the eyes and ear-coverts, extending down the sides of the neck, black; anterior crown, nape and hind neck bright chestnut; back black shading into grey on the rump; upper tail-coverts white; tail black with white bases and tips to each feather, the white increasing laterally until the outermost feather is all white with a black patch on the inner web; scapulars white; wing-feathers black with a broad white patch at the base of all the primaries; inner secondaries edged with whitish; below white, sometimes washed with fulvous but never strongly. This form differs from the Western Woodchat in having the white bases to the feathers much broader.

Colours of soft parts. Iris dark brown; legs and feet horny-brown to blackish.

Measurements. Total length about 180 mm.; wing 96 to 104 mm.; tail 71 to 83 mm.; tarsus about 25 mm.; culmen 14 to 15 mm.

Young. Pale grey above, barred throughout with dark brown; below white, very faintly barred on breast and flanks with wavy lines of brown; wing-feathers broadly edged with rufous-white; inner secondaries and scapulars mottled and barred with pale rufous and white; tail like that of the adult.

Nestling like the young bird but more definitely barred below.

Distribution. Breeding in Persia and Palestine and in Winter South to N.E. Africa, Arabia and very doubtfully to India. Ticehurst has recorded that the specimen said by Murray to have come from Daolutpur, in Sind, was really sent him by Cumming from Fao. It is, however, certain to be obtained at odd times on the Afghan-Baluchistan frontier and a specimen sent to me from Quetta for identification was undoubtedly this bird.

Nidification. The Eastern Woodchat breeds in some numbers in the hills of Palestine during May and June and in Mesopotamia and Persia in April and May. In the first-named country it builds in olive-groves, placing its nest in these trees between three feet and twenty feet from the ground. The nest is a compact massive cup made almost entirely of flowering weeds, the flowering ends placed outside so that the nest is very conspicuous. The eggs number four to six and are replicas of those of the Red-backed Shrike but average rather duller, whilst the pink or cream type is exceptional. Forty eggs average 22·8 × 16·8 mm.: maxima **25·0** × 18·0 and 24·8 × **18·1** mm.; minima **21·3** × 16·1 and 22·8 × **15·5** mm.

Habits. This Shrike seems to prefer very open country without forest but with a sufficiency of bushes and orchards. It frequents the more bafren and stony hill-sides in the Judæan Hills and similar country in Persia and Mesopotamia, not being found, except as a Winter visitor, in the open plains of the latter country. It is not shy and is said to have a rather sweet song, though its ordinary notes are harsh and discordant.

Lanius cristatus.

Key to Subspecies.

A. No white patch on the primaries.
  a. Crown of head practically the same colour as the back.
    a'. A white supercilium and forehead. — *L. c. cristatus*, p. 300.
    b'. No supercilium or if present very slight and fulvous ..... — *L. c. isabellinus*, p. 302.
  b. Crown of head grey ..... — *L. c. lucionensis*, p. 302.
B. A small white patch at the base of the primaries ..... — *L. c. phœnicuroides*, p. 303.

(719) Lanius cristatus cristatus.

THE BROWN SHRIKE.

Lanius cristatus Linn., S. N., ed. x, p. 93 (1753) (Bengal); Blanf. & Oates, i, p. 468.

Vernacular names. *Kákháte* (Beng.); *Ker-khelta* (Hind.); *Batte-gada, Batte-kiriti-gada* (Tel.); *Huet-beloo* (Burm.).

Description. Forehead and a well-defined supercilium white; ores and a line through the ear-coverts black; upper plumage nd wing-coverts brown, strongly tinged throughout with Indian ed and still purer red on the crown; upper tail-coverts tinged ith rufous; tail rufous-brown, obsoletely cross-barred with rown and tipped paler; wing-coverts and quills brownish black argined with rufous-fulvous; chin, throat and cheeks white emainder of lower plumage bright pale fulvous, richest on the anks.

Colours of soft parts. Iris dark brown; bill bluish horny, rowner on the terminal half and dark at the tip; legs slaty-rown, claws black.

Measurements. Total length about 190 mm.; wing 83 to 91 mm.; tail 75 to 87 mm.; tarsus about 25 mm.; culmen about 15 mm.

Young birds are barred with black on the upper parts; the rufous margins to the wing-feathers are very broad; the sides of the neck, the flanks and breast are also squamated with narrow black crescentic bars.

Nestling like the young bird but even more boldly barred with black.

Distribution. In Summer throughout Siberia from Lake Baikal to Kamchatka and possibly the Hills of Northern China. In winter it is found practically throughout Northern India as far South as Mt. Abu on the West and Orissa on the East. It is found over all the Indo-Chinese countries and South China. A few birds are resident in the Eastern Himalayas.

Nidification. Taczanowski describes the nest and eggs taken by him as similar to those of *L. collurio*. I took a good many nests in the North Cachar Hills and these were all massive but not very deep cups of grass, roots and weed-stems, lined with grass. In nearly every instance they were placed in small trees on the outskirts of forest and not on trees and bushes in the open. The eggs are exactly like those of *Lanius n. nigriceps* but considerably smaller, though the nests of the two species are so unlike one another. Fifty eggs average 21·8 × 16·9 mm.: maxima **23·8** × 17·1 and 23·0 × **18·0** mm.; minima **20·0** × 17·0 and 22·0 × **15·2** mm. The breeding-season is from the end of April to the end of June.

Habits. The Brown Shrike is much more a bird of well-wooded tracts than are most species of this genus and is often found in light forest and the outskirts of evergreen forest when in India. In its Northern habitat it is said to frequent marshes and bush-covered plains near water but not to enter the surrounding forests. It is an active, quicker Shrike in its movements than its larger relations and will occasionally seize an insect on the wing as a Flycatcher does.

(720) Lanius cristatus lucionensis.

THE PHILIPPINE SHRIKE.

Lanius lucionensis Linn., S. N., ed. xii, p. 135 (1766) (Luzon); Blanf. & Oates, i, p. 469.

Vernacular names. None recorded.

Description. Differs from the Brown Shrike in having the whole anterior crown grey and the posterior crown grey shading into the red of the back; the under surface is generally a darker fulvous, though this varies greatly.

Colours of soft parts as in the Brown Shrike.

Measurements. *Wing 87 to 92* mm.; tail 77 to 89 mm.; tarsus about 24 to 25 mm.; culmen about 15 mm.

Young and **Nestlings** may at all stages be separated from *L. c. cristatus* by the greyer head.

Distribution. Summer, Eastern Siberia and Eastern China, Corea and Manchuria. Winter, South China, Burma, Indo-Chinese countries, Philippines, Malay Peninsula, Andamans, Nicobars, etc.

Nidification. Mr. J. D. La Touche took many nests of this Shrike both at Chinkiang and in N.E. *Chihli*. He describes them as "large stout cups composed of downy grass tops, feathers, twigs, grass-stems and, in two cases, to a great extent, of pheasants' feathers, said to have been all placed in trees at some distance from the ground." The breeding-season is June and July. Four seems to be the maximum number laid, and generally only three. They are like small, pale and rather grey types of eggs of the Red-backed Shrike but show much less variation in tint of ground-colour than is usual in Shrikes' eggs, this being almost invariably a very pale yellowish or greenish white. Fifty eggs average 20·0 × 16·4: maxima **23·6 × 17·8** mm.; minima **20·8** × 17·2 and 22·4 × **16·0** mm.

Habits. They are, according to La Touche, very voracious birds and he says he has seen them with a locust held in each foot and one in the bill. He succeeded in rearing young birds in captivity, the young male uttering a very sweet song before it was a year old.

(721) Lanius cristatus isabellinus.

THE PALE BROWN SHRIKE.

Lanius isabellinus Hempr. & Ehr., Symb. Phys., Aves, fol. e, note (1829) (Kampada, Arabia); Blanf. & Oates, i p. 467.

Vernacular names. None recorded.

Description. Above like *L. c. cristatus*, but much paler; no grey on forehead and supercilium absent or, if present, very small and

fulvous in colour; below rosy-buff from chin to under tail-coverts, albescent on the middle of the abdomen.

Colours of soft parts. Iris dark brown; bill black in the breeding-season, dark horny with paler, more fleshy, base and gonys in the winter; legs and feet horny- to slaty-brown.

Measurements. Wing *86 to 94 mm.*; *tail 64 to 79* mm.., 82 in one specimen; tarsus about 25 mm.; culmen 14 to 15 mm.

Nestling and **Young** like those of the Brown Shrike but much paler, the rosy tint of the lower parts is not visible in the young.

Distribution. *Mongolian* and Daurian Steppes to East Turkestan. In Winter South to Persia, Afghanistan, Baluchistan, North-West India, Arabia and North-East Africa.

Nidification. The Pale Brown Shrike breeds in the mountains of Turkestan and Russian collectors have taken numerous nests. These are described as typical Shrikes' nests, deep cups made of grass and twigs and lined with grass or vegetable down. The nests are usually placed in bushes and often quite low down. The eggs, which number four to six, are like those of the Red-backed Shrike, but smaller and the pink or cream type seems to predominate. Forty eggs average 23·5 × 16·8 mm.: *maxima* **24·1** × 17·2 and 24·0 × **17·3** mm.; *minima* **21·0** × 16·9 and 22·4 × **16·0** *mm.*

Habits. This is a Shrike of sandy and stony desert places with scanty grass and scrub cover. Its habits generally are those of the genus and call for no special remark.

(722) Lanius cristatus phœnicuroides.

THE RUFOUS SHRIKE.

Lanius phœnicuroides Severtz., J. f. O., 1873, p. 347 (Tashkent); Blanf. & Oates, i, p. 468.

Vernacular names. *Lal lahtora* (Quetta).

Description. Similar to the Pale Brown Shrike but darker above, with more black on the lores and ear-coverts and with some signs always of a white supercilium often extending on to the forehead; below it has the same rosy tinge as in the Pale-brown Shrike but is much more white; there is always a small patch of white at the base of the primaries.

Colours of soft parts as *L. c. isabellinus.*

Measurements. Wing 90 to 96 mm.; tail 72 to 82 mm.; tarsus about 25 mm.; culmen about 15 mm.

Nestlings and **Young** not separable from those of the preceding race.

Distribution. Breeding in Trans-Caspia, West Turkestan, South-West and East Persia, Baluchistan and Afghanistan. In Winter it wanders South and is possibly more often found in

India than is recognised at present. I have seen specimens from Sind, Punjab and one from Cachar.

Nidification. General Betham found this Shrike breeding in considerable numbers round about Quetta, between 5,000 and 7,000 feet in May and June. The nests are said to be "massive cup-like structures of the usual Shrike-type built of grass and all sorts of oddments, generally lined with some soft material, such as seed-down or wool and the bird has a penchant for adding scraps of cloth whenever these are available. They are nearly always placed in low thorny bushes and, though easily found, are hard to get at. Sometimes they are placed in road-side trees between six and fourteen feet." The eggs number four to six and are like those of *Lanius collurio* but smaller. They are bright clean-coloured eggs and the cream and pink types greatly predominate. Sixty eggs average 22·1×17·4 mm.: maxima **24·0**×17·0 and 23·2×**17·2** mm.; minima **21·0**×17·0 and 21·3×**15·9** mm.

Habits. The Rufous Shrike frequents open stony ground where there are scattered thorn-bushes. General Betham says that its habits are quite typical of the genus: it is generally seen perched up on some high thorn-bush, whence it pounces down on passing insects. It feeds principally on grasshoppers and locusts but eats any kind of insect and also small birds, lizards, etc. Its ordinary notes are harsh and unpleasant but its song very sweet and full.

(723) Lanius tigrinus.

THE THICK-BILLED SHRIKE.

Lanius tigrinus Drapiez, Dict. Class. Hist. Nat., xii, p. 523 (1828) (Java); Blanf. & Oates, i, p. 470.

Vernacular names. *Mozu* (Japan).

Description. Forehead, lores, round the eyes and ear-coverts black; crown, nape, neck and upper back dark grey; lower back, scapulars, wing-coverts, rump and upper tail-coverts chestnut barred with black; tail reddish brown, obsoletely barred with darker and all but the central feathers tipped with white, preceded by a narrow irregular mark of blackish; below white; the posterior flanks barred brown and dull chestnut; the thighs barred black and white.

Colours of soft parts. Iris brown; edges of eyelids black; more or less of both mandibles pale plumbeous or pale dull blue; legs and feet pale plumbeous blue, lavender-blue, sometimes almost smalt-blue (*Hume and Davison*).

Measurements. Total length about 175 mm.; wing 81 to 85 mm.; tail 65 to 71 mm.; tarsus about 24 mm.; culmen about 15 mm.

Young. Whole upper surface dull chestnut barred throughout with black; eye-streak absent or very small; below white, the breast and flanks squamated narrowly with blackish and tinged with cream.

Distribution. From Ussuri to Korea, Northern China, Japan. In Winter to South China, the Indo-Chinese countries and Siam, Tenasserim, Malay Peninsula and Sumatra.

Nidification. The Thick-billed Shrike breeds in some numbers in Japan, where Alan Owston's collectors found their nests both on Mt. Fuji and also in Shensu. The nests are described as the usual deep cups made of very miscellaneous articles but chiefly of grass and small twigs and they appear to be most often placed in low cherry and other fruit-trees in gardens and orchards. The eggs number four to six and are like those of *Lanius collurio*, the pink type being more numerous than the others. As a series they are bright, richly coloured eggs with bold markings. Fifty eggs average 22·2×16·7 mm.: maxima **24·1**×17·2 and 22·0×**17·8** mm.; minima **21·2**×16·7 and 22·4×**15·3** mm.

They breed during May and June.

Habits. Those of the genus but this Shrike prefers well-wooded though open country and is not a frequenter of the deserts and more arid stony hills. It is often found round about villages and cultivation. Alan Owston recorded it as very rarely breeding in Japan except in certain years, when it was, on the contrary, very numerous during the Summer, especially frequenting orchards. It has a sweet and powerful song.

Genus HEMIPUS.

Hemipus Hodgs., P. Z. S., 1845, p. 32.

Type, *H. capitalis*.

The genus *Hemipus* contains two Indo-Malayan species which are found within the area of this work.

In *Hemipus* the sexes differ in colour. The bill is about half the length of the head, very much depressed and rather wide and the nostrils are nearly hidden by hairs; the wing is fairly long and pointed and the tail-feathers graduated.

Key to Species.

A. Tail black with white tips lateral feathers and a white wing-bar ..... *H. picatus*, p. 305.
B. Tail and wings with no white tips or bars. *H. hirundinaceus*, p. 308.

Hemipus picatus.

Key to Subspecies.

A. Head black .....
  a. Back black like the head ..... *H. p. picatus*, ♂, p. 306.
  b. Back brown, contrasting with head.... *H. p. capitalis*, ♂, p. 307.
B. Head brown ..... *H. p. picatus*, ♀, p. 306. *H. p. capitalis*, ♀, p. 307.

blotches are reduced to fine specks. They measure about 16·3×13·0 mm.: maxima 17·2×13·3 and 15·9×13·7 mm.; minima 15·0×13·0 and 16·0×12·4 mm. The breeding-season is from April to June.

Habits. Those of the last bird, but this race keeps more exclusively to fairly heavy forest during the breeding-season. In winter it is found in the foot-hills of Assam as well as in the plains in their immediate vicinity.

(726) Hemipus hirundinaceus.

THE MALAY PIED SHRIKE.

Muscicapa hirundinacea Temm., Pl. Col., iii, p. 51 (1824) (Java).
Hemipus obscurus. Blanf. & Oates, i, p. 473.

Vernacular names. None recorded.

Description.—Adult male. Whole upper plumage, wings and tail glossy black; the feathers of the rump with broad pure white edges, making a broad band across this part; below white, the breast and flanks vinous grey; the outermost tail-feather is edged with white all round; shoulder of wing, axillaries and under wing-coverts white.

Colours of soft parts. Iris dark brown; bill and feet black.

Measurements. Total length about 150 mm.; wing 62 to 67 mm.; tail 50 to 53 mm.; tarsus 13 mm.; culmen 13 to 14 mm.

Female. Black of upper plumage replaced by dark brown, otherwise as in the male.

Distribution. The extreme South of the Malay Peninsula to Peninsular Burma and Siam. Once in the North Cachar Hills in Assam.

Nidification. A nest brought to me by a Naga in Laisang in 1888 was a typical *Hemipus* nest, a shallow cup of fine grasses bound together with cobwebs and placed in a small branch of a tree in evergreen forest about six feet from the ground. The eggs were not *Hemipus* eggs and I do not therefore describe them, though the male bird was brought in still hanging from the noose set on the nest and the female was caught immediately after, both specimens being now in the Museum in Sophia.

Habits apparently differing in no way from those of others of the genus.

Genus TEPHRODORNIS.

Tephrodornis Swainson, Faun. Bor.-Amer., Birds, App. p. 482 (1831).

Type, *T. virgata.*

In the genus *Tephrodornis* the bill is very strong, three-quarters the length of the head, strongly notched; the nasal bristles or hairs are very numerous and entirely conceal the nostrils; the wing is rather rounded and the tail is short and square; the feet are much more feeble than in *Lanius*; the feathers of the rump are exceedingly ample, but they are soft and not spinous as in the *Pericrocotidæ*. In our two Indian species one has the sexes alike and in the other they differ slightly.

Key to Species.

A. Outer tail-feathers brown tipped with rufous; wing over 100 mm. ..... *T. pelvica*, p. 309.
B. Outer tail-feathers largely white; wing under 100 mm. ..... *T. pondiceriana*, p. 312.

Tephrodornis pelvica.

Key to Subspecies.

A. Crown and nape ashy-grey; upper back ashy-brown. ..... *T. p. pelvica*, p. 309.
B. Crown and nape dark bluish-ashy, not differing markedly from the upper back .. *T. p. sylvicola*, p. 311.

(727) Tephrodornis pelvica pelvica.

THE NEPAL WOOD-SHRIKE.

Tenthecа pelvica Hodgs., Ind. Rev., i, p. 477 (1837) (Nepal).
Tephrodornis pelvicus. Blanf. & Oates, i, p. 473.

Vernacular names. *Vohpigli* (Mikir); *Ramnun-pho* or *Rabnion-pho* (Lepcha).

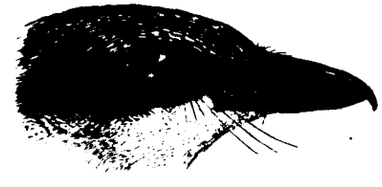


Fig. 48.—Head of *T. p. pelvica.*

Description. Lores and a line through the eye to behind the ear-coverts black; crown and nape ashy-grey, changing to ashy-brown on the back, wings and tail; rump whitish, barred with black and ashy-brown; the shorter tail-coverts white, the longer ashy-brown barred with black; tail ashy-brown, tipped narrowly with pale rufous and subtipped blackish; most of the coverts and inner wing-quills tipped paler; chin, throat and breast pale ashy-fawn, fading to white on the centre of the abdomen and ear-coverts.

(724) Hemipus picatus picatus.

THE BLACK-BACKED PIED SHRIKE.

Muscicapa picata Sykes, P. Z. S., 1832, p. 85 (Deccan).
Hemipus picatus. Blanf. & Oates, i, p. 471.

Vernacular names. *Choto kala Latora* (Hind.).

Description.—Adult male. Whole upper plumage glossy black, the feathers of the lower back narrowly and those of the rump broadly edged with white, making a white band above the tail-coverts; the lateral tail-feathers tipped with white, this increasing in width to the outermost; wing-feathers black, the median coverts and the inner secondaries broadly edged with white and the innermost greater coverts white also on the inner webs; chin, cheeks and sides of neck, running up in a semi-collar, white; remainder of lower plumage dull vinaceous brown.

Colours of soft parts. Iris hazel to dark brown; bill black; legs and feet plumbeous brown, the claws almost black.



Fig. 47.—Head of *H. p. picatus*.

Measurements. Total length about 140 mm.; wing 56 to 64 mm.; tail 51 to 57 mm.; tarsus about 13 mm.; culmen about 11 mm.

Female. Whole upper plumage dark brown instead of black; tail as in the male.

Nestling brown above, barred with rufous and black; below fulvous squamated with brown.

Distribution. Ceylon, South-Western India from Cape Comorin to Bombay; Nilgiris and hills of Mysore, Deccan, Bengal, Behar, Tippera, Chittagong, practically the whole of Burma except the extreme North, Malay States, Borneo, Java and Sumatra. Of the Annam birds some are of this and some of the next race.

Nidification. The Black-backed Pied Shrike breeds in March, April and May in the Western Ghats, where nests were obtained by Messrs. J. Davidson and T. R. Bell, some of which have been sent to me. The nests are small shallow saucers made of roots, fine twigs and perhaps a scrap or two of grass, lichen or moss all neatly and strongly fastened together with cobwebs. Nearly all the nests are built in cotton-trees, generally about ten or twelve feet from the ground but sometimes as high as 30 feet up and; though the trees are leafless, they are very hard to spot as they

are built on the upper surface of one of the outer branches. Even when found they are sometimes almost impossible to get at. The eggs number two or three only; the ground-colour is a pale greenish white and they are thickly and boldly blotched with inky-black and with underlying marks of grey. They measure about 15·0 × 12·5 mm.

Habits. This little Shrike is curiously like a Flycatcher in its ways, catching insects on the wing in little sallies from a branch or post but occasionally seizing them on the ground in the usual Shrike-like manner. It frequents both tall tree-forest and mixed scrub and small tree-cover, often little more than thin bush jungle. In the non-breeding season it is found in quite open country and even in gardens and village cultivation.

(725) Hemipus picatus capitalis.

THE BROWN-BACKED PIED SHRIKE.

Muscicapa capitalis McClelland, P. Z. S., 1839, p. 157 (Assam)
Blanf. & Oates, i, p. 472.

Vernacular names. *Vigum-pho* (Lepcha).

Description.—Adult male. Similar to *H. p. picatus*, but with the back, rump and scapulars brown instead of black.

Colours of soft parts as in the preceding bird.

Measurements. Wing 60 to 67 mm.; tail 52 to 60 mm. tarsus 13 to 14 mm.; culmen about 11 mm.

Female. Young and **Nestling** not distinguishable from *H. p. picatus*.

Distribution. Himalayas, Kumaon to East Assam, North and South of the Brahmaputra, Manipur and Northern Chin Hills North Kachin Hills, North and South Shan States, Yunnan Annam, Cochin China and Yuen Chang in China.

Although the very great majority of *H. p. picatus* and *H. p. capitalis* are confined to the localities noted against their respective distributions, there are curious occurrences of each in the other's habitat. Thus there are perfectly typical specimens of *picatus* from Darjeeling and Mount Victoria in the Chin Hills and an equally typical specimen of *capitalis* from Malabar. These may be wanderers from their own areas but are more likely to be aberrant specimens.

Nidification. Breeds in the Himalayas between 3,000 and 7,000 feet in forest, making a nest exactly like that of the Black-backed Pied Shrike. The eggs two or three in number, generally the latter, are of two types, one pale greenish white marked with blackish like the eggs of the last bird, the second pinkish white marked in the same manner but with primary markings of brick-red and with secondary blotches of lavender and neutral tint. Occasionally the eggs are but sparsely marked or the normal

Colours of soft parts. Iris bright golden-yellow; edge of the eyelids plumbeous-blue; bill black; legs and feet bluish plumbeous to dark plumbeous-brown.

Measurements. Total length about 230 mm.; wing 116 to 120 mm.; tail 82 to 90 mm.; tarsus about 20 to 21 mm.; culmen about 20 mm.

Female. Like the male, but with the head the same colour as the back and the eye-band brown.

Colours of soft parts. Iris glaucous blue to yellowish brown; bill brown, the base and gonys pale yellowish horny; feet dull plumbeous. Very old females sometimes attain a wholly black bill.

Young like the female but barred everywhere above with blackish, the wing-feathers edged with fulvous and the inner quills barred with dark brown; the head and neck are spotted with white and there are a few similar white spots on the back.

The iris is a dull grey-blue.

Distribution. Himalayas from Nepal to Eastern Assam, practically the whole of Burma in suitable localities; the Northern parts of the Malay Peninsula; Shan States, Yunnan, Siam and Cochin China. In the South of the Malay States it is replaced by *T. p. gularis*, a race very closely allied to *T. p. sylvicola*.

Nidification. In the Hills South of the Brahmaputra this Shrike breeds in April and May in dense forests of evergreen. The nest is a shallow cradle of roots, fine twigs and tendrils fastened together with cobwebs and decorated with lichen and scraps of moss; the lining consists of a few fine roots only. It is not in the least like that described in 'Nests and Eggs,' which was assuredly a Shrike's nest, but is like that of *Hemipus* or *Tephrodornis pondiceriana*. The site selected seems to be always one close to some tiny stream and the nest is placed in a horizontal fork or on the upper surface of a branch five to ten feet from the ground. The eggs number two or three and in character are like large Minivets', though of two types. One has the ground-colour white, faintly tinged with green or buff, the markings consisting of numerous large spots and small blotches of vandyke-brown with secondary spots of neutral tint. The second type has the markings more longitudinal and so numerous as to run into one another as in the eggs of *Pericrocotus erythropygius*. In shape they are broad ovals and they measure about 22·0 × 17·8 mm.

Habits. In the non-breeding season the Wood-Shrike keeps in small flocks consisting of the parent birds and their last brood, two families sometimes joining forces. They are excessively noisy birds, constantly calling and chattering to one another exactly as do birds of the genus *Gampsorhynchus* and they have, also, the habit of playing at follow-my-leader from one branch to another in the bamboo or other thin jungle which they frequent, by preference, at this season. They feed both on trees and bushes, and occasionally on the ground but they never perch like Shrikes on a look-out point of vantage and seize passing insects, always hunting for them among the living foliage or fallen leaves. In Winter they are most common from the foot-hills up to about 2,000 feet, in Summer ascending some 2,000 feet higher and breeding only in the deepest forests. I have never heard them utter anything one could call a song.

(728) Tephrodornis pelvica sylvicola.

THE MALABAR WOOD-SHRIKE.

Tephrodornis sylvicola Jerdon, Madr. Journ. L. S., x, p. 236 (1839) (Malabar Coast); Blanf. & Oates, i, p. 474.

Vernacular names. *Phari latora* (Hind.).

Description.—Adult male. Differs from the male *T. p. pelvica* in being dark bluish ashy on the crown, changing to dark ashy-brown on the other upper parts; below it is also much darker vinous ashy on the breast and flanks.

Colours of soft parts. Iris oil-yellow to bright golden-yellow; bill black; legs and feet dark plumbeous or bluish plumbeous.

Measurements. Wing 111 to 119 mm.; tail 76 to 85 mm.; tarsus about 20 mm.; culmen about 20 mm.

Female. Upper parts dark brown, the head and back concolorous; the eye-band brown and the breast fulvous ashy or brownish ashy.

Colours of soft parts. Iris dull pale blue-grey; bill brown; legs and feet dark plumbeous.

Distribution. The West Coast of India from the extreme South almost to Bombay City, Nilgiris and adjoining Hills, Nelliampathy Hills etc. up to nearly 6,000 feet.

Nidification. The Malabar Wood-Shrike breeds from March to June, during which months nests with eggs have been found by Messrs. Bell and Davidson (Bombay Pres.), Kinloch (Nelliampathy Hills), and Mr. J. Stewart (Travancore). The nest is exactly like that of *T. p. pelvica* and is apparently always placed in a tree in thick forest, often in one growing in a densely wooded ravine running through lighter forest. The eggs seem invariably to be two only, and are like the first type described as those of the preceding race. They measure about 22·0 × 18·1 mm.

Habits. Much the same as those of the Nepal Wood-Shrike, but unlike that bird they prefer dense forest to bamboo-jungle and light scrub, even in Winter.

Tephrodornis pondiceriana.

Key to Subspecies.

A. Upper plumage ashy-brown.
  a. Darker, lores and eye-streak dark brown..... *T. p. pondiceriana*, p. 312.
  b. Paler, lores and eye-streak pale brown. *T. p. pallida*, p. 314.
B. Upper plumage ashy-grey... ..... *T. p. affinis*, p. 313.

(729) Tephrodornis pondiceriana pondiceriana.

THE INDIAN COMMON WOOD-SHRIKE.

Muscicapa pondiceriana Gmel., S. N., i, p. 939 (1789) (Pondicherry, Coromandel Coast)
Tephrodornis pondicerianus. Blanf. & Oates, i, p. 475 (part.).

Vernacular names. *Tarti tuya* (U.P.); *Chu-dukka* (Beng.).

Description.—Adult male. A supercilium from the front of the eye, very broad posteriorly, white; lores, cheeks and ear-coverts blackish brown; upper plumage and visible portions of wings ashy-brown; a white band across the rump formed by the tips of the feathers of this part; upper tail-coverts black; tail dark brown, the two outermost pairs of feathers white except for a patch of brown at the extreme base and a similar small one near the tip, the remaining lateral feathers edged with white; lower plumage ashy-grey, almost white on the chin, throat, abdomen and vent and quite so on the lower tail-coverts.

Colours of soft parts. Iris yellowish brown, dull olive-green or light greenish brown; eyelids plumbeous; bill horny-brown to dark horny-brown, mouth and corner of commissure fleshy-yellow; legs and feet dark plumbeous-brown.

Measurements. Total length about 160 to 170 mm.; wing 83 to 91 mm.; tail 61 to 67 mm.; tarsus about 20 mm.; culmen about 17 mm.

Female similar to the male but with the eye-streak paler.

Nestling brown, spotted above with fulvous-white, with edges faintly darker than the surrounding brown; wing-coverts boldly tipped with white, the greater coverts and innermost secondaries with longitudinal black submargins and streaks; below fulvous-white with brown spots, most numerous on the breast.

Distribution. All India, except the parts inhabited by the next two races; Burma, South to Tenasserim, where it is rare, Siam, Annam.

Nidification. The Common Wood-Shrike breeds on the West Coast of India from March to June and in the North-East portion of its habitat from May to July but in those parts of the country where it is very common, as in Poona, nests may be found in almost any month from February to September. It makes a small very compact cup-shaped nest, sometimes rather flat and shallow, of fine stems of weeds, grasses and roots, well bound together with cobwebs and placed in a fork of a tree in open country, hedges, gardens and orchards but never, apparently, in heavy forest. The eggs number three or four and in ground-colour vary from white to very pale buff or pale green; the markings in the paler eggs consist of specks and spots of almost black and in the darker eggs of blotches and smudges of various shades of brown; in both types there are secondary or underlying blotches of pale neutral tint. Fifty eggs average 19·3×15·3 mm.: maxima 21·0×13·8 and 19·3×16·2 mm.; minima 17·7×15·3 and 21·0×13·8 mm.

Habits. The Common Wood-Shrike is a bird of open country, thin scrub, bamboo-jungles or deciduous forest and is seldom, if ever, found in dense, humid, evergreen forest. It is found in small family-parties of four to half a dozen. In Behar it haunts quite open fields and plains but on the West Coast seems to keep to better-wooded tracts. It does not descend to the ground, nor does it ever catch insects on the wing as the birds of the genus *Hemipus* do but hunts the leaves and branches of bushes and trees for its insect-prey. It has a pretty, but not powerful, little song, which it sings in the breeding-season perched on some branch high up in a tree.

(730) Tephrodornis pondiceriana affinis.

THE CEYLON WOOD-SHRIKE.

Tephrodornis affinis Blyth, J. A. S. B., xvi, p. 473 (1847) (Ceylon).
Tephrodornis pondicerianus. Blanf. & Oates, i, p. 475 (part.).

Vernacular names. *Ula pitta* (Tel.)

Description. Differs from the Indian form in being much more grey and in having the white supercilium smaller. The tail is very short.

Colours of soft parts as in the other races.

Measurements. Wing 84 to 87 mm.; tail 49 to 56 mm.; tarsus about 18 mm.; culmen 16 to 19 mm.

Distribution. Ceylon only.

Nidification. Very similar to that of the preceding race. Messrs. W. E. Waite and W. A. A. Phillips describe the nest as a shallow cup of fibres decorated outside with chips of bark and lichen, and well bound with cobwebs to the fork of the tree in which it is placed. The eggs are quite indistinguishable from those of the other races, but only number two or three. Fifty eggs average 19·0×15·1 mm.: maxima 21·0×16·0 mm.; minima 18·1×15·0 and 18·5×14·3 mm.

The breeding-season lasts from January to July.

Habits. This Wood-Shrike is found from the level of the Plains up to 5,000 feet and occasionally up to 6,000 feet.

Young. Above much browner and lighter than in the adult, the wing-coverts tipped with fulvous; below barred white and dark brown from chin to under tail-coverts.

Nestling. Above chestnut, wings spotted with fulvous; below mottled chestnut and blackish.

Distribution. South Tenasserim and South-East Siam, down the Malay Peninsula.

Nidification. Unknown.

Habits. According to Davison this extraordinary bird is only found in evergreen forests. He writes, "It is a very restless bird flying about from tree to tree and branch to branch incessantly, sometimes close to the ground, sometimes high up. Even when seated, it seems unable to keep its body quiet, but keeps bobbing and bowing. It always keeps its crest fully erected. Its note is a sharp clicking metallic rattle."

Family PERICROCOTIDÆ.

The name of the genus *Campephaga* being unfortunately pre-occupied, it is impossible for the family to be called after it. The next oldest genus is *Pericrocotus*, and the family will therefore have to be known by the above name. The characteristics are those of the *Laniidæ* but the feathers of the rump have stiffened, spiny shafts. As a whole, also, the wings are proportionately longer and more pointed and the legs and feet are comparatively weaker.

Key to Genera.

A. Tail long and strongly graduated, outermost feathers less than half the length of tail .... [p. 317. PERICROCOTUS,

B. Tail not very long, less graduated, the outermost feathers more than three-quarters the length of tail.

a. Secondaries shorter than longest primary by about length of tarsus ..... LALAGE, p. 336.

b. Secondaries shorter than longest primary by about twice the length of tarsus ..... GRAUCALUS, p. 342.

Genus PERICROCOTUS.

Pericrocotus Boie, Isis, 1823, p. 972.

Type, *P. miniatus*.

This genus contains a large number of species, extending over practically the whole Oriental Region, which are remarkable for their brilliant plumage, in which red or yellow is the dominant colour.

The bill is about half the length of the head, strong, hooked and notched; the nostrils are concealed by plumes; the wing is long and pointed; the tail is long and much graduated, and the feet are weak.

Key to Species.

A. Tail black and red; upper tail-coverts red.

a. Crown and back glossy black. [p. 318.

a'. Innermost secondaries with oval red drops. *P. speciosus*, ♂,

b'. Innermost secondaries with no oval red drops. [p. 323.

a''. Under wing-coverts and axillaries crimson..... *P. brevirostris*, ♂,

According to Legge, its habits are very different to those of its more northern cousins. It is less gregarious, being generally found in pairs and it often sallies after insects, catching them on the wing as Flycatchers do. It is said to have a pretty song constantly indulged in and to be very tame and confiding.

(731) Tephrodornis pondiceriana pallida.

THE SIND WOOD-SHRIKE.

Tephrodornis pondicerianus pallidus Ticehurst, Bull. B.O.C., xli, p. 56 (1920) (Larkhana, Sind).

Vernacular names. *Keroula* (Hind.).

Description. Differs from *T. p. pondiceriana* in its generally paler coloration and the lighter brown lores, eye-streak and ear-coverts.

Colours of soft parts and **Measurements** the same as in the Common Wood-Shrike.

Distribution. Sind, Punjab, Simla Hills, Rajputana and the Western part of the United Provinces and Central Provinces. Specimens from the two latter Provinces are intermediate and could be placed with either race.

Nidification. This differs in no way from that of the Common Wood-Shrike and the nest and eggs are quite indistinguishable from those of that bird. The breeding-season seems to last from February to June.

Habits. Those of the species.

Genus PLATYLOPHUS.

Platylophus Swainson in Faun. Bor.-Am., p. 482 (1831).

Type, *P. galericulatus*.

The genus *Platylophus* is characterized by a remarkable long crest of broad feathers. The bill is about equal to three-quarters of the head in length and is strongly curved, notched, laterally compressed and deep; the nostrils are concealed by numerous closely set hairs; the wing is comparatively short and very rounded; the tail is ample and well graduated and the tarsus is short and stout. The sexes are alike. Only one species is found within our limits.

(732) Platylophus galericulatus ardesiacus.

THE TENASSERIM JAY-SHRIKE.

Lophocitta ardesiaca Cabanis, Mus. Hein., i, p. 219 (1850) (Malay Peninsula).
Platylophus ardesiacus. Blanf. & Oates, i, p. 477.

Vernacular names. None recorded.

Description. Head, crest and neck almost black with a large white neck-patch and a small white spot above and below the back of the eye; the crest is obsoletely cross-rayed with black; upper plumage, wings and tail very dark brown, the wing-quills edged with rather more rufous-brown; below smoky-brown to dark slaty-brown.



Fig. 49.—Head of *P. g. ardesiacus*.

Colours of soft parts. Iris reddish brown, "rhubarb-brown to litharge-red" (*Hume and Dav.*); eyelids dark brownish black; bill, legs and feet black.

Measurements. Total length about 280 mm.; wing 132 to 145 mm.; tail 112 to 127 mm.; tarsus about 34 mm.; culmen 29 to 30 mm.; crest 87 to 99 mm.

Young males are like the female. The change of plumage from yellow to red in all the Minivets is very interesting, as specimens are numerous which show signs of attaining an increase of red in the old feathers prior to the moult. Birds in this stage show no signs of the barring on the upper surface and are obviously undergoing, or about to undergo; the second moult.

Nestling. Upper parts olive-brown, the feathers very narrowly tipped with yellowish and with subterminal dark bars.

Distribution. The Himalayas from the Sutlej Valley to Eastern Assam North of the Brahmaputra. Birds from the Khasia Hills are certainly referable to this race, but those from the adjoining North Cachar Hills are nearer *fraterculus*. The fauna of the Khasia Hills is more like that of the Northern Hills than that of the Southern and at one time these hills were undoubtedly bisected by the Brahmaputra. This species extends across the Northern Kachin Hills into Yunnan (*Rothschild*).

Nidification. This Minivet breeds from the end of April to early June, making a lovely, shallow saucer-shaped nest of fine pliant twigs, grass-stems and fine roots well matted together with spiders' webs and invariably decorated with lichen, scraps of bark or moss to make it resemble the tree on which it is placed. The site selected is apparently always in forest and generally in such as is very heavy and humid and the nest is placed on some small tree, alive or dead, between ten and twenty feet from the ground. The eggs probably number two to four, though I have never seen more than three myself. The ground-colour is a pale sea-green, spotted and blotched with dark brown and with secondary blotches of dark lavender. They measure between 20·3×16·0 mm. and 23·0×16·9 mm. The birds breed between 3,000 and 6,000 feet and possibly a good deal higher.

Habits. Differ in no way from those of the next race.

(734) Pericrocotus speciosus fraterculus.

THE BURMESE SCARLET MINIVET.

Pericrocotus fraterculus Swinhoe, Ibis, 1870, p. 244 (Hainan); Blanf. & Oates, i, p. 481.

Vernacular names. *Hnet-mintha* (Burmese); *Daoribi gadeba* (Cachari); *Iugorai* (Kacha Naga); *Vohshenée* (Mikir).

Description. This race only differs, constantly, in being smaller than *speciosus* and in the lower plumage being a somewhat deeper red in the males and a rather richer yellow in the females. In most individuals there is more red on the central tail-feathers, the whole outer web being often of this colour.

Colours of soft parts as in the preceding bird.

Measurements. Wing 90 to 96 mm. (one, 97); tail 78 to 81 mm.; tarsus about 18 mm.; culmen 13 to 14 mm.



PERICROCOTUS SPECIOSUS FRATERCULUS

Young males are like the female. The change of plumage from yellow to red in all the Minivets is very interesting, as specimens are numerous which show signs of attaining an increase of red in the old feathers prior to the moult. Birds in this stage show no signs of the barring on the upper surface and are obviously undergoing, or about to undergo, the second moult.

Nestling. Upper parts olive-brown, the feathers very narrowly tipped with yellowish and with subterminal dark bars.

Distribution. The Himalayas from the Sutlej Valley to Eastern Assam North of the Brahmaputra. Birds from the Khasia Hills are certainly referable to this race, but those from the adjoining North Cachar Hills are nearer *fraterculus*. The fauna of the Khasia Hills is more like that of the Northern Hills than that of the Southern and at one time these hills were undoubtedly bisected by the Brahmaputra. This species extends across the Northern Kachin Hills into Yunnan (*Rothschild*).

Nidification. This Minivet breeds from the end of April to early June, making a lovely, shallow saucer-shaped nest of fine pliant twigs, grass-stems and fine roots well matted together with spiders' webs and invariably decorated with lichen, scraps of bark or moss to make it resemble the tree on which it is placed. The site selected is apparently always in forest and generally in such as is very heavy and humid and the nest is placed on some small tree, alive or dead, between ten and twenty feet from the ground. The eggs probably number two to four, though I have never seen more than three myself. The ground-colour is a pale sea-green, spotted and blotched with dark brown and with secondary blotches of dark lavender. They measure between 20·3×16·0 mm. and 23·0×16·9 mm. The birds breed between 3,000 and 6,000 feet and possibly a good deal higher.

Habits. Differ in no way from those of the next race.

(734) Pericrocotus speciosus fraterculus.

THE BURMESE SCARLET MINIVET.

Pericrocotus fraterculus Swinhoe, Ibis, 1870, p. 244 (Hainan); Blanf. & Oates, i, p. 481.

Vernacular names. *Hnet-mintha* (Burmese); *Daoribi gadeba* (Cachari); *Ingorui* (Kacha Naga); *Vohshenér* (Mikir).

Description. This race only differs, constantly, in being smaller than *speciosus* and in the lower plumage being a somewhat deeper red in the males and a rather richer yellow in the females. In most individuals there is more red on the central tail-feathers, the whole outer web being often of this colour.

Colours of soft parts as in the preceding bird.

Measurements. Wing 90 to 96 mm. (one, 97); tail 78 to 81 mm.; tarsus about 18 mm.; culmen 13 to 14 mm.

Distribution. Assam South of the Brahmaputra except the Khasia Hills, all Burma except in the South of Tenasserim; Siam, Annam and the Indo-Chinese countries to West China and Hainan.

Nidification. In Assam this Minivet breeds between 1,000 and 6,000 feet in fairly thick or dense forest. The nest is exactly like that of the preceding race nor are the few eggs I have seen in any way different. A pair taken by myself are very pale sea-green with tiny specks and streaks of light reddish, hardly visible at a short distance; two other pairs, one taken by Dr. H. N. Coltart at Margherita and one brought to me by Nagas with the bird, are also very pale with a few brownish spots, but have a buff instead of greenish ground. They measure 23·0×14·3 mm. to 23·0×15·8 mm. The breeding-season is May and June.

Habits. The Burmese Minivet is found from the level of the Plains up to at least 6,000 feet. In the breeding-season, when it is only found in pairs, it keeps almost entirely to forest, but in the cold weather, when it collects in flocks of twenty or more individuals, it is often found in the open country as long as there are lots of trees. It keeps entirely to trees of some height, seldom coming much below 20 feet and there are few prettier sights than a flock of these little red and yellow flashes of light as they flit, in follow-my-leader fashion, from one point of vantage to another. They are restless active birds, never still for many minutes, hunting actively among the branches for insects or actually seizing them in the air as Flycatchers do. They have a shrill but pleasant little call which they utter as they fly, but they have no song worthy of the name.

(735) Pericrocotus speciosus flammifer.

DAVISON'S SCARLET MINIVET.

Pericrocotus flammifer Hume, S. F., iii, p. 321 (1875) (Pakchan, S. Burma); Blanf. & Oates, i, p. 482.

Vernacular names. *Hnet-mintha* (Burmese).

Description. Differs from the preceding races in having the first three primaries wholly black; the female differs in having the first four primaries without any yellow instead of the first three only.

Colours of soft parts as in the other races.

Measurements. Wing 81 to 94 mm. but nearly all below 90 mm.; tail 71 to 81 mm.; tarsus about 18 mm.; culmen 13 to 14 mm.

Distribution. South of Tenasserim, Malay Peninsula and East Siam.

Nidification. Unknown.

Habits. Those of the genus, but there is very little on record about this Minivet.

(736) Pericrocotus speciosus andamanensis.

THE ANDAMANESE SCARLET MINIVET.

Pericrocotus andamanensis Tytler, Beavan, Ibis, 1867, p. 322 (Andamans); Blanf. & Oates, i, p. 481.

Vernacular names. None recorded.

Description. Only differs from the preceding bird in colour in having a great deal of black at the base of the lateral tail-feathers instead of having them wholly red or almost so. It averages a good deal larger also.

Colours of soft parts as in the other races.

Measurements. Wing 89 to 95 mm.; tail 75 to 89 mm.; tarsus about 18 mm.; culmen 13 to 14 mm.

Distribution. Andamans only.

Nidification and Habits. Nothing recorded.

(737) Pericrocotus speciosus flammeus.

THE ORANGE MINIVET.

Muscicapa flammea Forst., Ind. Zool., p. 25 (1781) (Travancore).
Pericrocotus flammeus. Blanf. & Oates, i, p. 482.

Vernacular names. *Phari-balal-chasm* (Hind.); *Suli-sangam*, ♂, *Asan-buradi*, ♀ (of the Halopyks, Jerd.); *Gene-hurula* (Ceylon).

Description. Differs from all the other races of *speciosus* in having the lower parts orange-red, whilst the females differ from the others in having the lower parts a much paler yellow and in having the forehead narrower and a paler yellow. In the male the first three, often the first four, primaries are unmarked with red, whilst the female has no yellow on the first four.

Colours of soft parts as in the other races.

Measurements. Wing 90 to 95 mm.; one Ceylon bird has it only 87 mm.; tail 83 to 95 mm.; tarsus about 18 mm.; culmen about 14 to 15 mm.

Distribution. South-Western India from Khandala to Cape Cormorin, Mysore, Nilgiris, Palni and adjacent hills; Ceylon.

Nidification. The Orange Minivet breeds in the Nilgiris and Palni Hills in July and in Ceylon in February. The nest is quite typical of the genus and two eggs are described as pale greenish, sparingly blotched with pale yellowish brown in one egg and in the second with brown and lilac spots and specks. The two eggs measured 25·1×17·0 mm. and 22·3×17·2 mm. Two other eggs sent me from Ceylon are pale sea-green profusely marked with reddish brown. They measure 19·2×13·6 and 19·0×13·0 mm., possibly unusually small.

Habits. The Orange Minivet is found from the level of the sea up to about 6,000 feet, but only in well-wooded country, and during the breeding-season it keeps entirely to forest. In Winter it collects in flocks and haunts the upper branches of high trees, catching insects on the wing and also hunting for them both on the branches and the moss-covered trunks themselves. Legge says that it has a "weak, though cheerful little warble," which it constantly utters. It assembles in small flocks and, as the young birds resemble the adult female, the natives give the one or two full-grown cock-birds with the flock the credit of running a harem.

Pericrocotus brevirostris.

Key to Subspecies.

A. Wing over 86 mm.
  a. Plumage black and crimson-red.
    a. Below paler crimson ..... *P. b. brevirostris*, ♂, p. 323.
    b. Below deeper crimson ..... *P. b. affinis*, ♂, p. 324.
  b. Plumage grey and yellow.
    c. Above grey with a distinct green tinge ..... *P. b. brevirostris*, ♀, p. 323.
    d. Above darker grey with no green tinge ..... *P. b. affinis*, ♀, p. 324.
B. Wing under 86 mm. ..... *P. b. neglectus*, p. 325.

(738) Pericrocotus brevirostris brevirostris.

THE INDIAN SHORT-BILLED MINIVET.

Muscipeta brevirostris Vigors, P. Z. S., 1831, p. 43 (Mussoorie).
Pericrocotus brevirostris. Blanf. & Oates, i. p. 483.

Vernacular names. *Chota Phari-balal-chasm* (Hind.).

Description.—Adult male. Whole head, back, scapulars, lesser wing-coverts, outer median and greater coverts black; entire lower surface, rump and upper tail-coverts scarlet-crimson, rather pale below; quills black with the bases of all but the outer four with crimson bases; tips to greater coverts and bases of secondaries crimson, the crimson extending as an edge to two or three of the middle secondaries; tail, central feathers black, the next pair red on the outer web, black on the inner, the black decreasing in extent on each succeeding pair.

Colours of soft parts. Iris dark brown; bill and legs black.

Measurements. Total length about 180 mm.; wing 88 to 96 mm.; tail 93 to 115 mm.; tarsus about 16 mm.; culmen 11 to 12 mm.

Female. Forehead greenish yellow, eyelids feathered yellow above and below lemon-yellow; upper part of the head, back, scapulars and lower wing-coverts light grey, tinged with olive; rump olive-yellow; upper tail-coverts brighter, more orange-yellow; wing-feathers black, marked as in the male but with yellow,

b''. Under wing-coverts and axillaries yellow ..... *P. igneus*, ♂, p. 325.
b. Crown and back ashy or grey, never black.
c'. Wing over 80 mm.
c''. Lower plumage bright scarlet ..... *P. solaris*, ♂, p. 326.
a''. Lower plumage rosy-red ..... *P. roseus*, ♂, p. 328.
d'. Wing under 75 mm.
e''. Throat grey to black; breast scarlet.. *P. peregrinus*, ♂, p. 329.
f''. Lower plumage all pale yellow ..... *P. peregrinus*, ♀, p. 330.
g''. Lower plumage all bright yellow .... *P. igneus*, ♀, p. 326.
B. Tail black and yellow; upper tail-coverts yellow.
c. Innermost secondaries with oval yellow spots. *P. speciosus*, ♀, p. 318.
d. Innermost secondaries with no oval yellow spots.
e'. Upper back and lower back not concolorous ..... *P. solaris*, ♀, p. 326.
f'. Upper back and lower back concolorous.
h''. Rump and upper tail-coverts all deep yellow ..... *P. brevirostris*, ♀, p. 323.
i''. Rump and upper tail-coverts margined with yellow..... *P. roseus*, ♀, p. 328.
C. Tail black and white; upper tail-coverts grey, brown or black.
e. Rump red, or white marked with red.
g'. Dark parts of upper plumage glossy black.
j''. Forehead and chin black..... *P. erythropygius*, ♂, p. 332.
k''. Forehead and chin white ..... *P. albifrons*, ♂, p. 334.
h'. Dark parts of upper plumage smoky-brown.
l''. Rump uniform orange-red ..... *P. erythropygius*, ♀, p. 333.
m''. Rump white streaked with red..... *P. albifrons*, ♀, p. 334.
f. Rump with no trace of red.
i. Back and rump the same colour ..... *P. cinereus*, p. 334.
j. Rump much paler than back..... *P. cantonensis*, p. 335.

Pericrocotus speciosus.

Key to Subspecies.

A. Underparts deep scarlet.
a. First two primaries with no red on the outer webs.
a'. Bigger, wing 96 mm. or over ..... *P. s. speciosus*, p. 319.
b'. Smaller, wing 90 to 96 mm. ..... *P. s. fraterculus*, p. 320.
b. First three primaries with no red on the outer webs.
c'. Bases of tail-feathers nearly all red .... *P. s. flammifer*, p. 321.
d'. Bases of tail-feathers with a considerable amount of black ..... *P. s. andamanensis*, p. 322.
B. Underparts more orange, less scarlet ..... *P. s. flammeus*, p. 322.

(733) Pericrocotus speciosus speciosus.

THE INDIAN SCARLET MINIVET.

Turdus speciosus Lath., Ind. Orn., i, p. 363 (1790) (Darjiling).
Pericrocotus speciosus. Blanf. & Oates, i, p. 479.

Vernacular names. *Dao-ribi* (Cachari); *Ingorui* (Kacha Naga); *Vohshenér* (Mikir).

Description.—Adult male. Whole head, neck, back, scapulars and lesser wing-coverts glossy black; rump, upper tail-coverts and whole lower plumage scarlet, the abdomen and under tail-coverts more or less tinged with orange; greater wing-coverts scarlet; primary-coverts black; primaries black with a broad band of scarlet across the base of all but the first two or, occasionally, first three; secondaries black, the innermost with oval scarlet drops on the outer webs; tail scarlet, the central feathers either all black or with scarlet patches on the edge of the outer web or, sometimes, with a scarlet streak at the tip.

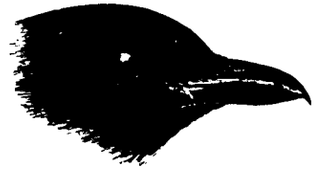


Fig. 50.—Head of *P. s. speciosus*.

Colours of soft parts. Iris dark brown; bill and legs black.

Measurements. Total length about 230 mm.; wing 96 to 106 mm.; tail 86 to 100 mm.; tarsus about 18 mm.; culmen about 14 to 15 mm.

Female. Forehead and short narrow supercilium orange-yellow, paler posteriorly and changing to grey on the posterior crown, back, scapulars and lesser coverts, the latter often tinged with olive-yellow; rump and upper tail-coverts rich yellow tinged with green; greater coverts black tipped with yellow; primaries black with a broad yellow patch at the base of all but the first two or, rarely, three; secondaries black with yellow bases and the innermost with the oval spots, sometimes spreading into yellow borders, on the outer webs; lores blackish grey, whole lower plumage bright yellow; tail, central pair of feathers black generally without any yellow marking, next pair black tipped with yellow and with yellow on the outer web in varying degree; remaining feathers yellow with dark bases of varying width and shape; in a few cases the yellow is somewhat orange towards the base.

Colours of soft parts as in the male.

Measurements. Wing 92 to 101 mm.

not red; tail as in the male but yellow and black; lower surface yellow, slightly deeper on the breast.

Young. Above olive-green, the feathers edged paler and barred with blackish; below yellow, mottled with brownish green on the breast and flanks.

Distribution. Northern India from the plains adjacent to the foot-hills of the Himalayas up to 10,000 feet in the mountains themselves, from Gilgit and Murree to Nepal, extending as far South as the Central Provinces and Lower Bengal in Winter.

Nidification. The Short-billed Minivet breeds in April, May, June and July in the Himalayas from 3,000 up to about 8,000 feet and at this time completely deserts the Plains and lower hills. The nests are just like those of other birds of this genus, shallow saucers made of fine twigs, bents and roots, matted with cobwebs and covered outside with lichen or bark to resemble the bough on which they are placed. The eggs number two to four and are short broad ovals in shape and in colour are white just tinged with cream, buff or green, profusely covered with blotches, spots and longitudinal marks of brownish red with secondary markings of grey or neutral tint. Fifty eggs average 19·8×15·1 mm.: maxima **21·0**×15·0 and 20·2×**15·9** mm.; minima **18·6**×15·1 and 19·6×**13·0** mm.

Habits. This Minivet most undoubtedly moves vertically with the seasons, though it is not migratory in the true sense of the word. It is not rare in the foot-hills and adjoining plains in Winter but is seldom seen below 3,000 feet once the breeding-season commences. It has the usual gregarious and cheerful habits of the genus and often several family parties will join together to form a flock of thirty to forty birds. The members scatter a good deal when feeding, though they keep up a constant twittering call to one another the whole time and the flight of any one bird to a distant tree is the signal to one and all to follow up at short intervals. It is a tame bird and does not shun observation unless too closely pressed.

(739) Pericrocotus brevirostris affinis.

THE ASSAM SHORT-BILLED MINIVET.

Pericrocotus affinis McClell., P. Z. S., 1839, p. 156 (Assam).

Vernacular names. *Lali-rajah-sorai* (Assamese); *Dao-rihi-kashiba* (Cachari).

Description. Similar to *P. brevirostris*, but deeper crimson below.

Colours of soft parts and **Measurements** as in the preceding birds. Wing 94 to 112 mm.; tail 97 to 120 mm.

Female. Above a darker grey than in *P. b. brevirostris* and with no green tinge; the throat is lemon-yellow instead of whitish yellow, and the rest of the lower plumage is a bright deep yellow frequently tinged with orange.

Distribution. Assam, North Burma, Shan States, Kachin Hills. Sikkim birds are typical *affinis*, whilst Nepal birds are intermediate between this and the last form.

McClelland in describing his *affinis* from Assam obviously compares it with a Western Himalayan bird, and well defines the differences between the two forms. His name must therefore stand for the Eastern form, whilst the type-locality must be somewhere in the Western Himalayas.

Nidification unknown.

Habits. Those of the species. In Assam and Burma it is purely a forest-bird, and even in winter is not often found in the open as is its Indian cousin.

(740) Pericrocotus brevirostris neglectus.

HUME'S MINIVET.

Pericrocotus neglectus Hume, S. F., v. p. 171 (1877) (Tenasserim); Blanf. & Oates, i. p. 484.

Vernacular names. *Huet-mintha* (Burmese).

Description. A small deeply coloured race of *P. b. brevirostris* with a comparatively short tail. In the only specimen of a male in the British Museum there are no red edges to the central secondaries.

Colours of soft parts as in the other races.

Measurements. Wing 83 to 85 mm.; tail 81 to 84 mm.; culmen barely 11 mm.

Distribution. Muleyit Mountains and Meetan in Tenasserim.

Nidification unknown.

Habits. Similar to those of the other races.

(741) Pericrocotus igneus.

THE FIERY MINIVET.

Pericrocotus igneus Blyth, J. A. S. B., xv, p. 309 (1846) (Malacca); Blanf. & Oates, i, p. 484.

Vernacular names. None recorded.

Description.—Adult male. Whole head, back, scapulars and wing-coverts black; the greater coverts edged with scarlet; quills black, all but the first four primaries with a patch of scarlet-crimson; rump, upper tail-coverts and lower plumage crimson, the bases of the feathers yellow and showing through in places; two middle pair of tail-feathers black, the second generally with a little red at the tip; the lateral tail-feathers red with a varying amount of black at the base.

Colours of soft parts. Iris dark brown; bill, legs and feet black.

Measurements. Total length about 160 mm.; wing 70 to 76 mm.; tail 62 to 68 mm.; tarsus about 15 mm.; culmen 10 to 11 mm.

Female. Forehead, round the eye, whole lower plumage, axillaries and under wing-coverts bright golden yellow; upper parts of the head, back and wing-coverts ashy-grey; rump and upper tail-coverts scarlet; wings as in the male but with orange markings; tail as in the male but the scarlet markings more orange.

Young. Above grey-brown, barred with whitish and dark brown; below yellowish white mottled with brown on the breast.

Distribution. From Tenasserim, through the whole of the Malay Peninsula to Sumatra, Borneo and Palawan; Siam.

Nidification. A nest and eggs with bird obtained near Perak were sent to me by Mr. W. A. T. Kellow. The nest is like that of *Pericrocotus peregrinus* but rather larger. It is made of fine twigs and roots matted together as usual with cobwebs and covered outside with lichen. From the indentations under the nest it appears to have been built resting on a branch of a tree where it divided out into three smaller branches. It was taken on the 7th of May. The two eggs measure 20·5 in length and 15·1 and 15·2 in breadth and are pale yellowish in ground-colour, profusely marked with brown and grey all over.

Habits. Those of the genus.

Pericrocotus solaris.

Key to Subspecies.

A. Rump and upper tail-coverts scarlet-crimson. *P. s. solaris*, p. 326.
B. Rump and upper tail-coverts brick-red..... *P. s. ripponi*, p. 327.

(742) Pericrocotus solaris solaris.

THE YELLOW-THROATED MINIVET.

Pericrocotus solaris Blyth, J. A. S. B., xv, p. 310 (1846) (Darjiling); Blanf. & Oates, i, p. 485.

Vernacular names. *Dao tisha raja gaherba*, *Dao ribi gaherba* (Cachari).

Description.—Adult male. The upper part of the head, back, scapulars and wing-coverts slaty-black; rump and upper tail-coverts scarlet-crimson; outer webs of 5th and 6th primaries nearly all scarlet and bases of all quills except first four primaries scarlet-crimson; central rectrices wholly black, next pair black with broad red tips and more or less of the outer webs black; lateral tail-feathers more and more red and less and less black; sides of head and neck grey; chin greyish white; throat orange-yellow; remainder of lower plumage scarlet, not quite so deep as the rump.

Colours of soft parts. Iris bright hazel to deep brown; bill, legs and feet black.

Measurements. Total length about 175 mm.; wing 80 to 90 mm.; tail 83 to 97 mm.; tarsus about 15 mm.; culmen about 10 mm.

Female. Head, neck and upper back ashy-grey, changing to olive-green on the lower back, scapulars and wing-coverts and to yellow on the upper tail-coverts; wings and tail as in the male but the yellow replaced by red; lores, cheeks, ear-coverts and chin grey; remainder of lower plumage bright yellow.

Colours of soft parts and **Measurements** as in the male.

Nestling brown-grey above narrowly barred with pale fulvous and dark brown.

Distribution. Nepal to Eastern Assam, both North and South of the Brahmaputra, Manipur, Burma, Chin and Kachin Hills to Tenasserim.

Nidification. The Yellow-throated Minivet breeds in the hills South of the Brahmaputra in May and June up to at least 7,000 feet, being found up to 10,000 in the Himalayas in Sikkim, etc.

It makes the usual Minivet nest, a shallow cup about 3×1 inches externally by about 2·75×·75 inches internally, only differing from others of the genus in having less lichen used externally. It breeds in dense evergreen-forest and also in the stunted oak-forest growing at 5,000 to 6,000 feet. Three eggs in my collection are a very pale sea-green, thinly marked with pale rufous-red; they measure about 19·2×14·2 mm.

Habits. Those of the genus. These Minivets are generally found in Summer at a considerable elevation but in Winter they descend to the foot-hills and in Pegu Oates found it at sea-level. It consorts in flocks of six to a dozen birds and though, like other Minivets, it keeps much to the tops of trees it is most common on the stunted oaks growing in thin forest to a height of only 25 or 30 feet. It has the usual pleasant trilling call of the genus.

(743) Pericrocotus solaris ripponi, subsp. nov.

THE SHAN MINIVET.

Description.—Adult male. Similar to *P. s. solaris*; the grey of the upper parts paler and the red much darker, less scarlet more brick-red; the forehead is also strongly tinged with red and the throat is washed with the same colour.

Colours of soft parts and **Measurements** as in the preceding form.

Female like that of the Yellow-throated Minivet but perhaps rather paler and greener above.

Type. British Mus. Coll. No. 1900, 12. 20. 67. E. of Fort Stedman, S. Shan States. Named after Colonel G. Rippon, the collector.

Distribution. At present only known from the Shan States.

Nidification and **Habits.** Nothing recorded.

(744) Pericrocotus roseus roseus.

THE ROSY MINIVET.

Muscicapa rosea Vieill., Nouv. Dict. d'Hist. Nat., xxi, p. 486 (1818) (Bengal).
Pericrocotus roseus. Blanf. & Oates, i, p. 486.

Vernacular names. *Daoribi* (Cachari).

Description.—Adult male. Lores dusky brown above and feathers next the bill and round the eye whitish; crown, neck, back, scapulars and wing-coverts ashy-brown, the crown generally darkest; rump and upper tail-coverts scarlet; greater wing-coverts broadly edged with scarlet; quills brown, all but the first three or four with a broad scarlet patch at the base; inner secondaries also edged with scarlet; central tail-feathers dark brown, next pair red on the outer, black on the inner web, remaining feathers red with a black band at the base; ear-coverts and sides of head pale grey; chin and throat almost white; remainder of lower plumage bright pale rosy-red; axillaries and under wing-coverts deeper rose-red.

The amount of red in this species varies very greatly, possibly due to a great extent to age but partly individually. In very few birds is the rump wholly red; in many only the upper tail-coverts and a few of the rump feathers are tipped with this colour, and in many more these parts are pale brown flushed with rosy-pink. The under surface varies from pale rosy to, in rare instances only, a deep rosy-red. The depth of the grey also varies considerably, but this seems to be entirely individual, and I can trace no geographical correlation with the variation, either in the red or grey colours, within the limits of this work.

Colours of soft parts. Iris hazel to dark brown; bill, legs and feet black.

Measurements. Total length about 180 mm.; wing 83 to 92 mm.; tail 75 to 87 mm.; tarsus about 16 mm.; culmen 11 to 12 mm.

Female. Above grey-brown, the back suffused with olive-green; rump and upper tail-coverts olive-yellow; wings and tail as in the male but yellow instead of red; chin and throat yellowish white, remaining lower parts pale yellow; axillaries and under wing-coverts brighter.

Colours of soft parts and **Measurements** as in the male.

Nestling. Above greyish brown, the feathers narrowly edged with yellow and subtipped with bars of dark brown; wing-feathers and inner secondaries all boldly edged with yellow and with crescentic black subterminal bars; below pale yellowish white, the breast and flanks faintly barred.

Young males are like the female but retain the pale tips and bars of the upper plumage until after the first moult.

The adult plumage of the male is acquired in the most irregular manner and, as is usual with Minivets, old feathers seem to become to some extent pigmented with red prior to and during the moult.

Distribution. Malabar, Travancore and Southern hills of the Bombay Presidency, N.W. Provinces, Oudh, Bengal, the Himalayas from Afghanistan to Eastern Assam, Burma from the Chin and Kachin Hills to Tenasserim, Peninsular Siam, Yunnan, Shan States and S.W. China.

Nidification. The Rosy Minivet breeds throughout the Himalayas and Burmese Hills between 1,000 and 6,000 feet, in May and June, making the ordinary shallow cup-shaped nest covered with lichen. It is perhaps rather more bulky and substantial than most but is made of the same materials. It breeds in dense forest but usually on the outskirts or in more open places such as river-banks, open glades round water etc. The eggs number two to four. In colour they are white with the faintest cream or buff tinge, in one clutch with an olive tint; the markings consisting of small blotches of brown, fairly numerous at the larger end and sparse elsewhere. There are also a few secondary blotches of pale neutral grey. Twenty-two eggs average 19·5 × 14·6 mm.: maxima 21·0 × 14·8 and 18·7 × 15·2 mm.; minima 17·8 × 14·7 and 19·4 × 14·0 mm.

Habits. In Summer found only over 1,000 feet, in Winter the Rosy Minivet wanders some distance into the Plains and has been obtained in Bengal as far South as Maldah and Purnea, from both of which districts I have seen skins of birds obtained in December and January.

Pericrocotus peregrinus.

Key to Subspecies.

A. Throat dark grey or blackish grey; upper parts dark.	
a. Above more grey, less brownish grey; abdomen very white	*P. p. peregrinus*, p. 329
b. Above darker and browner; abdomen much suffused with scarlet	*P. p. vividus*, p. 331.
B. Throat black	*P. p. malabaricus*, p. 331.
C. Throat grey; upper parts much paler	*P. p. pallidus*, p. 332.

(745) Pericrocotus peregrinus peregrinus.

THE SMALL MINIVET.

Parus peregrinus Linn., S. N., i, p. 342 (1766) (Umbala).
Pericrocotus peregrinus. Blanf. & Oates, i, p. 487.

Vernacular names. *Bulal-chasm* (Hind.); *Sath-sayili, Chota-sath-saki-kapi* (Beng.); *Kunkumpu-jitta* (Tel.).

Description.—Adult male. Upper head, neck, back, scapulars and lower wing-coverts grey; rump and upper tail-coverts bright scarlet; median and greater coverts black; quills dark brown, all

but the first four or five primaries with a diagonal patch of cream or pale scarlet at the base; outer secondaries with the patch more scarlet; the middle pair of tail-feathers black, lateral feathers with broad scarlet-cream tips and black bases; lores, chin, throat and sides of head dark grey or darkish grey; breast and flanks scarlet, the yellow bases to the feathers showing up as orange through the red; abdomen, vent and under tail-coverts white, more or less suffused with yellow.

Colours of soft parts. Iris dark brown; bill, legs and feet black.

Measurements. Total length about 150 mm.; wing 66 to 72 mm.; tail 65 to 72 mm.; tarsus about 15 mm.; culmen about 9 mm.

Female. Above similar to the male but a paler, browner grey, with the red on the wings replaced by orange-yellow and the scarlet-cream of the tail-feathers paler; the upper tail-coverts are always more or less scarlet and the rump is tinged with yellow; chin, throat and underparts greyish white very faintly suffused with yellow.

Colours of soft parts and **Measurements** as in the male.

Young birds are like the female and seem to lose the barring of the nestling stage quicker than most Minivets.

Nestling. Barred above with dark brown and with terminal yellow tips.

Distribution. North-West and Western India, South to about Belgaum, Central India, East to Western Bengal, Chota Nagpore, Oudh and Behar.

Nidification. The Indian Small Minivet breeds in Behar, Oudh and the North-West from March to May and in Central India, Bombay, etc., after the rains break from June to September. The nest is a tiny cup seldom exceeding two inches in diameter by one inch in depth and, as it is usually placed very high up in some big tree such as a Mango and Tamarind, it is very hard to find. It is the usual lichen-coated nest built by all Minivets and calls for no special description. The eggs number two or three, very rarely four, and vary very greatly in coloration. The ground is a pearly white, often tinted with sea-green, sometimes with pale buff or cream. The markings are some shade of reddish brown, sometimes very pale and confined to the large end where they form a ring or cup, sometimes dark and bold and numerous over the whole surface. Every intermediate type may also be met with. Fifty eggs average 16·4 × 13·2 mm.: **maxima 18·0 × 14·0** mm.; minima **15·0** × 13·0 and 16·0 × **12·7** mm.

Habits. The Small Minivet is a bird of well-wooded tracts but not of dense forests and frequents cultivation and the vicinity of houses and villages, quite commonly entering and even breeding in gardens. It is a very cheerful active little bird associating in small or large flocks during the non-breeding season. It is a bird of the Plains and does not ascend the mountains above the foot-hills.

(746) Pericrocotus peregrinus vividus.

THE BURMESE SMALL MINIVET.

Pericrocotus peregrinus viridus Stuart Baker, Bull. B. O. C., xl, p. 114 (1920) (Attaran River, Burma).

Vernacular names. *Chota-sath saki-kapi* (Beng.); *Dao ribi gajao-i-aba* (Cachari); *Nok-si-champay-pillay* (Siam); *Ingorui* (Kacha Naga).

Description.—Adult male. Darker and browner above than *P. p. peregrinus*, the throat rather a blacker grey and the lower parts much brighter yellow with the red of the breast extending further down.

Colours of soft parts and **Measurements** as in the preceding bird.

Female differs in degree from the Indian bird as does the male. It is darker and a little browner above and has much more yellow below.

Distribution. Eastern Bengal and Assam, Burma, Siam, Cochin China, Yunnan and Annam.

Nidification. Similar to that of the last race, but this form breeds also in forested area as well as in open country and gardens, etc. Mr. E. G. Herbert, to whom I am indebted for a series of the eggs, says that Durian and Tamarind trees are the favourite but that they also sometimes breed on the Betal Palms. The nests are generally placed between 30 and 40 feet from the ground. Twenty-two eggs average 16·5 × 13·4 mm.: maxima **18·8 × 14·7** mm.; minima **15·3** × 13·3 and 15·5 × **13·0** mm. In colour, of course, they cannot be distinguished from those of the other races. The breeding-season is March and April running into June.

Habits. Similar to those of *P. p. peregrinus* but they ascend the hills to at least 4,000 feet and Mr. C. Hopwood records that they bred in the gardens at Maymyio at 3,500 feet, placing their nests in pines, oaks, etc.

(747) Pericrocotus peregrinus malabaricus.

THE MALABAR SMALL MINIVET.

Parus malabaricus Gmel., S. N., i, p. 1012 (1789) (Malabar).

Vernacular names. *Kunkumpu-jitta* (Tel.); *Batugene-kurula*, *Kos-kurula* (Ceylon).

Description.—Adult male. This is the darkest of all the races of *peregrinus*; the chin and throat are a glossy black; the scarlet of the breast deeper and more extensive and the abdomen yellow with no white.

Colours of soft parts and **Measurements** as in the other races.

Females. Hardly distinguishable from *P. p. peregrinus* but generally darker above with more yellow below.

Distribution. Southern India, South of a line drawn diagonally across from and including Belgaum on the West to Madras, or a little North of the City of Madras on the East; Ceylon.

Nidification like that of the other races, but the nest is not seldom placed quite low down, five to twenty feet from the ground. The breeding-season is March to July. Twenty-four eggs average 16·5 × 13·5 mm.: maxima **17·6** × 13·3 and 17·0 × **14·0** mm.: minima **15·3** × 13·4 and 16·5 × **13·0** mm.

Habits. Those of the species. It is confined to the Plains and low hills but apparently breeds in Travancore up to some 2,000 feet.

(748) Pericrocotus peregrinus pallidus.

THE SIND SMALL MINIVET.

Pericrocotus peregrinus pallidus Stuart Baker, Bull. B. O. C., xl, p. 115 (1920) (Larkhana, Sind).

Vernacular names. *Bulal-chasm* (Hind.).

Description.—Adult male. Above very pale grey, the throat darker but never blackish; below the scarlet is confined to the upper breast; the greater part of the abdomen, vent and under tail-coverts are pure white; the lateral tail-feathers are pale brick-pink.

The female is even paler with the lower parts devoid of all yellow; the wing patch is the palest cream and the lateral tail-feathers still paler.

Colours of soft parts and **Measurements** as in the other races.

Distribution. Sind and the extreme North-West of India. Birds from Mt. Aboo are very pale and should probably be assigned to this race rather than to typical *peregrinus*.

Nidification. Nothing recorded.

Habits. Those of the species.

(749) Pericrocotus erythropygius.

THE WHITE-BELLIED MINIVET.

Muscicapa erythropygia Jerdon, Madr. Journ. L. S., xi, p. 17 (1840).
Pericrocotus erythropygius. Blanf. & Oates, i, p. 488.

Vernacular names. None recorded.

Description.—Adult male. Whole head, back, scapulars, lesser, median and primary coverts and upper tail-coverts black; inner greater wing-coverts white; quills black, all but the first pair with a patch of white near the base; inner secondaries white on the outer webs and tips of inner webs; tail, four central rectrices black, the lateral feathers white and diagonally black at the base;

rump and breast crimson orange-red divided from the black throat by a white band, extending to the sides of the neck; lower breast, flanks and abdomen white; axillaries and under wing-coverts black and white.

Colours of soft parts. Iris hazel or golden-hazel; bill, legs and feet black.

Measurements. Total length about 150 mm.; wing 66 to 71 mm.; tail 66 to 74 mm.; tarsus about 13 to 14 mm.; culmen 9 to 10 mm.

Female. Lores dark brown; forehead and traces of a supercilium white; rump white and orange; remaining upper plumage brown, rather darker on the head; tail as in the male; wing as in the male but dark brown instead of black; lower plumage white, the breast washed with grey-brown.

Colours of soft parts and **Measurements** as in the male.

Distribution. Central India, practically the whole of the Bombay Presidency, South to Travancore (Stewart), Nilgiri and Palni Hills, North-West to Sind and North-East to Oudh, Behar and Lohardagga.

There seem to be two well-marked forms of this Minivet, one with a crimson breast and one with an orange-red breast. Birds from Sambhur East and North and North-East all have the orange-red breast very well marked, whilst birds from the South and South-West all have crimson breasts. On the other hand, a few birds from round about Sambhur, *i. e.* Ajmere, Gurgaon etc., have orange-red breasts. It would appear that the two forms meet here but more material is necessary before any safe division can be made.

Nidification. Mr. J. Davidson found this bird breeding in some numbers in Khandesh and Kanara and Mr. Stewart has eggs from Travancore. The nests are little cups made of grass-stems ornamented outside with greyish-white vegetable fibre and *not* with lichen and bark as are those of most Minivets. Again, instead of being placed high up in trees they are built in thorny scrub, growing in extra thick patches of jungle where there are ample trees to build on if so desired. The eggs are greyish white marked all over with longitudinal streaks of dark brown with a few underlying pale streaks of lavender-grey. Twenty eggs average 17·4 × 13·4 mm.: maxima **19·0** × 13·3 and 18·0 × **14·4** mm.; minima **16·5** × **13·0** mm. They breed during March and April and again in July, August and September, laying two or three eggs only.

Habits. The White-bellied Minivet is a frequenter of forest both thin and dense and is especially fond of rather thick scrubby undergrowth in ravines and broken country. Except that they hunt for their insect prey in among bushes and low trees rather than among the higher trees, their habits are those of the other Minivets.

(750) Pericrocotus albifrons.

JERDON'S MINIVET.

Pericrocotus albifrons Jerdon, Ibis, 1862, p. 20 (Upper Burma, Thayetmyo); Blanf. & Oates, i, p. 489.

Vernacular names. *Huet-mintha* (Burmese).

Description. Similar to the White-bellied Minivet but has the forehead, a broad supercilium, chin and throat pure white; the rump has the red less extensive and the white more so.

Colours of soft parts and **Measurements** as in the preceding bird.

Female differs from that of *P. erythropygius* in having less red on the rump.

Distribution. Practically the whole of Burma from the Chin, Kachin and Shan States to Tenasserim.

Nidification. Jerdon's Minivet breeds in the Chin Hills and in the broken country in Pakokku in May and June, making a nest just like that of the White-bellied Minivet, built sometimes in low bushes or cane brakes and sometimes quite high up in trees. Eggs taken by Captain Venning and Mr. P. MacDonald are like those of the White-bellied Minivet but average decidedly paler. They measure about 17·3 × 13·7 mm.

Habits. Similar to those of the preceding species.

(751) Pericrocotus cinereus.

THE ASHY MINIVET.

Pericrocotus cinereus Lafresn., Rev. Zool., viii, p. 94 (1845) (Luzon, Philippines); Blanf. & Oates, i, p. 489.

Vernacular names. None recorded.

Description.—Adult male. Lores, a line across the forehead next the bill, posterior crown, nape and part of the ear-coverts black; forehead and anterior crown, chin, cheeks, part of the ear-coverts and whole lower plumage white, washed with ashy on the flanks and breast; upper plumage dark ashy-grey; wing-coverts dark brown, edged with ashy; primaries dark brown, all but the first four edged with grey and with a concealed white speculum; inner secondaries grey on the outer webs, blackish on the inner; four central tail-feathers black, the lateral feathers white with a diagonal black base.

Colours of soft parts. Iris dark brown; bill and feet black.

Measurements. Total length about 200 mm.; wing 95 to 101 mm.; tail 86 to 94 mm.; tarsus about 17 mm.; culmen about 16 mm.

Female. Paler than the male, no black on the head and the white forehead reduced to a mere trace; the lores and frontal line are dark brown; greater wing-coverts and inner secondaries tipped with white.

Distribution. Breeding in Japan, Amur and possibly Northern China, and in Winter extending to South China, the Indo-Chinese countries, Philippines, Sumatra, Borneo, Malay Peninsula, entering South Burma as a very rare straggler only.

Nidification. Owston found this Minivet breeding in great numbers about Mount Fuji at and over 2,000 feet. The nest he describes as a "broad shallow cup of fine twigs, lined with grass and placed on boughs of trees between 15 and 30 feet from the ground." The eggs number four or five and in colour they seem to run through all the variations found in the eggs of *Pericrocotus peregrinus*. They measure about 21·5 × 15·6 mm. The breeding-season appears to be May to June.

Habits. This is the most migratory of all the Minivets and there is no reason to think that they breed anywhere in the South, though Herbert found them paired before leaving Siam in April. La Touche records their passing through Chinkiang in April and May and says that none stay there to breed.

(752) Pericrocotus cantonensis.

SWINHOE'S MINIVET.

Pericrocotus cantonensis Swinhoe, Ibis, 1861, p. 42 (Canton, China); Blanf. & Oates, i, p. 490.

Vernacular names. None recorded.

Description.—Adult male. Forehead, anterior crown, chin, cheeks, throat and a semi-collar on the neck white; hinder part of crown, nape, back, scapulars and wing-coverts very dark ashy-brown; rump and upper tail-coverts pale brown; greater coverts sometimes obsoletely tipped grey; quills dark brown, an almost concealed white patch at the base of the inner primaries and outer secondaries; four central tail-feathers dark brown; lateral tail-feathers white with broad brown diagonal bases; lower plumage pale smoky-brown, darkest on the breast.

Colours of soft parts. Iris hazel; bill black, inside of mouth flesh-colour; legs and feet black.

Measurements. Total length about 200 mm.; wing 82 to 92 mm.; tail 83 to 90 mm.; tarsus about 15 to 16 mm.; culmen about 13 mm.

Female. Above like the male but with very little white on the forehead and the crown and back a little paler; wings and tail as in the male.

Distribution. Breeding in East and North-East China. In Winter to South China, Malay States, Indo-Chinese countries and occasionally into South Burma.

Nidification. Messrs. La Touche and Rickett found this bird

breeding during May and June in Foochow and Chinkiang. The nests are described as beautifully neat little cups made of fine grass, moss, fibre, roots and pine-needles plastered over with cobwebs outside and decorated with lichen and a little moss. They are placed high up in pine and other trees on the upper surface of a branch and not in a fork. The eggs number two to four and only differ from those of the preceding species in being smaller. Thirty-six eggs average 19·8 × 15·3 mm.: maxima **21·8 × 16·2** mm.; minima **18·6** × 15·1 and 20·3 × **14·9** mm.

Habits. This Minivet is a frequenter both of woods and open country, breeding either in trees in cultivated land, orchards, etc., or in pine and other forests. It is migratory certainly to some extent but at present we do not know to what extent it is resident in South and South-West China. It associates in flocks and has similar voice, flight, diet, etc., to other species of Minivets.

Genus **LALAGE.**

Lalage Boie, Isis, 1826, p. 973.

Type, *Lalage terat* (= *nigra*).

The name *Campephaga* being preoccupied, the above name must be used for this genus.

The genus *Lalage* contains a number of species the predominating colour of which is grey. The bill is comparatively weak, the tip being but slightly bent down and notched; the nostrils are nearly concealed by plumes, the wing is pointed and the tail-feathers graduated.

The sexes differ slightly in some, more strongly in others.

Key to Species.

A. Wing over 106 mm.	*L. melaschista*, p. 336.
B. Wing 106 or under, generally under 102 mm.	
a. Supercilium absent or only faintly indicated.	
a'. Throat and abdomen uniform grey in the adult	*L. fimbriata*, p. 339.
b'. Throat black in the adult, abdomen grey.	*L. sykesii*, ♂, p. 340.
c'. Throat and abdomen white, cross-barred with brown	*L. sykesii*, ♀, p. 340.
b. A conspicuous white supercilium at all ages.	*L. nigra*, p. 341.

Lalage melaschista.

Key to Subspecies.

A. Grey of plumage dark bluish; under tail-coverts dark grey	*L. m. melaschista*, p 337.
B. Grey of plumage paler; under tail-coverts whiter	*L. m. avensis*, p. 338.

(753) Lalage melaschista melaschista.

THE DARK GREY CUCKOO-SHRIKE.

Volvocivora melaschistos Hodgs., Ind. Rev., i, p. 328 (1837) (Nepal).
Campophaga melanoschista. Blanf. & Oates, i, p. 491.

Vernacular names. *Kabasi* (Beng.).

Description.—Adult male. Lores and feathers round the eye black; wings black; tail black, the central tail-feathers immaculate or narrowly tipped with white and the lateral feathers with broader white tips. The remainder of the plumage dark bluish grey.

Colours of soft parts. Iris hazel to dark brown; bill black; legs and feet dark slaty to almost black.

Measurements. Total length about 220 to 230 mm.; wing 114 to 123 mm.; tail 98 to 118 mm.; tarsus about 19 to 20 mm.; culmen about 17 mm.

Female similar in all respects to the male but rather paler. Many females retain traces of the juvenile barring on the underparts.



Fig. 51.—Head of *L. m. melaschista*.

Young. Paler grey below, barred from chin to under tail-coverts with dusky brown and each feather with a whitish fringe; tail-feathers cross-rayed with blackish and with the broad white tips more or less barred with brown; the wing-coverts and quills are narrowly edged with white. In a still younger stage the upper parts are faintly barred with darker and the ear-coverts are streaked with white; the inner webs of the primaries and outer secondaries are marked with white and the under wing-coverts barred black and white.

Nestling like the young, but the whole of the upper surface barred with black and white, or fulvous, and with the wing-coverts very broadly edged with buff or whitish.

Distribution. Himalayas, Muree to Eastern Assam both North and South of the Brahmaputra, Manipur, Lushai Hills, Tippera, Chittagong, the plains of India from latitude 16° northwards.

Nidification. The Dark Grey Cuckoo-Shrike breeds from May to July at all elevations up to about 7,500 feet and down to the foot-hills. The nest is a shallow frail-looking saucer of fine twigs, roots, etc., very compactly interlaced and strongly bound together with cobwebs. Sometimes there is no lining and sometimes a

slight lining of grass-stems; outside there are always a few decorative scraps of lichen, moss or bark, and occasionally the whole nest is covered with these. It is generally placed in a horizontal fork or on the upper surface of a bough high up in a forest-tree. The eggs number two or three, and are pale green to pale grey-green in colour profusely marked with longitudinal blotches of brown with a few others underlying of neutral tint. Thirty eggs average 24·5 × 17·5 mm.: maxima **26·5 × 18·0** and **26·2 × 18·8** mm.; minima **22·5** × 17·0 and 23·0 × **16·3** mm.

Habits. This Cuckoo-Shrike is a Summer visitor to the hills, being found in Winter in the plains and in the foot-hills at about 2,000 feet, a few birds remaining as high as 4,000 feet. They are found both singly and in pairs and sometimes in small flocks during the Winter, frequenting well-wooded country, light forest and orchards, though in the breeding-season they keep entirely to forest. They are quiet birds and I have heard no song, but they call to one another with a single plaintive note and have also a few low and rather harsh conversational notes. Their food is entirely insectivorous and consists chiefly of soft food, such as caterpillars and soft-winged insects, which they hunt for in among the branches of low and moderate-sized trees. They never descend to the ground.

(754) Lalage melaschista avensis.

THE PALE GREY CUCKOO-SHRIKE.

Campephaga avensis Blyth, Cat. B. A. S., p. 327 (1847) (Arakan) (description in J. A. S. B., xv, p. 307, 1846).
Campophaga melanoptera. Blanf. & Oates, i, p. 492.

Vernacular names. None recorded.

Description. A decidedly paler bird both above and below than *melaschista*. The female is generally paler than the male and retains faint markings resembling those of the immature bird.

Young bird like that of the preceding race but much paler.

I find that with the immense series now available for examination, about 200 skins, it is quite impossible to distinguish between *avensis* (= *melanoptera*), *intermedia* and *koratensis*. The principal characters depended upon for separation have been (1) depth of colour, (2) size and (3) amount of white on the abdomen and under tail-coverts. In each case these characters are purely individual and, when series from various geographical ranges are laid out side by side, each area will be found to contain individuals which agree exactly with others from elsewhere and, so much is this the case, that even the averages are much the same.

As regards size the following are the measurements I have been able to obtain:—

Northern birds, Chin Hills to Shan States etc.	Wing	112 to 122 mm.
	Tail	86 to 94 „
Central Burmese and Siam birds..	Wing	111 to 129 „
	Tail	89 to 100 „
South Tenasserim and Siam birds..	Wing	107 to 129 „
	Tail	88 to 95 „
Chinese birds	Wing	115 to 129 „
	Tail	89 to 100 „

Distribution. Burma from extreme North to South, the whole of Shan States, Siam, Yunnan and South China.

Nidification. Similar to that of the Dark Grey Cuckoo-Shrike. The few eggs I have seen were collected for me in Tenasserim and sent to me with nests and parent-birds. They were taken in May and the eggs measure from 20·2 to 24·0 mm. in length and from 17·1 to 18·2 mm. in breadth.

Habits. Those of the preceding race.

Lalage fimbriata.

Ceblepyris fimbriata Temm., Pl. Col., iii, 249-250 (1825).

Type-locality: Java.

(755) Lalage fimbriata neglecta.

THE SMALL CUCKOO-SHRIKE.

Volvocivora neglecta Hume, S. F., v, p. 203 (1877) (S. Tenasserim).
Campophaga neglecta. Blanf. & Oates, i, p. 493.

Vernacular names. None recorded.

Description.—Adult male. Like *L. m. melaschista* but very much smaller and with a shorter, less graduated tail; the abdomen is generally darker, but the under tail-coverts vary from white to pale grey as in that bird and the amount of white on the inner webs of the primaries varies to the same extent.

Colours of soft parts. Iris brown to crimson; bill and feet black.

Measurements. Total length about 220 mm.; wing 95 to 106 mm.; tail 75 to 83 mm.; tarsus about 21 to 22 mm.; culmen about 14 to 15 mm.

Female when fully adult similar to the male and no paler, but young birds retain the barring on the under plumage for some time.

Young. Paler grey above and below and barred throughout the lower plumage with black.

Nestling. Barred above with black and with white fringes to the feathers; below barred black and white or black and fulvous.

Distribution. Peninsular Burma and Siam to N. Malay States; birds from South Malay seem to agree with *culminata* (Hay) in always having the under tail-coverts dark grey and the white spots

on the tail very small. The true *fimbriata* from Java is very dark and Sharpe's *polioptera* from Cochin China very pale—of this last-mentioned race there are only three specimens in the British Museum collection, all very young birds, and more material will probably show them to be, as Sharpe himself finally thought, merely *neglecta*.

Nidification. Nothing recorded.

Habits. Similar to those of other Cuckoo-Shrikes.

(756) Lalage sykesii.

THE BLACK-HEADED CUCKOO-SHRIKE.

Lalage sykesii Strickl., A. M. N. H., (1) xiii, p. 36 (1844) (Calcutta).
Campophaga sykesi. Blanf. & Oates, i, p. 493.

Vernacular names. *Jangli Kasya* (Hind.); *Chinna akuragi* (Tel.).

Description.—Adult male. Whole head, neck, upper breast and upper back black; back, scapulars, lesser wing-coverts, rump and upper tail-coverts grey, the last paler; median and greater wing-coverts black broadly edged and tipped with grey; primary-coverts very narrowly edged with grey; quill-feathers black, the primaries narrowly, the secondaries broadly tipped and edged with greyish white; a large patch of white on the bases of all but the first primary and on most of the secondaries; this varies very greatly in extent and in some specimens is small and appears on the secondaries as a mottling only; central tail-feathers grey, outer feathers black with a white tip, increasing in width to the outermost; lower breast and flanks grey, paling to white on the abdomen, vent, under tail-coverts, wing-coverts and axillaries.

Colours of soft parts. Iris brown to crimson; bill, legs and feet black.

Measurements. Total length about 190 mm.; wing 98 to 110 mm. (Ceylon birds 92 to 101 mm. only); tail 62 to 70 mm.; tarsus about 21 mm.; culmen about 14 to 15 mm.

Female. Above grey, paler on the rump and upper tail-coverts which are faintly barred with black and fringed with very pale grey; wings and tail as in the male but dark brown instead of black and the former more marked with grey; below from chin to vent often tinted with fulvous, barred throughout with black; centre of abdomen, vent and under tail-coverts white.

Young. Feathers of the upper plumage tipped pale and barred with black; below like the female but more closely barred and generally much more fulvous.

Distribution. Ceylon and the whole of India as far North as Bengal on the East and Bombay on the West, a diagonal line from Bombay to Chota Nagpore representing its limits fairly correctly. It has been recorded from Assam, but in 30 years'

residence in that Province I never heard of its occurrence North of the Brahmaputra, though I obtained it thrice in 15 years in the Cachar District on the South.

Nidification. The Black-headed Cuckoo-Shrike breeds in Ceylon during March and April and in South India and the Deccan from June to August. The nests are small replicas of those of *L. n. melaschista* measuring under 3 inches in diameter by 1 inch or less in depth. They are made of fine roots and slender twigs fastened together with cobwebs and placed in a fork of a tree some five to fifteen feet from the ground. In Ceylon the eggs seem to always number two but in India three is the normal clutch. They only differ from those of *L. n. melaschista* in size, thirty eggs averaging 22·2×16·1 mm. The extremes are 23·8×16·8, 22·8×17·0 and 19·9×15·1 mm.

Habits. This little Cuckoo-Shrike is far more a frequenter of open but well-wooded country than are any of the preceding birds of this genus. It is found round about villages and in cultivated tracts and, according to Davidson, is also common during the breeding-season in scrub-jungle and *Anjan* forest in the South of the Bombay Presidency. It is a silent bird but Blewitt says that in the breeding-season it constantly utters an attempt at a song, a mere repetition of one plaintive note. It seeks its insect-prey high up in tall trees, often descending to the smaller trees and bush-jungle, but never actually to the ground itself.

(757) Lalage nigra nigra.

THE PIED CUCKOO-SHRIKE.

Turdus niger Forster, Ind. Zool., p. 41 (1781) (India, now restricted to Nicobars).
Campophaga terat. Blanf. & Oates, i, p. 495.

Vernacular names. None recorded.

Description.—Adult male. Base of the forehead and supercilium white; lores, a line through the eye, crown, neck, back, scapulars and lesser wing-coverts glossy black; rump and upper tail-coverts grey; median and greater coverts black, broadly edged with white; primary-coverts black narrowly edged with white; quills black, the primaries and outer secondaries with a broad patch of white at the base of the inner coverts, the latter also edged white; tail black, the central narrowly, the others more broadly tipped with white; under plumage white suffused with grey on the breast and flanks.

Colours of soft parts. Iris brown to lake-red; bill, legs and feet black, the scales of the tarsi edged with slate.

Measurements. Total length about 175 mm.; wing 86 to 89 mm.; tail 57 to 64 mm.; tarsus about 20 mm.; culmen about 14 mm.

Female. Upper plumage grey; in the wings and tail the black is replaced by brown; the white on the wing is less developed and bold; the breast and flanks are faintly barred with dusky.

Colours of soft parts and **Measurements** as in the male.

Young male like the female but browner above.

Nestling. Upper plumage barred with fulvous and black and much browner than in the female; below the breast and flanks are marked with narrow black shaft-lines.

Distribution. Nicobars only in India, Malay Peninsula and S.W. Siam, Borneo, Sumatra.

Nidification. A nest and eggs sent me by Mr. W. A. T. Kellow was found on 17th May and the nest is described by him as "a slight structure made of fine sticks fastened to a small branch with cobwebs, and covered with lichens externally. Taken in very dense forest in the foot-hills." The eggs two in number are like those of the Black-headed Cuckoo-Shrike, but rather brown. They measure 21·8 × 16·0 and 22·1 × 15·0 mm.

Habits. Those of the genus. Apparently restricted to forest-land and not found in the open or round about villages and cultivation.

Genus **GRAUCALUS.**

Graucalus Cuvier, Règne Anim., p. 341 (1817).

Type, *Graucalus papuensis*.

The genus *Graucalus* is very like *Lalage* in many respects, but has a comparatively longer and more pointed wing and a much larger, more massive bill.

Key to Species.

A. Tail broadly tipped with white ..... *G. macei*, p. 342.
B. Tail very narrowly tipped with paler brown or whitish ..... *G. dobsoni*, p. 346.

Graucalus macei.

Key to Subspecies.

A. Adult female with chin, throat and upper breast barred.
  a. Medium size, wing average 157 mm. .. *G. m. macei*, p. 343.
  b. Large size, wing average 178·5 mm. .... *G. m. nipalensis*, p. 344.
  c. Small size, wing average 145·0 mm. .... *G. m. layardi*, p. 345.
B. Adult female with no bars present on chin, throat or upper breast. Wing average about 168·0 mm. ..... *G. m. siamensis*, p. 345.

(758) Graucalus macei macei.

THE LARGE INDIAN CUCKOO-SHRIKE.

Graucalus macei Less., Traité, p. 349 (1831) (Bengal); Blanf. & Oates, i, p. 496.

Vernacular names. *Kasya* (Hind.); *Kabasi* (Beng.); *Pedda akurai* (Tel.).

Description.—Adult male. Lores, ear-coverts and cheeks black or dark blackish grey; whole upper plumage grey, the rump and upper tail-coverts paler as a rule; wing-coverts like the back; primary-coverts black very narrowly edged with grey; quills black, the primaries narrowly, the secondaries broadly edged with grey; middle tail-feathers ashy-brown tipped paler, lateral tail-feathers black, tipped brownish white, the breadth increasing in extent outwardly and also edging the outer webs of the outermost feather; chin and throat like the back, paling gradually until the abdomen is very pale grey and the under tail-coverts pure white.

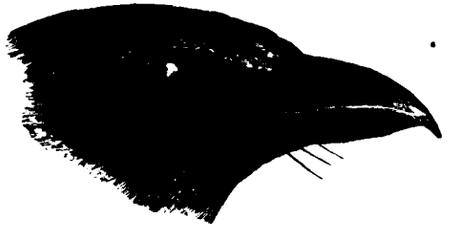


Fig. 52.—Head of *G. m. macei*.

Colours of soft parts. Iris brown to blood-red or crimson in old males; eyelids plumbeous; bill black, the inside of the mouth flesh-colour; legs and feet black.

Measurements. Total length about 280 mm.; wing 151 to 173 mm., average 157 mm.; tail 92 to 128 mm.; tarsus about 25 mm.; culmen about 30 mm.

Female. Similar to the male, but with the eye-streak not so black a grey; the whole lower surface from the throat to the vent is narrowly barred grey and white and the upper tail-coverts are fringed with white, with very faint subterminal dark bars.

Measurements. Wing 149 to 166 mm.

Colours of soft parts. Iris always brown; otherwise as in the male.

Young. Like the female but barred from chin to vent with black and white; the marks on the upper tail-coverts and rump are more pronounced.

Nestling like the young, but with the upper surface and wings tipped and margined with pale ferruginous.

Distribution. The whole of Continental India South of the Himalayas from Garhwal to West Assam, excluding the country at their bases. In the North-West this race wanders into the Himalayas to some height, possibly 4,000 feet or more. The Eastern Bengal bird is very large and must be included in the next race, as must those from Northern Behar. It extends South to Travancore.

Nidification. The Large Cuckoo-Shrike builds a nest very like that of the genus *Lalage* though larger but it is nearly always placed in an outermost branch of a lofty tree—often it is quite conspicuous and even more inaccessible. The eggs, which number two or three, have almost invariably to be taken out with a small butterfly-net or some similar contrivance. When fresh the eggs are green in ground-colour, varying from very pale to rather deep olive-green or grey-green but they speedily lose their green tint unless kept very carefully from the light and then become buff or yellow-tan, the colour of some eggs even when fresh. The markings consist of bold but rather scanty blotches of dark brown with more numerous secondary markings of pale inky-purple. In some eggs the markings are smaller, more numerous and paler. Twenty-two eggs average 31·0 × 22·4 mm.: maxima 33·2 × 23·2 mm.; minima 28·8 × 22·5 and 30·2 × 21·3 mm.

Habits. This Shrike is found in flocks of four or five in the Winter, sometimes two families joining forces. They are noisy birds and, as they fly one after another from tree to tree, utter constantly a very harsh grating dissyllabic call. They are not active birds either when feeding or when on the wing, though they will sometimes go through contortions when flying rather similar to those indulged in by the Rollers. They hunt almost entirely on the higher trees and feed principally on insects but also partly on seeds and fruit, whilst birds in captivity will greedily eat plantains.

(759) Graucalus macei nipalensis.

THE LARGE HIMALAYAN CUCKOO-SHRIKE.

Graucalus nipalensis Hodgs., Ind. Rev., i, p. 327 (1837) (Nepal).
Graucalus macei. Blanf. & Oates, i, p. 496 (part.).

Vernacular names. *Talling-pho* (Lepcha).

Description. Similar to *G. macei macei*, but larger, with a wing averaging 178·5 mm. and for males between 170 and 191 mm. and for females between 163 and 185 mm. The throat and fore-neck of the adult female are barred.

Distribution. The lower hills of the Himalayas from Garhwal and Western Nepal, through Sikkim, Bhutan and the hills of Western Assam; South to Northern Behar and North-east Bengal West of the Brahmaputra.

Nidification. Similar to that of the last bird, but the few eggs I have seen are very big, averaging about 33·6 × 23·4 mm.

Habits. This race is found almost entirely in the broken foot-hills and lower mountains up to some 4,000 feet during the breeding-season, probably wandering up to about 6,000 feet on rare occasions. A few birds, however, undoubtedly remain in the plains during the Summer and I have such records from Jalpaiguri, Darrang in Assam, Calcutta, Northern Behar, etc. Like the last bird it is only found in well-wooded country, and prefers forest to open plains and cultivated tracts.

(760) Graucalus macei layardi.

THE CEYLON LARGE CUCKOO-SHRIKE.

Graucalus layardi Blyth, Ibis, 1866, p. 368 (Ceylon).

Vernacular names. *Pedda akurai* (Tel.).

Description. Differs from the preceding races of this genus only in its very small size, the wing being on an average 145 mm.; the males vary from 145 to 150 mm. and the females from 140 to 145 mm.

Colours of soft parts as in the other races.

Distribution. Ceylon only. Birds from the extreme South of Travancore do not, as would seem likely, belong to this race.

Nidification. Nothing recorded beyond the fact that it is supposed to breed in June.

Habits. Those of the species. Legge says that it is found on high forest-trees near rivers, tanks or other natural openings in the forest. It seems to be a more shy, wild bird than its cousins in India and Burma.

(761) Graucalus macei siamensis.

THE SIAMESE LARGE CUCKOO-SHRIKE.

Graucalus macei siamensis Stuart Baker, Bull. B. O. C., xxxvii, p. 69 (1918) (Minam-Kraben, Siam).

Vernacular names. None recorded.

Description. Male similar to that of *G. m. nipalensis*, but the adult female differs from all the preceding races in having no bars on the chin, throat and upper breast. The Hainan form differs in being smaller and in having a darker chin and throat (*larvatus* Hartert).

Measurements. The following are the wing-measurements for the various areas inhabited by this subspecies:—

North Burma and Assam.	♂.	Wing 169 to 179 mm.	19	specimens.	
Central Burma	♂.	,, 157 to 174 ,,	14	,,	
	♀.	,, 151 to 174 ,,	15	,,	
South Burma	♂.	,, 168 to 180 ,,	9	,,	
	♀.	,, 163 to 174 ,,	5	,,	
Siam	♂.	,, 156 to 192 ,,	8	,,	
	♀.	,, 156 to 160 ,,	7	,,	

Numerous unsexed birds come in all cases in between the extremes given for the two sexes and substantiate the above.

Distribution. Eastern and South Assam, Burma, Chin, Kachin Hills, Shan States, Siam and Indo-Chinese countries.

Nidification. Similar to that of *G. m. nipalensis*. Hopwood found a nest with eggs, near Akyab, in March and in this month Anderson also took eggs in the Andamans. In Assam it breeds in May and June, rarely in April. The eggs, which are generally two only, seldom three, average, for ten, 32·0×22·5 mm.

Habits. Those of the species. This is a common bird in the Assam Hills South of the Brahmaputra below 3,000 feet, though it is found up to at least 4,000 feet. Those I examined had fed on insects of all kinds, many large species of Coleoptera, larvæ of the same, fruit of several kinds, berries and, once only, millet. This latter may have been swallowed with the Aphidæ, which were then infesting the ripe grain. It extends into the plains throughout the area in which it is found.

(762) Graucalus dobsoni.

DOBSON'S CUCKOO-SHRIKE.

Graucalus dobsoni Ball, J. A. S. B., xli, pt. 2, p. 281 (1872) (Andamans); Blanf. & Oates, i, p. 497.

Vernacular names. None recorded.

Description.—Adult male. A line from the nostrils, lores, cheeks, ear-coverts and sides of neck black; upper plumage and lesser wing-coverts dark iron-grey; median and greater coverts and quills black, very narrowly edged with pale grey; tail black, the outer feathers faintly tipped white, the tip more apparent on the outermost; chin, throat and breast paler iron-grey; under surface, axillaries, under wing-coverts and edge of wing greyish white, narrowly barred with black.

Colours of soft parts. Iris crimson; bill, legs and feet black.

Measurements. Total length about 260 mm.; wing 153 to 166 mm.; tail 112 to 135 mm.; tarsus about 24 mm.; culmen about 26 to 28 mm.

Female similar to the male, but barred throughout below with black and white; the lores are mottled with white and grey.

Measurements. Wing 151 to 160 mm.

Young. Upper plumage rufous or rufous-white barred with black; greater coverts with broad rufous edges; inner secondaries and scapulars barred with black and edged with rufous; chin to breast rufous and thence to under tail-coverts white, the whole narrowly barred with black.

Distribution. Andamans.

Nidification. All that is known of this species is that a nest and one egg were taken in the end of April. The finder took it for granted that the bird was *Graucalus macei* but, years after, sent to me nest, egg and bird to identify, when it proved to be the Andaman species. The nest was the usual shallow, frail-looking but really strongly-built structure made by this species and was placed high up in a big tree on the outskirts of dense forest. The egg is like a weakly but numerously spotted egg of the Indian Large Cuckoo-Shrike and measures 34·0×22·1 mm.

Habits. Those of the genus but according to Davison this is more entirely a forest-bird, never venturing into open spaces. He remarks that it is always seen in pairs and that its slow, rather dipping flight is weaker than that of the Indian bird.

Family ARTAMIDÆ.

The *Artamidæ*, or Swallow-Shrikes, resemble the Shrikes in having the young barred both above and below and also in their strong bill, which, however, is neither notched nor hooked, though it is gently curved. Their principal characteristics are their very long powerful wings and their very short tarsi. The wings have the first primary very small and the second and third sub-equal and longest. The tail is short and square. The sexes are alike in plumage.

In India there is but the one genus, *Artamus*.

Genus **ARTAMUS.**

Artamus Vieill., Analyse, p. 41 (1816).

Type, *A. leucogaster*.

A. leucogaster = *A. leucorhynchos* Gmel., S. N., i, p. 365 (1788) (Philippines).

Characters those of the family.

Key to Species.

A. Rump of the same colour as the back .... *A. fuscus*, p. 348.
B. Rump white, *different* from the back .... *A. leucorhynchos*, p. 350.

(763) **Artamus fuscus.**

THE ASHY SWALLOW-SHRIKE.

Artamus fuscus Vieill., Nouv. Dict. d'Hist. Nat., xvii, p. 297 (1817) (Bengal); Blanf. & Oates, i, p. 498.

Vernacular names. *Tari ababil* (Hind.); *Tal-chatak* (Beng.); *Tati-pittorh* (Tel.); *Mura-sing* (Mussal. in Beng.); *Silliangchi-pho* (Lepcha).

Description. Lores, feathers next the culmen and under the eye black; head and neck dark slaty-grey shading into dark vinous-brown on the back, rump, scapulars and shorter tail-coverts; longer upper tail-coverts white; tail slaty-black, tipped with white; wings dark grey, the inner quills very finely edged with white; lower plumage *pale vinous-brown*, paler on the vent and middle of the abdomen; under tail-coverts white.

Colours of soft parts. Iris blood-red; bill bright mauve-blue in the male, grey-blue in the female, tipped with black; the younger the bird the less and the duller the blue; legs slate-colour or bluish-slate, more blue in the breeding-season than at other times.

Measurements. Total length about 180 mm.; wing 126 to 138 mm.; tail 53 to 64 mm.; tarsus 17 to 18 mm.; culmen 18 to 19 mm.

Young. Above brown, the feathers edged with pale rufous and with dark subterminal bars; below pale rufescent narrowly barred with faint brown. The iris is dull glaucous-brown; the bill is blackish brown with a yellow gape; legs brownish livid or dull slate.

Nestling. More freely and strongly barred than the fully fledged young and with the wing-coverts broadly edged with rufous and with subterminal dark bars.

Distribution. Throughout the Empire from Ceylon to the Himalayas East of a line drawn from Godra in the Panch Mahals to Naini-tal in Kumaon; resident throughout the Plains and foot-hills up to 2,000 feet, and ascending the mountains up to 5,000 feet in Summer. It extends throughout Burma, Shan States, Siam, Cochin China, Yunnan and Western China.



Fig. 53.—Head of *A. fuscus*.

Nidification. Throughout its habitat this Swallow-Shrike breeds during April, May and June, constructing a rather shallow flimsy nest of roots, fibre from cocoanut and date palms, or from palm-ferns and other odds and ends of various kinds, such as feathers, scraps of grass, etc., which have caught on the trees and bushes, for this bird never takes its nest-material from the ground. There is no lining as a rule but sometimes a few feathers are used for this purpose. The nest may be placed in any hole in a tree-stump or, more often, on a ledge or projecting stump or broken bough. A very favourite site is at the base of the leaves of palms or palm-ferns or on the rough projections from which the leaves have fallen. The eggs number two or three, very rarely four, and are rather Shrike-like in appearance. The ground-colour varies from almost white to a rich yellowish-cream or buffy-cream; the primary markings consist of blotches of reddish brown to deep purple-brown and there are always secondary, or sub-surface, markings of lavender and purplish grey. The markings are generally sparsely scattered about over the greater part of the egg, though more numerous at the larger end, where they sometimes form a ring or cap. Fifty eggs average 23·4×17·1 mm..

and the extremes are: maxima 25·3×17·2 and 25·1×18·0 mm.; minima 22·0×16·6 and 23·0×16·3 mm.

Habits. The Swallow-Shrikes are essentially gregarious birds, the males collecting in flocks even during the breeding-season and they often, especially in Siam, build their nests in small colonies or in very close proximity to one another. They are not really migratory, though birds which are resident near the hills forsake the plains to breed and, where monsoons are very heavy, they seek drier haunts during the heaviest rains. They are most elegant birds when on the wing and, but for their constant harsh cry and their comparative slow sailing through the air, might be taken for a a bevy of large Grey Swallows on the wing. They are very crepuscular during the hotter months of the year, feeding principally before 10 A.M. and again after the sun gets low down. They catch all their food on the wing, sailing from some lofty perch in wide circles all together and then once more collecting on one branch, 30 or 40 birds huddled close up in the smallest space possible. A few minutes of shuffling about and getting comfortable and, for no apparent reason, a further launching into the air again. This may go on for an hour before darkness descends and they finally settle down to sleep.

Artamus leucorhynchos.

Lanius leucorhynchus Linn., Mantissa, p. 524 (1771).

Type-locality: Manila.

(764) Artamus leucorhynchos humei.

HUME'S WHITE-RUMPED SWALLOW-SHRIKE.

Artamus leucorhynchos humei Stresemann, Nov. Zool., xx, p. 291 (1913) (Andamans).
Artamus leucogaster. Blanf. & Oates, p. 490.

Vernacular names. None recorded.

Description. Head and neck slaty-grey, changing to purplish grey-brown on back, scapulars and lesser wing-coverts; rump, upper tail-coverts and whole under surface from breast pure white; tail blackish brown with very narrow pale tips.

Colours of soft parts. Iris pale blue, dark blue, to deep brown; bill pale blue, tipped with black; legs and feet dark slaty to practically black.

Measurements. Wing 127 to 134 mm.; tail 55 to 60 mm.; tarsus about 15 to 16 mm.; culmen 16 to 17 mm.

Young. Barred above with rufescent and with dark blackish bars; wing-coverts narrowly tipped with pale rufous.

Distribution. Andamans and the Great and Little Cocos Islands. This form differs from typical *leucorhynchos*, as pointed

out by Hume, in being a far purer slaty, less sooty colour on the head and back.

Nidification and **Habits** differ in no way from those of the preceding species. Twenty-six eggs average 23·1×17·0 mm.: maxima 23·6×16·8 and 23·2×17·2 mm.; minima 22·3×17·1 and 23·0×16·5 mm. Mr. B. B. Osmaston says that they breed in March, April and May, almost invariably placing their nests on the broken-off stump of some stout branch of a tree.

Family DICRURIDÆ.

The intrinsic muscles of the syrinx fixed to the ends of the bronchial semi-rings; the edges of both mandibles smooth, with a single notch in the upper one; hinder aspect of tarsus smooth and bilaminated; wing with ten primaries; tongue non-tubular: nostrils clear of the line of forehead; the lower edge of the nostril nearer to the commissure than the upper edge is to the culmen; plumage of the nestling much barred with white; nostrils overhung by hairs or plumelets; rictal bristles two; sexes alike. An Autumn moult only.

The *Dicruridæ*, Drongo-Shrikes or Drongos, form one of the most easily defined families of the Passeres, their black plumage and long forked tail of ten feathers sufficing to distinguish them readily. They appear to be more closely allied to the Shrikes than to any other Indian family and a very natural sequence seems to be Fly-catchers, Shrikes, Drongos, though these end, so far as India is concerned, in a *cul-de-sac*; if we work eastwards, however, through Malaya to Australia they would appear to approach very closely to the *Paradiseidæ*.

A great deal still remains to be worked out in regard to the local movements of the Drongos, although they are among the most common of our Indian birds. They are not migratory in the true sense, yet many of the species move considerably during the rains and the dry-weather periods, movements of which we as yet know very little, either in regard to cause or extent.

In all the *Dicruridæ* the wing is pointed and long; the tarsus is short but fairly stout and the tail is long. In this family energy seems to be expressed in various forms of head-adornment, in remarkable development of the tail or in both ways.

Key to Genera.

A. Outer tail-feathers not greatly lengthened; no portion of shaft bare.
  a. Forehead not tufted.
    a'. Bill deep; width and depth at nostrils equal ..... DICRURUS, p. 353.
    b'. Bill depressed; width greater than depth at nostrils ..... CHAPTIA, p. 368.
  b. Forehead tufted.
    c'. Tuft composed of a few hairs several inches long ..... CHIBIA, p. 370.
    d'. Tuft composed of few hair-like feathers, half-an-inch long ..... DISSEMUROIDES, p. 371.
    e'. Tuft composed of ordinary feathers half-an-inch long ..... DISSEMURULUS, p. 373.

B. Outer tail-feathers greatly lengthened and part of shafts bare.
  c. Terminal portion of outermost tail-feathers equally webbed on both sides. BHRINGA, p. 374.
  d. Terminal portion of outermost tail-feathers much more broadly webbed on the outer than on the inner side .. DISSEMURUS, p. 376.

Genus DICRURUS.

Dicrurus Vieill., Nouv. Dict. d'Hist. Nat., ix, p. 585 (1817).

Type, *D. balicassius*.

In the genus *Dicrurus* the bill is stout, sharply carinated and covered at the base by dense short feathers, which partially conceal the nostrils. There is no crest or tuft on the head. The tail is well-forked, the outermost feather exceeding the middle pair by a distance of from once to over twice the length of the tarsus; the outer tail-feathers have a curve upwards, sometimes so slight as to be hardly noticeable.

This genus is one which has hitherto been very unsatisfactorily dealt with; the greater number of the species contained in it range over a very wide area and are therfore subject, as we should expect, to geographical variations, sometimes slight, sometimes very pronounced: Oates treated some of these variations as full species and some he ignored altogether, a position almost certain to arise when subspecies are not recognized but much easier to deal with when the trinomial system is accepted. Under the latter system we can recognize five easily distinguished species, these being again divided into more or less numerous geographical races.

Key to Species.

A. Upper plumage deep glossy black.
  a. Outermost tail-feathers exceeding central ones by about length of tarsus and distinctly curved ..... *D. annectens*, p. 353.
  b. Outermost feathers exceeding central pair by more than twice length of tarsus and only faintly curved ..... *D. macrocercus*, p. 355.
B. Upper plumage grey.
  c. Lores and sides of head grey.
    a'. Lower plumage uniform grey ..... *D. leucophæus*, p. 359.
    b'. Lower plumage partly white ..... *D. cærulescens*, p. 365.
  d. Lores and sides of head white ..... *D. leucogenys*, p. 367.

(765) Dicrurus annectens.

THE CROW-BILLED DRONGO.

Buchanga annectens Hodgs., Ind. Rev., i, p. 326 (1837) (Nepal).
Dicrurus annectens. Blanf. & Oates, i, p. 312.

Vernacular names. *Kak-raja-sorai* (Assamese).

Description. Whole plumage black, glossed with steel-blue except on the lores, ear-coverts, inner webs of wing-quills and inner webs of rectrices; the tips of a few of the under wing-coverts and axillaries are nearly always tipped with tiny white dots.

Colours of soft parts. Iris bright hazel to deep brown; bill and legs black.

Measurements. Total length about 260 to 270 mm.; wing 139 to 152 mm.; tail 116 to 130 mm.; tarsus 19 to 20 mm.; bill, measured for the sake of accuracy from the anterior edge of nostril to tip, 17 to 20 mm.; width at nostrils 8·5 to 11·5 mm.

Kloss has ('Ibis,' 1918, p. 226) separated the Siam bird as a new race, under the name of *D. a. siamensis*, the supposed distinguishing feature being the small bill. A very exhaustive examination of the immense amount of material in the British Museum and in the Tring Museum shows that this form cannot be maintained, as birds with bills as small in all respects as the smallest in Siam have been obtained in Assam, Nepal and Burma, whilst other specimens from Siam have bills as large as, if not larger than, have any individuals from these parts.

Young birds have bold white tips to the axillaries and under wing-coverts and the lower plumage from breast to under tail-coverts more or less barred with white.

Nestling. Deep brown, barred more heavily on the lower plumage with white and the under tail-coverts nearly all smoky-white.

Distribution. Nepal, Sikkim, Oudh, Assam, North and South of the Brahmaputra, Chin and Kachin Hills, Shan States, Karen Hills, Tenasserim, Siam and Malay Peninsula.

Nidification. The Crow-billed Drongo breeds during April, May and June in the foot-hills of the Himalayas and up to some 2,000 feet throughout its range. The nest is a typical Drongo's nest, very much the same as those of the *Pericrocotidæ*, shallow saucers made of roots, weed-stems, bents and a few chips of leaves and grass-blades, well-intertwined and bound round the supporting branches and further strengthened with innumerable cobwebs and decorated with a little lichen, bits of bark or spiders' egg-bags, etc. They are always built in a horizontal fork of one of the outer branches of a tree, often at a great height, sometimes almost or quite within reach of one's hand, invariably, however, in a swaying slender branch, so that at every swing in a high wind it looks as if the contents must fall out. The site selected is one in thin or scattered forest, or in mixed bamboo and tree forest. The eggs number three or four and are very handsome. The ground-colour varies from a creamy-white to a warm salmon, and the primary markings consist of longitudinal streaks and blotches of reddish or chestnut-brown with similar secondary markings of neutral tint and grey. In many eggs the marks are most numerous and often more or less confluent at the larger end.

Aberrant eggs are speckled or spotted rather than streaked. One hundred eggs average 26·3 × 19·4 mm.: maxima **29·5** × 20·0 and 26·5 × **20·2** mm.; minima **24·1** × 18·4 and 27·0 × **18·3** mm.

Habits. Although the Crow-billed Drongo is not really migratory, it is a curious wanderer in the non-breeding season backwards and forwards within a small area. It is a breeder only in the lower hills and the plains immediately in their vicinity but from September to February or early March it may be found all over Assam and in many parts of Burma at a distance of 50 to 100 miles from its breeding-haunts. They are not gregarious birds and are not found in flocks, but they are very sociable and several individuals are often to be seen feeding amicably together. They are as plucky and pugnacious as the other members of their family, and will tackle any hawk, eagle or four-footed adversary that enters their domain, assisting one another against their common enemy. They have an immense variety of notes, both pleasant and the reverse. Their flight is like that of the common Black Drongo, but rather heavier and slower, though they display great activity in the pursuit of termites and flying insect-prey. Their diet is entirely insectivorous.

Dicrurus macrocercus.

Muscicapa atra Hermann, Obs. Zool., p. 208 (1804) (Tranquebarica) is unfortunately preoccupied by *Muscicapa atra* of Gmelin, 1789. The next earliest name is that of Vieillot, *Dicrurus macrocercus*, which must therefore be used.

The Common Black Drongo is found over an area extending from Western India to a great part of China in the East, and from the Himalayas in the North to Ceylon and Java in the South. As might be expected, there is a certain amount of variation coincident with geographical area but these variations are almost entirely those of size and of comparative length of wings and tails, which makes it very difficult to define the various subspecies. I have already dealt with the *Dicruridæ* at length in 'Novitates Zoologicæ,' xxv, p. 296 *et seq.*, and here only summarize my remarks.

Key to Subspecies.

A. Medium size; wing average 140 mm.; tail 154 mm.; culmen about 22·5 mm.	*D. m. macrocercus*, p. 356.
B. Large size; wing average 149 mm.; tail 160 mm.; culmen about 23·5 mm.	*D. m. albirictus*, p. 357.
C. Very small size; wing average 133 mm.; tail 153 mm.; culmen about 20 mm.	*D. m. minor*, p. 358.
D. Medium size with short tail; wing average 148 mm.; tail 147 mm.; culmen about 22 mm.	*D. m. cathæcus*, p. 358.
E. Size very small with long tail; wing average 129 mm.; tail 146 mm.; culmen about 21 mm.	*D. m. longus*, p. 359.

(766) Dicrurus macrocercus macrocercus.

THE BLACK DRONGO.

Dicrurus macrocercus Vieill., Nouv. Dict. d'Hist. Nat., ix. p. 588 (1817) (India, restricted to Orissa).
Dicrurus ater. Blanf. & Oates, i, p. 312 (part.).

Vernacular names. *Kulsa, Buchanga, Bojanga* (Hind.); *Finga* (Beng.); *Japal Kalchit* (Punj.); *Kunick, Kal Kolachi* (Sind.); *Thampal* (in the N.W. Provinces); *Kotwal* (in the Deccan); *Yeti-inta, Baradwaj-jam, Passala-poli-gadu* (Tel.); *Karri-Karrumak* (Tam.).

Description. Whole plumage deep black, everywhere glossed with steel-blue; a small white spot almost invariably present close to the angle of the gape.

Colours of soft parts. Iris red to crimson; bill, legs and feet black.

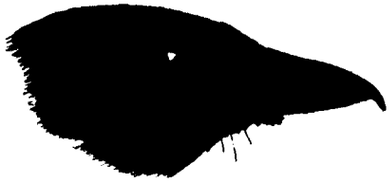


Fig. 54.—Head of *D. m. macrocercus.*

Measurements. Wing 128 to 156 mm., average 140·4 mm; tail 143 to 168, average 153·7 mm.; tarsus about 21 mm.; culmen 22·0 to 23·0 mm.

The largest measurements seem to be invariably of Winter birds, probably wanderers from the North, whilst the smallest, also Winter birds, are equally probably wanderers from the *extreme* South. If we could restrict our measurements to *breeding* birds only, these would probably be eliminated.

Young. Wings and lower plumage brownish; under wing-coverts and many feathers of the lower plumage tipped with white.

Nestling. Still browner, and the white tips forming irregular bars.

Distribution. The whole of India from South Travancore up to, but not including, the foot-hills of the Himalayas and also excluding the plains in the immediate vicinity of the hills and in Northern Bengal.

Nidification. The "King-Crow" or Black Drongo breeds throughout its habitat from about the middle of April to the end of June, often having second broods in July and August. About Sambhur it is said *not* to commence breeding until June. It builds a shallow cup-shaped nest of fine twigs and roots, sometimes almost entirely of the latter, lined with finer roots and occasionally with horse or buffalo hair; the outside is nearly always decorated with pieces of lichen, moss, bark, spiders' egg-bags, etc., but never in such profusion as are the nests of the *Pericrocoti*. Most nests are placed high up in tall trees, but I have seen them within reach of the hand. Almost without exception, however, they are placed in a fork of one of the outer and most slender branches, frequently in what appear to be such perilous positions that the contents must be lost in a high wind. The eggs generally number four in the more northern districts, three or even two only in the southern ones. They vary in colour from pure spotless white to rich warm cream or salmon, and the marks vary from a few black specks and dots to rather profuse markings of rich purple-red, reddish brown or pale pinky-brown; most eggs have underlying marks of neutral tint and lavender-pink, though these are sometimes missing. Two hundred eggs average 25·5×19·0 mm.: *maxima* **28·3×20·0** and 25·1×**20·1** mm.; *minima* **23·0×18·5** mm. and 25·2×**17·1** mm.

Habits. The "King-Crow" is one of the best known and most familiar of our Indian birds; its glossy black shape and undulating flight are to be seen in every garden and roadside, whilst its cheery loud notes sound from all sides of every village, town or patch of cultivation. It is one of the bravest of our birds, dashing headlong at every unwanted intruder and driving it with wild shrieks from the vicinity of its nest or young. Harmless birds it tolerates without protest and many birds, such as Orioles, Fly-catchers and others, build their nests close to that of a King-Crow's, so as to enjoy the protection of pluck greater than their own. Its ordinary flight is dipping and slow but it is capable of great speed in pursuit of its purely insect-diet, when its motions are no less graceful than rapid. It is a great mimic.

(767) Dicrurus macrocercus albirictus.

THE HIMALAYAN BLACK DRONGO.

Dicrurus albirictus Hodgs., Ind. Rev., i, p. 326 (1837) (Nepal).
Dicrurus ater. Blanf. & Oates, i, p. 312 (part.).

Vernacular names. *Bojanga, Buchanga* (Hind.); *Finga* (Beng.); *Thampal* (N.W.P.): *Charoi, Cheira* (Manipur).

Description. Differs from *D. m. macrocercus* in being larger. Wing 140 to 155 mm., average 149·1 mm.; tail 140 to 184 mm., average 159·5 mm.; tarsus about 22 mm.; culmen 23 to 24 mm. and distinctly heavier than in *D. m. macrocercus.*

Distribution. Throughout the Himalayas to East Assam, Manipur, Chittagong, Northern Bengal, North Chin Hills, North Kachin Hills and North Shan States.

Nidification. The Himalayan King-Crow breeds from the plains along the edge of the Himalayas up to 7,000 feet, at which height Mr. P. Dodsworth found it breeding near Simla. The breeding-

season is a little later than that of the last, few birds breeding before May. The nest is exactly like that of the Common Drongo, and the eggs only differ from those of that bird in being rather larger. Fifty eggs average 27·1 × 19·8 mm.: maxima **29·4** × **21·1** mm.; minima **23·6** × **18·0** mm.

Habits those of the species.

(768) Dicrurus macrocercus minor.

THE CEYLON BLACK DRONGO.

Dicrurus minor Layard, A. M. N. H., (2) xiii, p. 129 (1854) (Ceylon).
Dicrurus ater. Blanf. & Oates, i, p. 312 (part.).

Vernacular names. *Kari-kuravi* (Tam. in Ceylon).

Description. A much smaller bird than either of the preceding races with a smaller weaker bill but with an equally long tail. Wing 125 to 143 mm., average 133 mm.; tail 135 to 165 mm., average 153·3 mm.; bill about 20 mm.

Distribution. Ceylon only. If a sufficient number of breeding-birds only could be examined, it is probable that the South Travancore birds would be found to be of this race and, on the other hand, a few individuals which have occurred there of exceptionally large size and with heavy bills would possibly prove to be non-breeding visitors.

Nidification. Similar to that of the other races of this species, but at present not much is known as to its breeding-habits and as to how high it is found at this season. The eggs are like those of the Common King-Crow, though I have as yet seen no pure white ones either from Ceylon or South Travancore. They are, of course, very small. Twenty-one eggs average 24·2 × 18·1 mm.: maxima **27·0** × 19·0 mm. and 26·1 × **19·2** mm.; minima **22 8** × 18·9 and 24·4 × **17·2** mm. The breeding-season is March to the end of April, and only two or three eggs are laid.

Habits those of the species.

(769) Dicrurus macrocercus cathœcus.

THE CHINESE BLACK DRONGO.

Dicrurus cathœcus Swinh., P. Z. S., 1871, p. 377 (China).

Vernacular names. *Lin-mi-sue* (Burmese).

Description. This form is very close to *D. m. macrocercus* but is a rather larger bird with a comparatively shorter tail. The rictal white spot is often wanting. Wing 135 to 155 mm., average 148·4 mm.; tail 125 to 165 mm., average 148 mm.; tarsus about 21 mm.; culmen about 22 mm.

Distribution. Burma South of the area mentioned for the last species, South China, Siam and the Indo-Chinese countries and Hainan. In Burma it is found at least as far South as Amherst and Mergui, whence we have birds with wings measuring 143 and 144 mm. respectively; but about here it must grade into the next race and Kloss is probably right in assigning to the latter specimens from the extreme South-west of Peninsular Siam.

Nidification that of the species. Mr. Hopwood has found it breeding in Maymyio, South Chin Hills and in Tenasserim. Messrs. La Touche, Styan and Ricketts all found it breeding in great numbers in China. A small series of eggs, which I owe to these gentlemen, measures as follows:—Average 20 eggs 25·3 × 18·6 mm.: maxima **27·0** × 19·0 and 26·8 × **19·1** mm.; minima **23·1** × 18·2 and 23·7 × **18·0** mm.

Habits. Those of the species.

(770) Dicrurus macrocercus longus.

THE JAVAN BLACK DRONGO.

Dicrurus longus Bonaparte, Consp. Gen. Av., i, p. 352 (1850) (Java).

Vernacular names. Not recorded.

Description. A small bird with small bill but comparatively very long tail; there is no rictal spot. Wing 121 to 136 mm., average 129 mm.; tail 130 to 165 mm., average 146·4 mm.; bill about 20 to 21 mm.

Distribution. Java, Malay Peninsula and extreme South-west and South Burma.

Nidification. Nothing recorded. A nest and two eggs sent me from the extreme south of Tenasserim should probably be referred to this race. Both nest and eggs are very small, the latter measuring only 23·4 × 27·9 mm. They were taken on the 14th Feb., 1908, from a small tree just outside a village in the plains.

Habits. Those of the species. The detailed distribution of this bird and its movements, both in the breeding and non-breeding season, still require a great deal of working out.

Dicrurus leucophæus.

Vieillot, Nouv. Dict. d'Hist. Nat., nouv. ed., ix, p. 587 (1817), ex Levaillant, Le Dongri. Ois. d'Afrique, pl. 170, Java; Stuart Baker, Novitates Zool., xxv, p. 291 (1918).

I have dealt with this species in great detail in *loc. cit.*, and space is not available here to repeat my remarks. The great difficulty in determining the races is due not only to the extreme individual variation but, also, to the fact that the species is a confirmed wanderer in the non-breeding season and we therefore cannot with certainty say what Museum specimens are breeding-birds and what local visitors only. If we could eliminate all but breeding birds, we should almost certainly find the differences greatly accentuated. If the contrary was found to be the case, some of

the forms now accepted would have to be suppressed. Of the races I accepted in 1918 as fairly well recognisable, the following are found within the limits of this work :—

Key to Subspecies.

A. Wing average 127 mm.; tail 131 mm. General colour a bluish grey, not very dark ..... *D. l. disturbans*, p. 360.

B. Wing average 132 mm.; tail 138 mm. General colour much darker, more indigo-grey ..... *D. l. nigrescens*, p. 361.

C. Wing average 146 mm.; tail 150 mm. General colour much the same as in B. *D. l. hopwoodi*, p. 361.

D. Wing average 141 mm.; tail 152 mm. General colour decidedly paler, more grey, less indigo ..... *D. l. stevensi*, p. 362.

E. Wing average 134 mm.; tail 148 mm. General colour as in D ..... *D. l. longicaudatus*, p. 362.

F. Wing average 131 mm.; tail 139 mm. General colour rather darker than in D and E ..... *D. l. minimus*, p. 364.

(771) Dicrurus leucophæus disturbans.

THE SOUTH BURMESE DRONGO.

Dicrurus leucophæus disturbans Stuart Baker, Nov. Zool., xxv, p. 293 (1918) (Amherst).
Dicrurus nigrescens. Blanf. & Oates, i, p. 315.

Vernacular names. *Lon-mi-sue* (Burmese).

Description. Whole plumage steel-grey, a little paler on the rump and paling slightly from the breast to the under tail-coverts, the steel sheen also gradually fading away on these parts; lores and a line over the forehead dull black; wing-quills blackish brown; rectrices brownish at the tip. In abraded plumage obsolete dark centres to the feathers of the head and wing-coverts show up fairly plainly.

Colours of soft parts. Iris red to deep crimson; bill, legs and feet black.

Measurements. Total length about 250 to 260 mm.; wing 123 to 146 mm., average 127 mm.; tail 122 to 155 mm., average 131 mm.; culmen 21 to 22 mm.; tarsus about 18·5 to 19·5 mm.

Distribution. Malay Peninsula, except in the extreme Peninsular Burma and Siam as far North as Bangkok.

Nidification. Mr. Hopwood found this King-Crow breeding during April near Tavoy in Tenasserim, and Mr. W. A. T. Kellow sent me birds, nests and eggs procured in May near Simpang. Nests and eggs are indistinguishable from those of the well-known form *D. l. longicaudatus*, which are fully described by Hainan on. Fifteen eggs average 24·1 × 18·2 mm.: extremes,

maxima 26·5 × 18·3 and 24·5 × 18·6 mm.; minima 21·5 × 18·1 and 24·0 × 18·0 mm.

Habits those of the species. This is perhaps more of a forest-bird than some of the geographical races of the Grey Drongo, and haunts thin deciduous forest and light scrub as well as well-wooded open lands. It is found alike on plains and up to 3,000 or 4,000 feet in the Burmese Hills.

(772) Dicrurus leucophæus nigrescens.

THE BURMESE GREY DRONGO.

Dicrurus nigrescens Oates, Hume's Nests and Eggs, 2nd ed. i, p. 208 (1889) (Rangoon); Blanf. & Oates, i, p. 315.

Vernacular names. *Lon-mi-sue* (Burmese).

Description. Generally speaking, a darker bird than *D. l. disturbans* and decidedly bigger.

Colours of soft parts. The same in all the races.

Measurements. Wing (123) 128 to 143 mm., average 132; tail 124 to 154 mm., average 138 mm.

Distribution. All Central Burma and Siam from about the latitude of Bangkok, North to the South Chin and Kachin Hills; South Shan States and South Yunnan.

Nidification. There is nothing on record about the nidification of this Drongo, although common enough in many parts of Burma. A clutch of eggs taken by Mr. J. C. Hopwood are like the pink type of eggs of *D. l. longicaudatus*, and were taken at Maymyio in May. They measure about 24·5 × 18·3 mm.

Habits the same as those of other races. This is a bird of rather higher elevations during the breeding-season, April to June, but spreads over a great part of Burma during the cold weather. Much still remains to be learnt about its local movements and migrations.

(773) Dicrurus leucophæus hopwoodi.

THE ASSAM GREY DRONGO.

Dicrurus leucophæus hopwoodi Stuart Baker, Nov. Zool., xxv, p. 294 (1918) (Dacca).
Dicrurus cineraceus. Blanf. & Oates, i, p. 318.

Vernacular names. *Lon-mi-sue* (Burmese).

Description. This is the darkest of all the Eastern forms of *Dicrurus leucophæus* and also the biggest.

Measurements. Wing 130 to 153 mm., average 146 mm.; tail 130 to 167 mm., average 149 mm.; culmen 23 mm.

Distribution. Assam and Bengal, South and East of the Brahmaputra, Manipur, Lushai, Chittagong Hill-Tracts and the

Northern parts of the Chin and Kachin Hills, Shan States and Yunnan.

Nidification. This Grey Drongo breeds in great numbers in Assam between 4,000 and 5,000 feet and less freely up to 6,000 or 7,000 feet and right down to the plains. They breed in April and May, many birds having second broods in June and July. The nest is just like that of the Common Indian Grey Drongo but is more often placed in trees actually in or on the outskirts of forest. One hundred and fifty eggs average 24·6 × 18·5 mm.: maxima 27·5 × 19·3 and 25·3 × 20·0 mm.; minima 21·9 × 17·3 mm.

Habits. Those of the species. It is resident and breeds at all ranges from the foot-hills to about 4,000 feet, but above that elevation most birds come merely for the breeding-season and leave again for lower elevations after August. In the plains a certain number are resident but the majority leave these and visit the hills for breeding-purposes.

(774) Dicrurus leucophæus stevensi.

THE HIMALAYAN GREY DRONGO.

Dicrurus leucophæus stevensi Stuart Baker, Nov. Zool., xxv, p. 294 (1918) (Darjeeling).
Dicrurus longicaudatus. Blanf. & Oates, i, p. 314.

Vernacular names. *Sahim* or *Sahim-phi* (Lepcha); *Che-chum* (Bhut.); *Nil-finga* (Beng.).

Description. This is the largest and darkest form West of the Brahmaputra, though neither so large or dark as *D. l. hopwoodi* on the East; the tail is comparatively very long.

Measurements. Wing 127 to 152 mm., average 141 mm.; tail 128 to 175 mm., average 152 mm.; culmen 22 to 23 mm.

Distribution. West Nepal to Eastern Assam, West and North of the Brahmaputra, the foot-hills and plains immediately adjacent thereto.

Nidification. Breeds commonly during April, May and June from the foot-hills up to 6,000 feet or rather higher, but principally between 3,000 and 5,000 feet. Nest and eggs only differ from those of the Common Grey Drongo in being larger. The few I have seen average 25·9 × 19·0 mm.; a larger series might reduce this.

Habits. Those of the species.

(775) Dicrurus leucophæus longicaudatus.

THE INDIAN GREY DRONGO.

Dicrurus longicaudatus A. Hay, Jerd., Madr. Jour. L. S., xii, pt. ii, p. 121 (1845) (Nilghiris); Blanf. & Oates, i, p. 314.

Vernacular names. *Nil finga* (Beng.); *Eratu-valan-kuravi* (Tam.).

Description. Similar to *D. l. stevensi* but smaller.

Measurements. Wing 124 to 145 mm., average 134 mm.; tail 127 to 170 mm., average 148 mm.; culmen 21·5 to 22·5 mm.

Distribution. The whole of India West and South of the distribution of the preceding bird and perhaps the extreme South of Travancore. It appears, however, not to be found on the South-Eastern and East Central part of India, though Jerdon records it from Bastar in the Central Provinces. The biggest birds included in the above measurements are all Winter birds, as are the smallest birds in the preceding race and measurements of Summer birds only increases decidedly the difference in the average measurements.

Nidification. The Grey Drongo breeds throughout its habitat from the level of the Plains up to at least 7,000 feet, at which elevation its nests have been found by Mr. A. E. Jones and the late Mr. P. Dodsworth. The greater number of plains' birds seem, however, to move to the nearest plateaus and hills to nest. The breeding-season is during May and June, a few birds laying both earlier and later. The nest of this, as of all the other races of Grey Drongo, is a shallow saucer measuring externally about 4 inches in diameter by about 1½ or 2 inches deep, whilst internally the cup is about ¾ inch less each way. It is made of grass-stems, roots and, less often, of fine twigs, weed-stems, strips of bamboo-leaf and other materials. They are very well put together, though the materials are often rather scanty, being strongly reinforced with ample spiders' webs. Occasionally they are decorated outside with a few scraps of moss, lichen or spiders' egg-bags but never to so great an extent as are the nests of *Pericrocotus*. The situation selected for the nest is practically always one on a slender branch on the top or outside of a tree. It may be placed either on a horizontal fork or on the top of one or more small branches and is very rarely to be seen in an upright fork or on a stout bough. The height at which it is placed varies greatly; I have taken the eggs from a nest standing within a couple of feet of the ground, whilst other nests I have seen were fifty feet from it and quite unobtainable. The eggs, three or four in number, are very handsome. They range from pure spotless white to deep salmon or buffy-pink and the markings range from a few black pin-points to profuse chestnut, reddish brown, purple-brown or yellow-brown blotches. As a rule, they are more numerous and more of the character of blotches rather than spots as in the Black Drongos' eggs. The shape is normally a broad oval, very little depressed at the smaller end. The texture is smooth and fairly fine but not glossy. Two hundred eggs average 23·6 × 18·2 mm.: maxima 25·5 × 18·1 and 25·2 × 19·2 mm.; minima 21·2 × 17·4 and 23·0 × 17·3 mm.

Habits. Although found often in the true Plains the Grey Drongo prefers well-wooded hills and broken country with

Northern parts of the Chin and Kachin Hills, Shan States and Yunnan.

Nidification. This Grey Drongo breeds in great numbers in Assam between 4,000 and 5,000 feet and less freely up to 6,000 or 7,000 feet and right down to the plains. They breed in April and May, many birds having second broods in June and July. The nest is just like that of the Common Indian Grey Drongo but is more often placed in trees actually in or on the outskirts of forest. One hundred and fifty eggs average 24·6 × 18·5 mm.: maxima 27·5 × 19·3 and 25·3 × 20·0 mm.; minima 21·9 × 17·3 mm.

Habits. Those of the species. It is resident and breeds at all ranges from the foot-hills to about 4,000 feet, but above that elevation most birds come merely for the breeding-season and leave again for lower elevations after August. In the plains a certain number are resident but the majority leave these and visit the hills for breeding-purposes.

(774) Dicrurus leucophæus stevensi.

THE HIMALAYAN GREY DRONGO.

Dicrurus leucophæus stevensi Stuart Baker, Nov. Zool., xxv, p. 204 (1918) (Darjeeling).
Dicrurus longicaudatus. Blanf. & Oates, i, p. 314.

Vernacular names. *Sahim* or *Sahim-pho* (Lepcha); *Che-chum* (Bhut.); *Nil-finga* (Beng.).

Description. This is the largest and darkest form West of the Brahmaputra, though neither so large or dark as *D. l. hopwoodi* on the East; the tail is comparatively very long.

Measurements. Wing 127 to 152 mm., average 141 mm.; tail 128 to 175 mm., average 152 mm.; culmen 22 to 23 mm.

Distribution. West Nepal to Eastern Assam, West and North of the Brahmaputra, the foot-hills and plains immediately adjacent thereto.

Nidification. Breeds commonly during April, May and June from the foot-hills up to 6,000 feet or rather higher, but principally between 3,000 and 5,000 feet. Nest and eggs only differ from those of the Common Grey Drongo in being larger. The few I have seen average 25·9 × 19·0 mm.; a larger series might reduce this.

Habits. Those of the species.

(775) Dicrurus leucophæus longicaudatus.

THE INDIAN GREY DRONGO.

Dicrurus longicaudatus A. Hay, Jerd., Madr. Jour. L. S., xii, pt. ii, p. 121 (1845) (Nilghiris); Blanf. & Oates, i, p. 314.

Vernacular names. *Nil finga* (Beng.); *Eratu-valan-kuravi* (Tam.).

Description. Similar to *D. l. stevensi* but smaller.

Measurements. Wing 124 to 145 mm., average 134 mm.; tail 127 to 170 mm., average 148 mm.; culmen 21·5 to 22·5 mm.

Distribution. The whole of India West and South of the distribution of the preceding bird and perhaps the extreme South of Travancore. It appears, however, not to be found on the South-Eastern and East Central part of India, though Jerdon records it from Bastar in the Central Provinces. The biggest birds included in the above measurements are all Winter birds, as are the smallest birds in the preceding race and measurements of Summer birds only increases decidedly the difference in the average measurements.

Nidification. The Grey Drongo breeds throughout its habitat from the level of the Plains up to at least 7,000 feet, at which elevation its nests have been found by Mr. A. E. Jones and the late Mr. P. Dodsworth. The greater number of plains' birds seem, however, to move to the nearest plateaus and hills to nest. The breeding-season is during May and June, a few birds laying both earlier and later. The nest of this, as of all the other races of Grey Drongo, is a shallow saucer measuring externally about 4 inches in diameter by about 1½ or 2 inches deep, whilst internally the cup is about ½ inch less each way. It is made of grass-stems, roots and, less often, of fine twigs, weed-stems, strips of bamboo-leaf and other materials. They are very well put together, though the materials are often rather scanty, being strongly reinforced with ample spiders' webs. Occasionally they are decorated outside with a few scraps of moss, lichen or spiders' egg-bags but never to so great an extent as are the nests of *Pericrocotus*. The situation selected for the nest is practically always one on a slender branch on the top or outside of a tree. It may be placed either on a horizontal fork or on the top of one or more small branches and is very rarely to be seen in an upright fork or on a stout bough. The height at which it is placed varies greatly; I have taken the eggs from a nest standing within a couple of feet of the ground, whilst other nests I have seen were fifty feet from it and quite unobtainable. The eggs, three or four in number, are very handsome. They range from pure spotless white to deep salmon or buffy-pink and the markings range from a few black pin-points to profuse chestnut, reddish brown, purple-brown or yellow-brown blotches. As a rule, they are more numerous and more of the character of blotches rather than spots as in the Black Drongos' eggs. The shape is normally a broad oval, very little depressed at the smaller end. The texture is smooth and fairly fine but not glossy. Two hundred eggs average 23·6 × 18·2 mm.: maxima 25·5 × 18·1 and 25·2 × 19·2 mm.; minima 21·2 × 17·4 and 23·0 × 17·3 mm.

Habits. Although found often in the true Plains the Grey Drongo prefers well-wooded hills and broken country with

plenty of open spaces and is common in gardens and all round towns and villages. Except in a few places it does not care about forests, though occasionally found in thin deciduous tree-forest, or in secondary scrub or other growth. It is not gregarious but is very sociable, several birds often being seen hawking for insects in close proximity to one another. They feed entirely on insects, catching most of these in the air but often descending to the ground to seize some fat grasshopper or other tempting morsel. It is a very bold bird, like its black cousin, attacking any kite, crow or other objectionable bird which may invade its territory, not desisting until it has driven it away. It has a very large vocabulary of notes, some harsh and some sweet, and it has a very pleasant musical song uttered almost throughout the year. In addition to this it is an excellent mimic, whilst some of its notes seem to be ventriloquistic.

(776) Dicrurus leucophæus minimus.

THE CEYLON GREY DRONGO.

Dicrurus leucophæus minimus Stuart Baker, Nov. Zool., xxv, p. 296 (1918) (Ceylon).
Dicrurus longicaudatus. Blanf. & Oates, i, p. 314 (part.).

Vernacular names. *Eratu-valan-kuruvi* (Tam.).

Description. A small, rather dark bird with a comparatively short tail.

Measurements. Wing 120 to 135 mm., average 131·0 mm.; tail 133 to 147 mm., average 139 mm.; culmen 21 to 22 mm.

Distribution. Ceylon and South of Travancore.

The Javan race, the true *D. leucophæus leucophæus*, is a small very pale form with a comparatively very short tail. Wing average 127 mm.; tail average 123 mm.

Nidification. Not recorded. This bird probably does not breed in Ceylon, and both Messrs. Waite and Phillips assure me that Legge was quite correct in saying that it is a non-breeding migrant only. On the other hand, there is a very small dark Drongo which does breed in the extreme South of Travancore, smaller and darker than specimens from N. Travancore and Malabar. This bird is exactly the same as the Ceylon one and has the same short tail. For the present therefore I retain *minimus* as a subspecies, pending further material for comparison.

Two eggs sent me from Travancore measure 21·7 × 17·8 mm.

Habits. Those of the species but it is more of a forest-bird than any of the Northern forms. Legge speaks of it as almost entirely a forest-haunting King-Crow, and Mr. J. Stewart says that his own experience corroborates this in South Travancore.

Dicrurus cœrulescens.

Key to Subspecies.

A. Whole abdomen, posterior flanks, vent and under tail-coverts white; larger, wing average about 130 mm. ..... *D. c. cœrulescens*, p. 365.
B. Abdomen nearly always dark, only vent and under tail-coverts white; smaller, wing average about 112 mm. ..... *D. c. leucopygialis*, p. 366.

Those two races merge into one another in a remarkable manner and it would almost seem as if there were two species—one, *cœrulescens*, a white-bellied Indian bird with a small race inhabiting North-West Ceylon, and a second species, *leucopygialis*, with a dark belly, inhabiting Ceylon only.

The Indian bird throughout its area has a white abdomen, though this varies considerably in extent individually and somewhat decreases as one works farther South. Specimens exactly similar to Southern Indian birds in coloration are found over a great part of Ceylon but in size all these agree with the smallest Ceylon birds measuring in the wing only 104 to 111 mm. The majority also have the browner breast of the Ceylon birds, though this brown or grey tint varies somewhat throughout the whole area of this species.

For the present I retain the whole of the Ceylon birds under the name of *D. c. leucopygialis*.

(777) Dicrurus cœrulescens cœrulescens.

THE WHITE-BELLIED DRONGO.

Lanius cœrulescens Linn., S. N., i, p. 134 (1766) (Bangala).
Dicrurus cœrulescens. Blanf. & Oates, i, p. 316.

Vernacular names. *Phari luchanga*, *Dhapri* (Hind.); *Dhouli* (Beng.); *Nella* or *Kenda passala poliyadu* (Tel.).

Description. Whole upper plumage deep glossy indigo with greenish reflections in certain lights; wing-quills and inner webs of rectrices blackish brown; chin, throat, breast and upper flanks brownish grey; belly, posterior flanks, vent and under tail-coverts white; lores and a line at the base of the upper mandible black.

Colours of soft parts. Iris red to lake; bill, legs and feet black.

Measurements. Total length about 140 mm.; wing 120 to 138 mm.; tail 110 to 138 mm.; culmen (measured from anterior front of nostril to tip) 15 to 17 mm.; tarsus about 19 mm.

Young are very brown, retaining traces of the nestling-plumage on the breast, flanks, axillaries and under wing-coverts.

Nestling. Dull brown, the breast and flanks barred with white and the wing-coverts edged with pale rufescent white.

Distribution. India from the extreme South to Cutch on the West and thence North to Garhwal, but not West and North of this. On the East it extends to Western Bengal and Behar and it ascends the Himalayas between these points to about 6,000 feet.

Nidification. The White-bellied Drongo breeds from the foot-hills and broken ground adjoining them up to at least 6,000 feet and perhaps 1,000 feet higher. It keeps to heavily wooded country and to forest, laying in April, May and June, making the usual Drongo's nest, though, perhaps, rather larger and stronger in proportion to its size. The materials consist principally of roots and grasses and the nests are attached to the outer branches of small or medium-sized trees. The eggs number two or three and are typical small Drongo-eggs, varying in ground from the palest cream or yellowish-salmon to a warm salmon, the markings varying almost as much as in the Black Drongos. Thirty eggs average 23·2 × 17·5 mm.: maxima **24·1 × 18·0** mm.; minima **19·1 × 15·2** mm.

Habits. This Drongo is far more of a forest-bird than either the Black or Grey Drongos, though it is found about plantations and cultivation as well, where there are lots of trees. In its manners, flight, diet, etc. it differs little from these birds and it is equally courageous and pugnacious. It is said to have a sweeter song than any of the other Drongos of this genus.

(778) Dicrurus cœrulescens leucopygialis.

THE WHITE-VENTED DRONGO.

Dicrurus leucopygialis Blyth, J. A. S. B., xv, p. 198 (1846) (Ceylon); Blanf. & Oates, i, p. 316.

Vernacular names. *Kowda* or *Kawada Panika* (Ceyl.).

Description. Similar to the preceding race but, generally, with the white restricted to the vent and under tail-coverts and posterior flanks In some birds the abdomen is also nearly all white but very seldom to anything like the extent it is in true *cœrulescens*. The breast is generally a browner grey than it is in that bird and it is also a good deal smaller.

Colour of soft parts as in the preceding bird.

Measurements. Wing 104 to 123 mm.; tail 104 to 120 mm.; tarsus about 18 mm.; culmen 15 to 16 mm.

Distribution. Ceylon only.

Nidification. This Drongo breeds during March, April and May in the plains and foot-hills of Ceylon but, apparently, not up to any great height in the hills, It occurs in Kandy and up to 2,000 feet but there are only records of stragglers above this height. The nest is a shallow cup placed in the outer branches of trees in forests or plantations at heights between 10 and 30 feet from the ground. It is made of roots and grasses, sometimes of one of these only and is generally ornamented on the outside with scraps of bark, lichen or moss, the whole structure being strengthened with many cobwebs. Since rubber has been planted in Ceylon the rubber-trees seem to be very favourite sites. The eggs are like those of the last bird and a beautiful series of fifty eggs collected by Messrs. E. Waite and W. W. A. Phillips average 22·6 × 17·1 mm.: maxima **25·0** × 18·0 and 23·5 × **18·2** mm.; minima **18·0 × 15·1** mm.

Habits. Those of the preceding bird.

(779) Dicrurus leucogenys leucogenys.

THE WHITE-CHEEKED DRONGO.

Buchanga leucogenys Walden, A. M. N. H., (4) v, p. 219 (1870) (China).
Dicrurus leucogenys. Blanf. & Oates, i, p. 317.

Vernacular names. Not recorded.

Description. Forehead black, grading into blue-grey on crown; lores, ear-coverts and round the eye white; shafts of tail-feathers black and outer webs of outermost pair of tail-feathers blackish; terminal portions of wing-quills blackish; remainder of upper plumage pale bluish grey with a distinct sheen; below the same with no sheen and paler on the abdomen.

Colours of soft parts. Iris red to deep crimson; bill, legs and feet black.

Measurements. Wing 132 to 146 mm.; tail 125 to 138 mm.; tarsus about 17 to 18 mm.; bill from anterior point of nostril to tip about 16 to 17 mm.

Birds from Hainan and Cochin China are rather darker and smaller, wing 129 to 135 mm., whilst birds from Sumatra are decidedly darker below and much smaller with a short tail; wing 120 to 124 mm.; tail 98 to 120 mm.

Distribution. Peninsular Burma to Singapore, the Indo-Chinese countries (excepting perhaps Cochin China and Hainan), Siam, Yunnan, China and Japan.

Nidification. La Touche found this bird breeding in large numbers during May and June at Foochow, building a typical Drongo's nest either on a Pine or other tree, generally at a good height from the ground. Eighty-two eggs average 24·4 × 18·8 mm: maxima **26·4 × 19·3** mm.; minima **21·8 × 17·3**. They vary in the same manner as do those of the more common Drongos in India.

Habits. Those of the genus.

Genus CHAPTIA.

Chaptia Hodgs., Ind. Rev., i, p. 326 (1837).

Type, *Chaptia ænea* Vieill.

The genus *Chaptia* links *Dicrurus* with *Chibia*. It is more glossy than the former and has the feathers of the crown and hind neck longer and more pointed but not becoming long hackles as in the neck-feathers of *Chibia*. It differs from both genera in its very depressed and flattened bill. The tail is much forked, the middle pair of feathers reaching little beyond the middle of the tail.

Chaptia ænea.

Key to Subspecies.

A. Larger. Wing average about 124 mm.; rump generally lighter; abdomen generally more grey ..... *C. æ. ænea*, p. 368.
B. Smaller. Wing average about 118 mm.; rump generally darker; abdomen generally less grey ..... *C. æ. malayensis*, p. 369.

(780) Chaptia ænea ænea.

THE NORTHERN BRONZED DRONGO.

Dicrurus æneus Vieill., Nouv. Dict. d'Hist. Nat., ix, p. 586 (1817) (Bengal, restricted to Dacca).
Chaptia ænea. Blanf. & Oates, i, p. 318.

Vernacular names. *Chota Buchanga* (Beng.); *Chaptia* (Nep.).

Description. Whole plumage black glossed with bronze, showing green or lilac reflections in certain lights; lower abdomen, vent and under tail-coverts browner and without gloss; under wing-coverts and axillaries tipped with white in all but the oldest birds; rump often grey and without gloss.

Colours of soft parts. Iris reddish brown to crimson-lake; bill, legs and feet black.

Measurements. Total length about 240 mm.; wing 115 to 132 mm.; tail 105 to 130 mm.; tarsus about 14 mm.; culmen 21 mm.

Young birds have the axillaries and under wing-coverts heavily spotted with white.

Distribution. The Himalayas, from Mussoorie in the West to Eastern Assam and North-East Bengal, Manipur, Chin and Kachin Hills, Yunnan to Hainan. A single specimen in the British Museum from Saigon has as a wing of 132 mm. and may possibly be of this same race.

Nidification. This Bronzed Drongo breeds in April, May and early June, building a nest quite typical of the family but, as one would expect, much smaller than that of *Dicrurus*. It is built in similar positions in slender branches on the outside or at the top of trees standing either in forest or well-wooded country at any height between ten and forty feet from the ground. The eggs number two to four, the most common type being one with a rather deep salmon-pink ground, faintly marked in a ring or cap with deeper reddish pink. A few eggs are more boldly blotched and spotted with reddish brown, like small replicas of those of *Dicrurus macrocercus*. One hundred eggs average 21·1 × 16·1 mm.: maxima **24·1 × 16·0** and 22·2 × **17·2** mm.; minima **19·9 × 15·9** mm. and 20·0 × **15·0** mm.

Habits. This Northern Bronzed Drongo is found from the plains up to at least 7,000 feet, and seems to be resident throughout the year except in the highest parts. It is essentially a forest Drongo, though also found to some extent where there are many orchards and well-wooded tracts. It keeps much to the higher trees when hawking for insects and is singularly graceful and quick in its movements. Although like the rest of the family it has many discordant cries, it has a sweet song and many pleasant call-notes as well. It is as plucky in defence of territory, nests or young as are all the other genera of this family.

(781) Chaptia ænea malayensis.

THE SOUTHERN BRONZED DRONGO.

Chaptia malayensis A. Hay, Blyth, J. A. S. B., xv, p. 294 (1846 (Malacca).

Vernacular names. *Chota Kesraj* (Gorakpur); *Chinna Kari Kuravi* (Telegu, Travancore).

Description. Similar to the preceding bird but rather smaller; the rump is generally darker, though unglossed and the abdomen, vent and under tail-coverts are generally darker, though individual variation in these characters is very great.

Measurements. Wing 107 to 124 mm., average 118·4 mm.; tail 97 to 104 mm.

Distribution. The whole of Western India from South Travancore to Bombay; Orissa, Western Bengal to Calcutta, thence to the Sunderbands, Chittagong South of the Hill Tracts, Central and South Burma, Siam and the Malay Peninsula.

Nidification. Similar to that of the preceding bird, but the few eggs I have seen average smaller.

Habits. Those of the genus. The Southern Bronzed Drongo is found from sea-level to the top of the highest hills, but never except in forested or well-wooded country which is broken by ravines, small hills or rough ground or in the immediate vicinity of such country. In flight, voice, diet, etc. it differs in no way from the Northern form.

Genus **CHIBIA.**

Chibia Hodgs., Ind. Rev., i, p. 324 (1837).

Type, *Chibia hottentotta* Linn.

In *Chibia* the bill is long, pointed and curved downwards. The plumage is very glossy and the feathers of the sides of the neck greatly lengthened and lanceolate. About half-a-dozen long hairs spring from the posterior crown lying over the neck and back; the tail is nearly square and the tips of the outermost feathers curved upwards.

(782) **Chibia hottentotta hottentotta.**

THE INDIAN HAIR-CRESTED DRONGO.

Corvus hottentottus Linn., S. N., i, p. 155 (1766) (Sikkim).
Chibia hottentotta. Blanf. & Oates, i, p. 320.

Vernacular names. *Krishna-raj, Kishen-raj, Kesraj* (Beng. and Hind.); *Kesya, Jobraj* (Nep.); *Povonj-pho* (Lepcha); *Yentika passala poligadu* (Tel.).

Description. Whole plumage black; the head, neck, wings, tail and breast with metallic-blue gloss, inclining to bronze on the wings and tail in certain lights.

Colours of soft parts. Iris red-brown to dark brown; bill, legs and feet black.

Measurements. Total length about 300 mm.; wing 155 to 180 mm.; tail about 145 to 160 mm.; tarsus about 22 to 24 mm.; culmen 26 to 32 mm. Southern birds average a great deal smaller than Northern ones, thus birds from Bombay have a wing measuring 158 mm., whilst those from North-West India average over 175 mm. At the same time there is great overlapping and at present very little material available from Southern India for comparison, so, for the present, I retain all but the small-billed Chinese birds under the one name.

Young birds are browner with less gloss and the axillaries and under wing-coverts tipped with white; the neck-hackles, which in the adult run up to as much as 30 mm., are short and the long hairs which spring from the head not more than 50 mm. as against nearly 100 mm. in the adult.

Nestling. Brown with obsolete white bars to the abdomen, flanks and breast; bold white tips to the axillaries and under wing-coverts and pale edges to the wing-coverts.

Distribution. Travancore, Malabar and Bombay Presidency; Central Provinces and Chota Nagpore; the Himalayas from Murree to Eastern Assam; Burma South to Tenasserim; Shan States, Northern Siam and Yunnan.

Nidification. The Hair-crested Drongo breeds from February and March to June in Western India and during April, May and June in Northern India and Burma. The nest is merely a large edition of the Common Drongo's nest but is nearly always placed high up in a tree standing in forest. The eggs number three or four, rarely five or, equally seldom, two only. They are longer and more pointed in shape than other Drongos' eggs, in ground-colour varying from pure white to deep salmon, pale creamy eggs being the most common. The markings consist of rather pale reddish blotches, somewhat longitudinal in character and fairly profuse everywhere. A few eggs are marked with scanty specks or spots of purple-brown or blackish. Two hundred eggs average 29·2×21·2 mm.: maxima **34·5**×22·0 and 31·0×**22·8** mm.; minima **25·0**×20·5 and 27·5×**19·8** mm.

Habits. This Drongo is essentially a forest-bird and frequents broken ground, low hills and the bigger mountains up to some 3,000 feet, wandering occasionally 1,000 feet higher than this. It is not gregarious and does not assemble in flocks but an unusually ample supply of food will attract many individuals and pairs which feed quite amicably together. Thus a flight of termites or a Bombax in full bloom, with its great red flowers full of insects, will attract among other birds many of this species. They feed largely by searching flowers and leaves for insects but also catch these on the wing when they have the opportunity. Their ordinary flight is more powerful and less dipping than that of most Drongos whilst their calls are even louder and more diversified than any but those of *Dissemurus*.

Genus **DISSEMUROIDES.**

Dissemuroides Hume, Str. Feath., i, p. 408 (1873).

Type, *D. dicruriformis* Hume.

The genus *Dissemuroides* differs from *Dicrurus* in possessing a tuft of hair-like feathers about half an inch long springing from the forehead.

Dissemuroides andamanensis.

Key to Subspecies.

A. Smaller, wing always under 140 mm... *D. a. andamanensis*, p. 371.
B. Larger, wing always over 140 mm. .... *D. a. dicruriformis*, p. 372.

(783) **Dissemuroides andamanensis andamanensis.**

THE SMALL ANDAMANESE DRONGO.

Dicrurus andamanensis Tytler, Beavan, Ibis, 1867, p. 323 (Andamans, Port Blair).
Dissemuroides andamanensis. Blanf. & Oates, i, p. 321.

Vernacular names. None recorded.

Description. Whole plumage black, glossed with blue-green

everywhere except on the primaries and outer secondaries, which are brownish, and on the abdomen, vent and under tail-coverts which are velvety-black; axillaries and under wing-coverts tipped with white.

Colours of soft parts. Iris deep brown, sometimes almost black; bill, legs and feet black.

Measurements. Total length about 280 to 290 mm.; wing 126 to 138 mm.; tail 118 to 161 mm.; tarsus about 20 mm.; culmen, measured from anterior point of nostril to tip, 19 to 20 mm.

Young birds are browner with more conspicuous white tips to the axillaries and under wing-coverts.

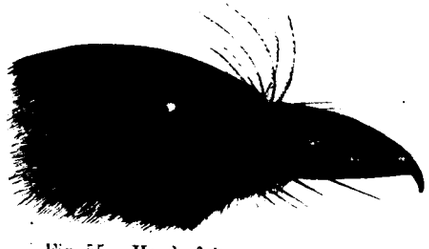


Fig. 55.—Head of *D. a. andamanensis*.

Distribution. Port Blair and Macpherson Straits and ? possibly other parts of the Andaman Islands.

Nidification. According to Mr. B. B. Osmaston this Drongo breeds round about Port Blair from April to the middle of May, building a typical Drongo's nest on some dry or leafless tree in forest. The eggs appear to vary in colour almost as much as those of the Common Black Drongos, though pure white eggs have not been found. Thirty-three eggs average 25·4 × 18·3 mm.: maxima 26·6 × 19·3 mm.; minima 22·3 × 16·5 mm.

Habits those of the family. It is apparently entirely a forest-bird.

(784) Dissemuroides andamanensis dicruriformis.

THE LARGE ANDAMANESE DRONGO.

Dissemuroides dicruriformis Hume, Str. Feath., p. 408 (1873) (Cocos Is., Andamans); Blanf. & Oates, i, p. 322.

Vernacular names. None recorded.

Description. Only differs from the preceding bird in being much bigger.

Measurements. Wing 142 to 156 mm.; tail 150 to 182 mm.; tarsus about 24 mm.; culmen 22 to 23 mm.

Distribution. The Great Coco and Table Islands in the Andamans.

Nidification. Unknown.

Habits. The same as those of the preceding bird.

Genus DISSEMURULUS.

Dissemurulus Oates, Avifauna B. I., i, p. 322 (1889).

Type, *D. lophorhinus* Vieill.

This genus is characterized by the possession of a tuft of ordinary feathers on the forehead measuring about half an inch in length. The tail is deeply forked, but the outer tail-feathers are not prolonged as the genera *Bhringa* and *Dissemurus*.

(785) Dissemurulus lophorhinus.

THE CEYLON BLACK DRONGO.

Dicrurus lophorhinus Vieill., Nouv. Dict. d'Hist. Nat. ix, p. 587 (1817) (Ceylon).
Dissemurulus lophorhinus. Blanf. & Oates, i, p. 322.

Vernacular names. *Kowda, Kaputa baya* (Ceylon); *Val, Kari Karuvi* (Tel., Travancore).

Description. Whole plumage black, glossed with steel-blue above, on exposed portions of wings and tail and also on the breast; forehead and tuft deep velvety-black; abdomen dull black; axillaries and under wing-coverts tipped with white.

Colours of soft parts. Iris dull brownish red or dark yellowish red; bill, legs and feet black.

Measurements. Wing 136 to 146 mm.; tail 150 to 182 mm.; tarsus 24 to 25 mm.; culmen from nostril 20 to 21 mm.

Young birds are duller; greyer on the abdomen and with much larger white tips to the axillaries and under wing-coverts. One young bird has a few white specks on the flanks, indicating that these and the abdomen are possibly more or less barred with white in the nestling.

Distribution. Ceylon and South Travancore.

Nidification. This fine Drongo breeds in Ceylon and Travancore during March and April between the foot-hills and damp forests of the plains up to about 3,000 feet. The nest is described by Mr. Stewart as a shallow cup or cradle just like that of *Dissemurus* and is placed in quite similar positions in high trees in forest.

The eggs number two to four and are very like those of *Dissemurus paradiseus* but the ground-colour never seems to be as rich a salmon as it sometimes is in those of the Racket-tailed Drongo. The ground varies from almost white to a pale salmon

often with a tint of lilac or mauve in it. The markings consist of blotches and spots of reddish brown with secondary ones of pale neutral tint and lavender. These are usually distributed rather sparingly over the whole surface but rather more numerously towards the larger end. Fifty eggs average 27·8×20·1 mm.: maxima 30·2×20·7 and 29·1×22·0 mm.: minima 26·0×21·0 and 27·2×20·0 mm.

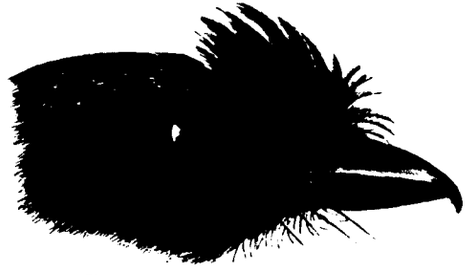


Fig. 56.—Head of *D. leucophæus*.

Habits. This Drongo keeps entirely to the interior of damp dense forest otherwise having much the same habits as the common species of Drongos. It seizes most of its prey on the wing and has a very fine vocabulary of notes both of its own and in mimicry of other birds. Although not gregarious it is very sociable in its habits, several pairs often feeding together in close propinquity. Like all the family it is very plucky and leads the small birds in their pursuit of owls, kites or other birds of prey.

Genus **BHRINGA**.

Bhringa Hodgs., Ind. Rev., i, p. 325 (1837).

Type, *B. remifer* Temm.

The genus *Bhringa* is one of two genera of Drongos which have the outer pairs of tail-feathers greatly lengthened, the middle portion of the shaft being webless. In *Bhringa* the terminal portions or rackets of these feathers is flat and the shaft equally webbed on both sides, whereas in *Dissemurus* the web of the inner side of the racket is very narrow. There is no true crest, but the feathers of the forehead are dense and long, lying over nearly the whole length of the bill.

Bhringa remifer.

Edolius remifer Temm., Pl. Col., 178 (1823).

Type-locality: Java.

(786) **Bhringa remifer tectirostris.**

THE INDIAN LESSER RACKET-TAILED DRONGO.

Bhringa tectirostris Hodgs., Ind. Rev., i, p. 325 (1837) (E. Nepal).
Bhringa remifer. Blanf. & Oates, i, p. 324.

Vernacular names. *Bhimraj* (Beng. and Assam.); *Nambong punnong* (Lepcha); *Poyadi yapo* (Bhut.): *Dao-raja kashiba* (Cachari).

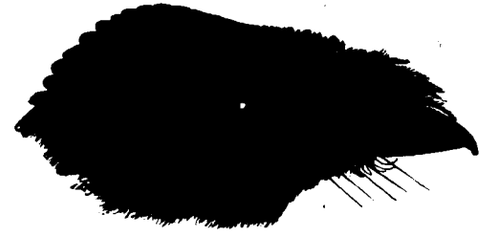


Fig. 57.—Head of *B. r. tectirostris*.

Description. Forehead, lores, chin and cheeks velvety-black; upper plumage, exposed parts of wings and tail, throat, neck and breast black glossed with blue-green, the sheen on the head and breast showing violet in certain lights; under wing-coverts and axillaries with small white tips.

Colours of soft parts. Iris blood-red; eyelids plumbeous; bill, legs and feet black.

Measurements. Total length excluding long tail-feathers about 275 mm.; wing 129 to 146 mm., average 136 mm.; tail up to 350 and 400 mm. with rackets generally between 70 and 80 mm. in length; tarsus about 22 mm.; culmen about 21 to 23 mm.

The Javan bird, the true *B. r. remifer*, is smaller, wing 128 to 137 mm. with much shorter outer tail-feathers, these seldom exceeding 280 mm. The rackets are smaller and shorter, measuring about 50 mm.

Young are greyer on the abdomen and have larger white tips to the axillaries and under wing-coverts.

Distribution. Northern India from Eastern Nepal to East Assam both North and South of the Brahmaputra, Manipur, Lushai, Chittagong Hill-Tracts, the whole of Burma to Tavoy (*Hopwood*); the Chin, Kachin and Shan States, Yunnan, and Northern Siam.

Nidification. The Small Racket-tailed Drongo breeds during April, May and June between the foot-hills and 6,000 feet, most often between 1,500 and 2,500 feet, but it is common in the Dibrugarh District of Assam in the foot-hills and broken plains

adjacent thereto. The nest is quite typical of the family and calls for no remark. The eggs, either three or four in number, are very broad in shape with the small end but little compressed, and in colour are like richly tinted eggs of *Dicrurus m. hopwoodi*, but more blotched than spotted. One hundred eggs average 25·5 × 18·6 mm.: maxima 27·3 × 19·0 mm. and 25·6 × 19·7 mm.; minima 23·2 × 18·7 mm. and 24·2 × 17·9 mm.

Habits. This is a bird of forests, though it is very partial to cultivation-clearings in the centre of heavy woods and also to openings on river-banks and swampy glades. It keeps much to the tops of trees whence it sallies forth after beetles, butterflies and other insects. Its normal flight is slow and dipping, the long tail-feathers undulating through the air as it flies; it is, however, also capable of great speed and activity, especially in pursuit of termites on the wing. It has many and most varied notes, very full and melodious, and it is an excellent mimic, though not so good as the next species.

Genus DISSEMURUS.

Dissemurus Gloger, Handb. Naturg., p. 347 (1842).

Type, *D. paradiseus* Linn.

The genus *Dissemurus* differs from *Bhringa* in having the feathers of the forehead prolonged into a handsome crest, curling back over the crown and also in having the rackets of the long outer tail-feathers webbed broadly on the outer side but only very narrowly on the inner. Within our limits there is but one species, but this varies greatly in different parts, both in size and in quality of crest and tail, forming several well-marked geographical races or subspecies.

Dissemurus paradiseus.

Key to Subspecies.

A. Size medium; wing 138 to 163 mm.; tail up to 420 mm.; crest small, reaching only over anterior crown ..	*D. p. paradiseus*, p. 377.
B. Larger, wing 147 to 170 mm.; tail up to 435 mm.; crest longer, reaching centre of crown	*D. p. rangoonensis*, p. 378.
C. The largest form; wing 155 to 182 mm.; tail up to 560 mm.; crest very full, covering whole crown	*D. p. grandis*, p. 378.
D. Size large, wing 152 to 167 mm.; tail up to 450 mm.; crest absent or obsolete; culmen average 32 mm. ..	*D. p. otiosus*, p. 380.
E. Size medium, wing 146 to 153 mm.; no crest; culmen 28 mm.	*D. p. nicobariensis*, p. 380.

F. Size medium, wing 142 to 167 mm.; tail up to 415 mm.: crest up to centre or anterior crown	*D. p. malabaricus*, p. 381.
G. Size small, wing 139 to 156 mm.; tail up to 340 mm.; crest very small.	*D. p. ceylonensis*, p. 381.

(787) Dissemurus paradiseus paradiseus.

THE SIAM LARGE RACKET-TAILED DRONGO.

Cuculus paradiseus Linn., S. N., ed. xii, p. 172 (1766) (Siam).
Dissemurus paradiseus. Blanf. & Oates, i, p. 325.

Vernacular names. *Nok-seng-sao-hang-buang* (Siam); *Lin-mi-rui-ami-ni-gua* (Tenasserim).

Description. Whole plumage black, glossed with blue, except on the inner webs of the wing-quills, throat, abdomen and vent; the axillaries and under tail-coverts are tipped with white in all but very old birds.

Colours of soft parts. Iris red to crimson-lake; bill, feet and claws black.

Measurements. Wing 138 to 163 mm.; tail up to about 420 mm., generally about 400 mm.; tarsus about 28 mm.; culmen 27 to 30 mm.

Young are browner, less glossed and have the white under wing-spots more pronounced.

Distribution. Central and South Siam and Peninsular Burma. Birds from the West run rather larger than birds from the East, North of the Malay Peninsula. Thus a series of specimens from Tavoy and Mergui have a wing-average of 153 mm., as against 143 for Siam birds. On the other hand, the crests and bills are small as in that bird and the tail also is somewhat shorter with smaller rackets.

Nidification. Mr. E. G. Herbert says that this Drongo breeds in May, building its nest in mango-trees, in gardens and the outskirts of villages, making a flimsy nest, "cup-shaped, but very shallow, of tiny creepers, roots and stems of grasses, often so thinly put together that one can see from below if there is anything in it. The materials are bound round the sides of a horizontal fork at the end of a branch, so that the nest hangs in the fork like a cradle."

"The position of the nest is on the very fringe of the tree at about 20 feet from the ground, so it is quite inaccessible from the tree itself."

The eggs, which number two or three only, are long ovals; ground-colour white or cream to warm pink with blotches, few at the smaller end, numerous at the larger, of reddish brown, purple or claret and secondary markings of lavender or pale grey. Twenty eggs average 28·6 × 20·0 mm.: maxima 33·2 × 20·2 and 30·2 × 22·0 mm.; minima 26·9 × 20·0 mm. and 30·0 × 19·5 mm.

Habits. The Siam Large Racket-tailed Drongo is a bird both of the forests and of the open country round about villages and houses and may often be found in gardens. Where the food-supply is sufficient two or three pairs may often be seen feeding together, for, though a very bold bird against all vermin and raptores, it is far from quarrelsome or a bully. It feeds entirely on the wing, generally selecting a post of observation on some high branch, from which it swoops in graceful flight after passing insects, returning, like a Shrike, to its perch to devour them. Like a Shrike it also sometimes holds its prey, if large enough, in its claws when feeding. Birds of this species have been known to seize and eat small lizards and tiny frogs but it keeps principally to insects, grasshoppers and locusts forming a large proportion of its diet. Its calls are very sweet and full and it has a strong, though short, melodious song. It is, like all the races of this species, an excellent mimic.

(788) Dissemurus paradiseus rangoonensis.

THE BURMESE LARGE RACKET-TAILED DRONGO.

Edolius rangoonensis Gould, P. Z. S., 1836, p. 5 (Rangoon).
Dissemurus paradiseus. Blanf. & Oates, i, p. 325 (part.).

Vernacular names. *Hnet-dau* (Burmese).

Description. A rather larger bird than *D. p. paradiseus* with a longer fuller crest and longer tail with wider longer rackets.

Colours of soft parts. The same in all races.

Measurements. Wing 147 to 170 mm.; tail up to 435 mm.; culmen 28 to 32 mm.

Distribution. Central and South Central Burma, South Chin and Kachin Hills; South Shan States and Northern Siam.

Nidification. Very little on record, but apparently not differing from that of the last bird, though it is more of a forest and less of a cultivated-country bird than that race. Messrs. Hopwood and Mackenzie took most of their nests on pynkado trees (*Xylia dolabriformis*) standing in open bamboo-jungle on the edge of roads. The few eggs I have seen measured about 29·0 × 21·0 mm.

Habits. Those of the genus. This race is found from the foot-hills up to 5,000 feet during the breeding-season and throughout the plains in Winter, haunting both forest and more or less cultivated land as long as it is well wooded.

(789) Dissemurus paradiseus grandis.

THE ASSAM LARGE RACKET-TAILED DRONGO.

Edolius grandis Gould, P. Z. S., 1836, p. 5 (Assam).
Dissemurus paradiseus. Blanf. & Oate., i, p. 325 (part.).

Vernacular names. *Bhimraj, Bhringraj* (Hind.); *Kaljia* (Nep.); *Parvak* or *Parvak-pho* (Lepcha); *Dao-rajah gaschin* (Cachari).

Description. This is the largest of all the races of this species, with a magnificent crest reaching over the whole crown and a very long tail with large rackets.

Measurements. Wing 155 to 182 mm.; tail up to 560 mm. and often exceeding 500 mm.; culmen 32 to 35 mm. and stout in proportion.

Distribution. The Himalayas from Mussoorie to Eastern Assam: South to Sambalpur, Raipur and the Northern reaches of the Godavari River: North Chin and Kachin Hills; Northern Shan States and Yunnan.

Nidification. This fine Drongo breeds during April and May from the level of the plains up to about 4,500 feet, but not often above 3,000 feet. The nest is the usual cradle swung in the fork



Fig. 58.—Head of *D. p. grandis.*

of some small branch at the top of, or outside, some tree standing in forest, deep or open, or in well-wooded open country. It is fragile-looking, but strong in fact, being composed of very fine twigs, weed-stems, roots and grasses well interlaced and very firmly attached to the supporting fork, round which the materials are wound and then strengthened with cobwebs. The lining consists of a scanty amount of grass-stems and the outside is often more or less decorated with lichen, scraps of moss, bark, etc. It measures anything between 5½ and 6½ inches in diameter by less than half its width in depth. Most nests are placed high up in big trees and are very difficult to get at but a few are built within 15 or 20 feet of the ground. The eggs number three or four and vary rather less than do those of most Drongos. In shape they are rather long and pointed; in colour they vary from pure white, which is rare, to a rich cream, marked with primary blotches or spots and specks of some shade of reddish, brown or purple and



Fig. 59.—*Acrocephalus stentoreus brunnescens.*

Family SYLVIIDÆ.

The Warblers.

The intrinsic muscles of the syrinx fixed to the ends of the bronchial semi-rings; the edges of both mandibles smooth or the upper one with a single simple notch; hinder aspect of tarsus smooth, composed of two entire longitudinal laminæ; wing with ten primaries; tongue non-tubular; nostrils always clear of the line of forehead, the space between the nostril and the edge of the mandible less than the space between the nostril and the culmen; the plumage of the young is like that of the adult female but brighter, in many cases more yellow or rufous; tail-feathers ten or twelve, sexes generally alike; a partial or complete Spring moult in addition to the complete Autumn moult.

The *Sylviidæ*, or Warblers, comprise a large number of birds of small size and, with few exceptions, plain plumage. Hartert

includes them in his *Muscicapidæ*, or Flycatchers, but these birds have the nestlings spotted or squamated, a perfectly sufficient reason for dividing them from this family. The *Sylviidæ* have a complete or partial Spring moult, which not only generally causes a change in the colour of the plumage but in some also changes the length and shape of the tail. In some Warblers this moult affects only the quills of the wings and tails.

In the *Sylviidæ*, though the young are often more highly coloured than the adults, they have the same colour-pattern. Some young Warblers appear to have no moult in the first Autumn, whilst in a few this moult, as in *Locustella*, appears to form a transition-stage between the nestling plumage and that of the adult. Others of the *Sylviidæ* change direct into the adult plumage at their first Spring moult and others again do not obtain the adult plumage until their second Autumn moult.

Many species of Warblers are migratory, others are resident and in a few there are both resident and migratory subspecies of the same species.

The *Sylviidæ* found within the limits of this work comprise about 150 species and subspecies referable to 33 genera. I follow Oates in the main features of his key and divide them in two classes, the first of which includes all Warblers with twelve tail-feathers and the second those with ten.

Key to Genera.

A. Tail of twelve feathers.
- *a*. Feathers of the forehead short, rounded, their shafts not elongate; no hairs or bristles on the margin of the forehead, except the ordinary rictal ones near the gape.
  - *a'*. Rictal bristles arranged in a horizontal row.
    - *a''*. Feathers of head and neck soft, not spinous.
      - *a*³. First primary less than a third of the length of the second.
        - *a*⁴. Wing longer than tail by about the length of tarsus ..... AGROBATES, p. 385.
        - *b*⁴. Wing and tail about equal in length.
          - *a*⁵. Rictal bristles well developed; tail-feathers less graduated, the outermost more than ¾ length of tail ..... ACROCEPHALUS, [p. 387.
          - *b*⁵. Rictal bristles very small; tail much graduated, outermost feathers less than ¾ length of tail ..... LOCUSTELLA, p. 399.
      - *b*³. First primary longer than a third of the second.

c^4. Rictal bristles extremely short.
c^5. First primary not more than half second ..... TRIBURA, p. 403.
d^5. First primary equal to ¾ second. ELAPHRORNIS, [p. 408.
d^4. Rictal bristles well developed.
e^5. Bill as long as, or longer than, the head ..... ORTHOTOMUS, p. 410.
f^5. Bill decidedly shorter than the head.
a^6. First primary shorter than half second.
a^7. Wing pointed ..... LUSCINIOLA, p. 417.
b^7. Wing rounded ..... CISTICOLA, p. 419.
b^6. First primary longer than half second.
c^7. Third primary not longest nor equal to longest.
a^8. Two rictal bristles ..... FRANKLINIA, p. 424.
b^8. More than two rictal bristles.
a^9. Tail more than 1½ times length of wing. LATICILLA, p. 430.
b^9. Tail less than 1½ times length of wing..... [p. 432. GRAMINICOLA,
d^7. Third primary reaching to tip of wing.
c^8. Tail much longer than wing ..... MEGALURUS, p. 434.
d^8. Tail about equal to wing. SCHŒNICOLA, p. 436.
b^4. Rictal bristles arranged vertically ..... CHÆTORNIS, p. 438.
b. Feathers of the forehead disintegrated, the shafts lengthened; supplementary bristles in front of rictal bristles. [p. 439.
c^3. Tail greatly graduated and rounded .... PHRAGMATICOLA,
d^3. Tail nearly even or slightly forked.
b^{11}. Supplementary bristles short, no frontal hairs over nostrils.
c^{11}. Bill from gape to tip longer than middle toe with claw ..... HIPPOLAIS, p. 441.
d^{11}. Bill from gape to tip shorter than middle toe with claw ..... SYLVIA, p. 446.
c^{12}. Supplementary bristles very strong and numerous, no frontal hairs; bill stout ..... [p. 452. HERBIVOCULA,
d^{12}. Supplementary bristles numerous but not strong, no frontal hairs; bill slender ..... [p. 453. PHYLLOSCOPUS,
e^{12}. Supplementary bristles very strong and numerous, extending over nostrils up to centre of culmen; bill large and wide; first primary small ..... [p. 471. ACANTHOPNEUSTE,
f^{12}. Supplementry bristles similar but extending up to tip of bill; first primary small ..... SEICERCUS, p. 485.
g^{12}. Supplementary bristles reaching to middle of bill; first primary large, exceeding half second ..... MUSCITREA, p. 483.

d^{12}. Tail of ten feath
c. Tail no longer in Winter than Summer; not cross-rayed or only obsoletely so; graduated slightly or not at all.
e^{1}. Wing and tail about equal in length.
h^{11}. Nostrils overhung by long hairs.
e^{2}. Tail very slightly rounded.
e^{3}. Rictal bristles of great length; wing longer than tail.
g^{3}. Bill short and pointed ..... ABRORNIS, p. 493.
h^{3}. Bill long and blunt ..... TICKELLIA, p. 499.
e^{4}. Rictal bristles moderate; wing shorter than tail ..... SCOTOCERCA, p. 501.
f^{2}. Tail considerably rounded ..... NEORNIS, p. 502.
i^{11}. Nostrils not overhung by hair.
g^{4}. Supplementary bristles in front of rictal bristles; feathers of forehead with shafts prolonged ..... HORORNIS, p. 504.
h^{4}. No supplementary bristles; feathers of forehead with shafts not prolonged. [p. 516.
g^{5}. Bill broad, blunt and long ..... PHYLLERGATES,
h^{5}. Bill sharp and slender.
i^{5}. Outer tail-feathers much shorter than central ..... HOREITES, p. 512.
j^{5}. Outer tail-feathers very little shorter than central ..... CETTIA, p. 514.
f^{1}. Wing about twice as long as tail ..... UROPHLEXIS, p. 515.
d. Tail longer in Winter than in Summer, cross-rayed and greatly graduated.
g^{1}. Tail twice as long as wing ..... SUYA, p. 518.
h^{1}. Tail one and a half times as long as wing. PRINIA, p. 525.

Genus **AGROBATES.**

Agrobates Swains., Class. Birds, ii, p. 241 (1837).

Type, *Agrobates galactodes*.

The genus *Agrobates* is represented in India by one species, which is a somewhat rare winter visitor to the drier parts of the North-West, occasionally straggling as far East as Assam. The bill is about half the length of the head, slender and similar in shape to that of *Locustella* (fig. 63). The forehead is clothed with short thick-set feathers and there are no supplementary bristles; this character and the longer foot and wing suffice to separate *Agrobates* from *Sylvia* with which Seebohm placed it. The tail is ample and well rounded. The first primary is short and the second equal to the fourth.

Agrobates galactodes.

Sylvia galactodes Temm., Man. d'Orn., i, p. 182 (1820).

Type-locality: South Spain.

(794) Agrobates galactodes familiaris.

THE GREY-BACKED WARBLER.

Sylvia familiaris Menetr., Cat. Rais. Cauc., p. 32 (1832) (S. Caucasus).
Aëdon familiaris. Blanf. & Oates, i. p. 351.

Vernacular names. None recorded.

Description. Whole upper plumage fulvous-brown, darker on the forehead and sides of the crown, changing to bright rufescent on the rump and upper tail-coverts; centre pair of tail-feathers brown, more or less suffused with rufescent, obsoletely cross-rayed and broadly tipped with dark brown, the next two pairs chestnut with broad subterminal band of black, the extreme edges and tips being pale rufous sometimes showing a speck of white, outer three pairs the same, but with broad white tips; wing-quills and

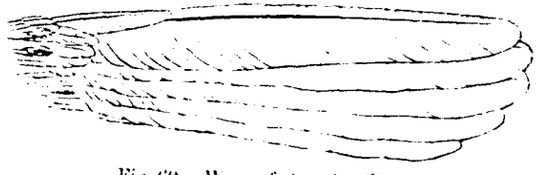


Fig. 60. Wing of *A. g. familiaris.*

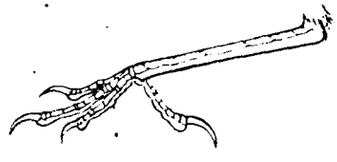


Fig. 61.—Foot of *A. g. familiaris.*

coverts edged with pale fulvous-white; supercilia white or buffy-white; lores and a line through the eyes brown; a line under the anterior ear-coverts brown; ear-coverts and entire lower plumage pale, dull vinaceous-white, a little darker on breast and flanks.

Colours of soft parts. Iris brown or dark brown; bill brown above, the lower mandible whitish or yellowish white, the mouth yellow; legs and feet pale brown, fleshy-brown, pale yellowish white or dirty straw-colour.

Measurements. Total length 175 to 185 mm.; wing 85 to 90 mm.; tail 65 to 70 mm.; culmen 18·0 to 19·5 mm.; tarsus about 26 mm.

Typical *A. g. galactodes* differs from this race in being much more rufous above.

Distribution. From Southern Caucasia to Persia, Mesopotamia, Transcaspia, Turkestan, Afghanistan, Baluchistan and N.W. India, straggling into the plains of the Punjab, N.W. Provinces,

Sind and Rajputana. I have killed a specimen in Cachar and have received another from Behar.

Nidification. The Grey-backed Warbler probably breeds practically wherever found, but in Sind and N.W. India Ticehurst says that it is only found as an Autumn migrant on passage. He does not, however, say from where to where and it may well be a resident here as at Multan, where Major Lindsay Smith took many nests. He records that about Multan "the Grey-backed Warbler breeds in the most inhospitable deserts breeding in low stunted bushes that do not average 20 feet high; the nest is usually under 5 feet from the ground, always on thickish branches. I strongly suspect that this bird frequently makes use of deserted nests of *Argya caudata* and *Molpastes leucotis*, as I have found three types of nest. The one which I ascribe to the bird itself is a large, loosely put together cup of grass-stems, always found in Jal bushes (*S. alsoides*); the Bulbul type is built in the Jhand (*P. spicigera*) and the Babbler type in the Karil or Wild Caper (*C. aphylla*). It may be, however, that the Warbler suits its nest to the type of tree selected for a site."

Nests, eggs and birds were sent to me by Major Lindsay Smith. The clutches numbered three to four eggs each and were indistinguishable in anyway from those taken by Tomlinson in Basra or by Currie in Persia. The ground-colour is white, greyish or yellowish white, and very rarely pinkish white, the whole surface being profusely marked with small rather longitudinal freckles and blotches of brown or reddish brown, the general aspect of the egg varying from grey to reddish brown. In shape the eggs are rather long, well-pointed ovals. Fifty eggs average 20·9×15·4 mm.: the maxima are **23·5×16·3** mm. and the minima **19·2×15·4** and 20·1×**14·0** mm.

At Multan the breeding-season is from the end of February to early April, at Kerman and Sheraz Currie found them laying in May, whilst Tomlinson took eggs from the middle of May to the end of June.

Habits. The Grey-backed Warbler is a bird of arid plains covered with scanty scrub and date-gardens etc. in dry situations, though within irrigated areas. It is by no means aquatic in its habits and, though like the Reed-Warblers, it feeds in amongst scrub-jungle and thorny bushes it seems never, like these birds, to frequent reed-beds and marshy swamps. It has a loud and rather discordant note and is entirely insectivorous in its diet.

Genus ACROCEPHALUS.

Acrocephalus Naum., Nat. Land- u. Wass.-Vög. Nord-Deutschl., iv, p. 149 (1811).

Type, *Acrocephalus turdoides*=*arundinaceus.*

The genus *Acrocephalus* contains Indian species which are

common in Winter over a very wide area but of which the greater number seek the higher ranges for nidification.

The Reed-Warblers are birds of plain plumage with very few obviously distinctive features and are therefore difficult to identify without a careful examination of the wings.

The Winter and Summer plumage only vary in that the rufous or fulvous tint, especially in the lower plumage, is greatly intensified during the winter or non-breeding season. The sexes are alike and they undergo a complete moult both in Autumn and Spring.

In this genus the bill is rather slender and generally nearly as long as the head; the forehead is smooth and there are three well-developed, strong, rictal bristles on each side of the head. The first primary is small and the second varies considerably in comparative length, forming an excellent guide to the various species. The tail is long and well graduated, the feathers rather narrow and pointed.

Key to Species.

A. Of large size, wing above 75 mm.
  a. Second primary shorter than fifth .... *A. stentoreus*, p. 388.
  b. Second primary equal to or longer than fourth ..... *A. arundinaceus*, p. 391.
B. Of small size, wing under 65 mm.
  c. With a distinct black stripe over the supercilium ..... *A. bistrigiceps*, p. 392.
  d. With no black stripe over the supercilium.
    a'. Culmen from front under 15 mm.
      a''. Upper plumage olivaceous ..... *A. dumetorum*, p. 393.
      b''. Upper plumage rufous.
        a^3. Second primary equals sixth to seventh ..... *A. agricolus*, p. 394.
        b^3. Second primary equals eighth to tenth ..... *A. concinens*, p. 395.
    b'. Culmen from front over 15 mm..... *A. orinus*, p. 398.

In consulting the above key it must be remembered that the culmen is measured from the feathers of the forehead; if measured from the base of the skull, another 2 mm. must be added to the measurements given.

Acrocephalus stentoreus.

Curruca stentorea Hempr. & Ehrenb., Symb. Phys., Aves, fol. bb. (1833).

Type-locality: Damietta, Egypt.

Key to Subspecies.

A. Paler and more rufous ..... *A. s. brunnescens*, p. 389.
B. Darker and less rufous ..... *A. s. amyæ*, p. 390.

(795) Acrocephalus stentoreus brunnescens.

THE INDIAN GREAT REED-WARBLER.

Agrobates brunnescens Jerd., Madr. Jour. L. S., x, p. 269 (1839) (Trichinopoly).
Acrocephalus stentoreus. Blanf. & Oates, i, p. 356.

Vernacular names. *Bora-jitti* (Tel.).

Description. Upper plumage olive-brown, tinged with rufescent fulvous on rump and upper tail-coverts; wings and tail olive-brown edged with fulvous; a narrow supercilium from the forehead to the eye pale buff; lores and small patch behind the eye brown; ear-coverts and sides of neck like the back but paler; below fulvous, brighter on flanks, vent and under tail-coverts, albescent on centre of abdomen and almost white on chin, throat and fore-neck; the breast is sometimes a little darker and faintly streaked with brown. This Eastern form differs from typical *stentoreus* in being darker above and in having a somewhat stouter bill.



Fig. 62.—Head of *A. s. brunnescens*.

Colours of soft parts. Iris yellowish brown or light hazel; eyelids plumbeous; mouth orange-yellow; legs plumbeous or plumbeous-horny; upper mandible dark brown, lower pale yellowish or dusky flesh-colour.

Measurements. Total length about 190 to 200 mm.; wing 83 to 90 mm.; tail about 75 to 80 mm.; tarsus 30 mm.; culmen 17·5 to 19·5 mm.

Distribution. Breeding from Transcaspia, Persia to Kashmir and Garhwal. In Winter wandering into the plains of India as far South as Ceylon and East to Bengal and Behar. The smaller, darker birds from Burma probably all belong to the next form.

Nidification. This Reed-Warbler breeds in some numbers in the Kashmir lakes during June, making a typical Reed-Warbler's nest of coarse shreds of rushes bound to three, four or more reeds and lined with finer shreds and bits of grass. The eggs generally number three, sometimes four. In ground-colour they vary from pure white to a yellowish or greyish white, sometimes very strongly tinged with green and they are marked with good-sized irregular blotches of deep blackish brown and sienna-brown; the green eggs also have underlying or secondary marks of lavender and neutral tint. The surface is glossless and rather coarse and

the shape a rather long oval. Sixty eggs average 22·7 × 15·9 mm.: maxima 24·3 × 16·1 and 22·4 × 16·7 mm.; minima 21·3 × 15·3 and 23·2 × 15·0 mm.

It is probable that the bird which is resident and breeds in Sind is the next race and not this.

Habits. This form of *stentoreus* is a true migrant, leaving the plains of India in the end of April and breeding in the Himalayas in the lakes and swamps between 6,000 and 10,000 feet. Though not gregarious, many pairs may be found breeding within a comparatively small area, each, however, keeping strictly to its own particular patch of feeding-ground. They are extremely noisy birds, their loud harsh song being continually repeated from the tops of high reeds in the vicinity of the nest.

(796) Acrocephalus stentoreus amyæ.

MRS. STEVENS'S REED-WARBLER.

Acrocephalus stentoreus amyæ Stuart Baker, Bull. B.O.C., xliii, p. 17 (1822).

Vernacular names. None recorded.

Description. Differs from the Indian Great Reed-Warbler in being much darker above and below and in being a trifle smaller. The colour of this bird even in its breeding-plumage is more ochraceous-brown below than is *A. s. brunnescens* in its brightest winter-dress.

Colours of soft parts. "Iris olive-brown; bill horny-black above, paler on edges of commissure; lower mandible pinkish, darker at tip; tarsus bluish-horn." (*Stevens.*)

Measurements. Wing about 80 to 82 mm.; tail 67 mm.; tarsus 28 mm.; culmen 21 mm.

Distribution. Breeding in the sub-Himalayan plains and Terai from Assam to Garhwal. In Winter it is apparently numerous in Burma as far South as Pegu; in Bengal and probably over much of the Indian continent.

Nidification. Mr. S. L. Whymper (Journal B. N. H. S., xviii, p. 495, 1907) first recorded the breeding of this Reed-Warbler in the Bahraich district in August and he then remarked on the small size both of the bird itself and of its nest. Mr. F. Field took numerous nests in Gonda, U.P., in July and August, and finally Mr. H. Stevens found it breeding in Assam in April and May and secured birds on their nests. The latter are like small neat specimens of those of *A. s. brunnescens* and are placed rather low down in clumps of reed in dense reed-beds. The eggs also are small facsimiles of those of that bird but on the whole are browner and less green and differ in being shorter blunter ovals. Twenty-one eggs average 19·6 × 15·0 mm.: maxima 21·4 × 15·0 and 19·9 × 16·0 mm.; minima 18·3 × 15·3 and 19·2 × 14·1 mm.

Habits. Similar to those of the last bird but remaining in the plains to breed. It is an equally noisy, conspicuous bird wherever found but Mr. Stevens informs me that it is an inveterate skulker and very hard to shoot, except in the early mornings and evenings when it sings its raucous little song from the reed-tops. Even when killed it is hard to find for, in Assam, it haunted the densest cover of Elephant-grass and the coarsest, rankest reeds.

This most interesting bird is as yet but little known and, not having hitherto been distinguished from its mountain-breeding cousin, it is not easy to define its habitat. The majority of the Great Reed-Warblers East of Bengal procured in the winter and all those procured from May onwards appear to be of this race, so that it is possible that its breeding-range will have to be very widely extended. It is even possible that it will prove to be a more or less resident form, merely moving locally under varying conditions of drought and flood. More specimens of breeding-birds are urgently required, to enable its proper status to be defined.

Acrocephalus arundinaceus.

Turdus arundinaceus Linn., S. N., ed. x. i, p. 170 (1758).

Type-locality: Danzig.

(797) Acrocephalus arundinaceus orientalis.

THE EASTERN GREAT REED-WARBLER.

Salicaria turdina orientalis Temm. & Schleg., Fauna Jap., Aves, p. 50 (1847) (Japan).
Acrocephalus orientalis, Blanf. & Oates, i, p. 357.

Vernacular names. None recorded.

Description. Differs from *A. s. brunnescens* in having the second primary equal to, or longer than, the fourth. It is also slightly browner below and nearly always more heavily streaked on the breast.

From typical *arundinaceus* it differs in being darker above, much less fulvous below and in having the breast darker and more freely streaked.

Colours of soft parts. Iris brown; bill horny-brown or nearly black above, pale yellowish-horny below; legs yellowish brown, dark fleshy-brown or plumbeous-horny.

Measurements. Wing 79 to 83 mm.; tail 72 to 78 mm.; culmen 17·5 to 19·5 mm.; tarsus about 30 mm.

Distribution. This Reed-Warbler breeds in Japan, Eastern Siberia and Northern China and in Winter is found throughout Southern China, the Indo-Chinese countries, Annam, Siam, practically the whole of Burma to Assam.

Nidification. So far the Eastern Great Reed-Warbler has never

cup-shaped nest which it places in low bushes, brambles and nettles but in the Himalayas it is said to make a ball-shaped nest low down in rose-bushes on hill-sides well away from water. The eggs are of three definite varieties: pale rose-coloured, marked with violet-grey and reddish brown and with a few black spots; milky-white spotted with olive-brown and dirty-white almost completely covered with olive-brown. Dresser gives the average size as 17·8 × 12·9 mm.

It breeds in May and June and lays four or five eggs in a clutch.

Habits. Blyth's Reed-Warbler is said to be far more like the Marsh-Warbler in its habits than the Reed-Warbler. Although often found in marshy and swampy tracts, it also frequents low bush and scrub-jungle as well as small trees at a considerable distance from water. Its ordinary note is a loud *tchik tchik*, a sound like flint and steel being struck together; besides this call it has a fine song, which, according to Professor Lilljeborg, is as rich and varied as that of the Song-Thrush.

(800) Acrocephalus agricolus.

THE PADDY-FIELD WARBLER.

Sylvia (Acrocephalus) agricola Jerdon, Madr. Jour. L. S., xiii, pt. ii, p. 131 (1844) (Nellore).
Acrocephalus agricola. Blanf. & Oates, i, p. 359.

Vernacular names. *Venta-kampa-jitta* (Tel.).

Description. Above olive-brown with a tinge of rufous, more pronounced on rump and upper tail-coverts and darker on crown; feathers of wings with obsolete pale edges; an almost white supercilium from the nostrils to behind the ear-coverts; sides of neck and ear-coverts pale whitish brown; below pale buffy-white, the flanks and abdomen more buff and the chin and throat almost pure white.

In May to July the underparts are almost pure white but in Winter they are still more buff and the whole upper plumage is suffused with rufous.

Colours of soft parts. Iris pale yellow, hazel or light brown; upper mandible dark horny-brown, lower mandible fleshy or yellowish-fleshy; tarsus and feet pinkish brown.

Measurements. Total length about 130 to 135 mm.; wing 55·0 to 60·5 mm.; tail 60 to 65 mm.; tarsus about 21 mm.; culmen about 11 to 12 mm. The second primary is equal to the sixth, or more rarely between the sixth and seventh. The first primary is small, about 9 to 10 mm., and very narrow.

Distribution. Breeding in Central Asia to the Himalayas, in Winter throughout India as far East as Bengal and, more rarely, Assam.

Nidification. The Paddy-field Warbler breeds during June in Kashmir, but probably neither farther South nor East, whilst to the West the breeding-bird seems to be some form of *A. concinens*. Col. Rattray, amongst many others, has taken its nest in the lakes from Gunderbul to Sambul. He describes them as "beautifully made and very deep cradles of fine grasses woven round two or more stems of a weed or rush, about 18 inches high above the ground or water, lined with still finer grasses. The weeds to which the nests are attached grow on the large floating islands of decayed vegetation. These islands form very dangerous walking-places as they are not strong and often break up after a storm. The nests are seldom in thick growth of weeds but on the outskirts and they are never built in colonies. The birds are very noisy when one approaches the nest." The eggs number three or four. In ground-colour they vary from a pure white to a pale green and they are spotted and blotched with dark and pale sienna-brown and secondary markings of grey, lavender and neutral tint. The blotches are nearly always more numerous at the larger end, where they form a cap or ring. In shape they vary from short broad ovals to rather long ovals. Forty eggs average 16·8 × 12·9 mm.: the maxima are 19·0 × 12·7 and 17·0 × 14·1 mm.; the minima 14·4 × 12·2 and 17·0 × 12·1 mm.

Habits. The Paddy-field Warbler is in all its ways very much like the Common European Reed-Warbler. A noisy active little bird, frequenting reed-beds, weeds and rushes by the water-side, it creeps in and out of the stems constantly uttering its little note of *chik-chik*, whilst the male every now and then mounts to the top of some high reed and pours forth his jerky, grating, little song. They resent being watched and hide in the lower parts of the thickest reeds when disturbed but within a few minutes of being left resume their activities, both choral and physical. They leave their breeding-haunts for the plains in early October, returning in the end of April and early May.

Acrocephalus concinens.

A. concinens appears to be a different species to *A. agricolus*, differing from that species in having a rather larger, broader first primary and in having a second primary equal in length to the eighth or between the eighth and tenth, whilst *A. agricolus* has the second equal to the sixth or between the sixth and seventh.

Moreover, in Kashmir, and possibly in other parts of the Himalayas, we have both birds breeding in the same area, although differing considerably in their habits and mode of nidification.

Key to Subspecies.

A. First primary about 11 mm., narrow. Upper plumage olive-brown; flanks dull fulvous ..... *A. c. concinens*, p. 396.

been found breeding within our limits, nor is it likely that it ever will be. It is said by McGregor to be resident and breeding in the Philippines but this bird is a smaller form than the Northern migratory bird and will have to be separated. It breeds freely in Japan and Ricketts, La Touche and others have taken nests and eggs in various parts of Northern China. These are not distinguishable from those of *A. s. stentoreus*. One hundred eggs average 21·8 × 15·7 mm.: the maxima are **23·4** × 15·4 and 20·8 × **17·0** mm.; the minima are **19·4** × 15·4 and 19·9 × **14·3** mm.

According to La Touche eggs are to be found in Chinkiang from the middle of May to the middle of June and the number of eggs in a full clutch varies from three to five. In Japan they lay in May and June and the eggs number four to six.

Habits. Those of the genus.

(798) Acrocephalus bistrigiceps.

SCHRENCK'S REED-WARBLER.

Acrocephalus bistrigiceps Swinh., Ibis, 1860, p. 51 (China); Blanf. & Oates, i, p. 358.

Vernacular names. None recorded.

Description. Upper plumage olive-brown, tinged with rufous, especially on the rump and upper tail-coverts; wings and tail brown, edged with pale olive-brown; a broad supercilium from nostril to nape pale fulvous and above this a short broad streak of black; lores and a line through the eye dark brown; ear-coverts and sides of the neck like the back but paler and brighter; a ring of pale fulvous feathers round the eye; below pale buff, darkest on flanks, vent and under tail-coverts, albescent on centre of abdomen, chin and throat.

Colours of soft parts. Irides yellow-brown to dark brown; bill above horny-brown to blackish brown, commissure and lower mandible yellowish; feet fleshy-yellow to horny-brown.

Measurements. Wing 52 to 56 mm.; tail 50 to 55 mm.; tarsus 21 to 22 mm.; culmen 11·5 to 12 mm.

The first primary is comparatively large, measuring about 15 mm. The second primary is equal to the sixth or between sixth and seventh.

After the Autumn moult the upper plumage is a bright russet-brown and the lower plumage a deeper buff.

Distribution. Schrenck's Reed-Warbler breeds in Japan and Eastern Siberia, possibly also in the North of China; in Winter it is found throughout the South of China and is common as far West as Siam, the Chin and Kachin Hills and South Burma, straggling very rarely into South Assam.

Nidification. This little Reed-Warbler breeds in great numbers in Japan, making a typical, deep, cup-shaped nest of grass,

attached to reed or grass stems in swampy land or on the edges of lakes, waterways, etc. It lays four or five eggs. The ground-colour is a pale yellowish, greyish or greenish white but this is almost obliterated by innumerable freckles and small blotches of light brown with others underlying of pale grey and neutral tint. In many eggs the marks are practically confluent and appear to be wholly a light greenish brown. A few eggs have a hair-line at the larger end in addition to the other markings. In shape they are a short blunt oval. Fifty eggs average 16·2 × 12·6 mm.: the maxima are **17·4** × 12·7 and 17·0 × **13·4** mm.; minima **14·6** × **12·2** mm.

Habits. Those of the genus. According to La Touche and Styan, it has a rather pretty little song as well as the usual harsh notes of all Reed-Warblers. Alan Owston in a letter to me writes that it is such a noisy little bird and "sings so continuously close to its nest that the latter is very easy to find. Directly the bird sees it is observed it drops down low amongst the reeds but if one is silent and motionless it soon creeps up again to the tops of the reeds and reiterates its jarring little notes."

(799) Acrocephalus dumetorum.

BLYTH'S REED-WARBLER.

Acrocephalus dumetorum Blyth, J. A. S. B., xviii, p. 815 (1849); Blanf. & Oates, i, p. 359.

Vernacular names. *Polena* (Hind.); *Tik-tikki* (Mahomedan); *Tikra* (Beng.); *Kumpa-jitta* (Tel.).

Description. Above olive-brown tinged with fulvous and with a very faint tinge of russet on the upper tail-coverts; wings and tail brown, the feathers edged with olive-brown; lores dusky; feathers round eyelid buff; a very faint supercilium buff; ear-coverts and sides of neck like the back but paler; lower plumage pale buff, darker on the flanks, vent and breast.

Colours of soft parts. Iris yellow-brown to dark brown; bill dark horny-brown above, yellow below; legs and feet yellowish horny or fleshy-horny to pale brown.

Measurements. Wing 59 to 64 mm.; tail 55 to 60 mm.; tarsus 21·5 to 22·5 mm.; culmen 12 to 13·5 mm.

The second primary is equal to the eighth or a little shorter. The first primary is very small, about 10 to 11 mm.

In Summer plumage the lower parts are almost white.

Distribution. Eastern Russia and West Siberia to the Himalayas as far East as Nepal, wintering throughout the plains of India, Burma and Ceylon.

Nidification. Blyth's Reed-Warbler breeds from Russia practically throughout Western and Central Western Asia to the Himalayas. In Europe and the Altai it makes a typical deep

B. First primary about 11-12 mm., broader. Upper plumage darker, flanks more buff . *A. c. haringtoni*, p. 396.

C. Upper plumage still darker and lower plumage more brown, less buff..... *A. c. stevensi*, p. 397.

(801) Acrocephalus concinens concinens.

THE CHINESE PADDY-FIELD WARBLER.

Calamoherpe concinens Swinh., P. Z. S., 1870, p. 432 (Pekin).

Vernacular names. None recorded.

Description. Similar to *A. agricolus* in colour but, season for season, rather darker and browner above and considerably darker and much more fulvous below. The wing-formula is always sufficient to separate it from that bird.

Like all subspecies of *agricolus* and *concinens* the plumage is much paler and whiter below in the Winter than when breeding.

The second primary is generally equal to the ninth, often to the tenth.

Colours of soft parts. Iris olive-brown to hazel-brown; upper mandible brownish black, lower mandible pale horny flesh-colour with dark tip; legs and feet light brown or fleshy-brown.

Measurements. Total length about 130 mm.; wing 52 to 57 mm.; tail 54 to 58 mm.; tarsus about 20 mm.; culmen about 11 to 12 mm.

Distribution. Breeding in the hills of North and Central China to the Himalayas as far West as Gilgit. In Winter to South China, Indo-Chinese countries, Burma and Eastern India.

Nidification. The Chinese Paddy-field Warbler breeds in Kashmir in some numbers, but hitherto very few nests have been taken, as it has been sought for in reed-beds and swampy places, whereas it actually breeds in rose-bushes on hill-sides far from water. The nest is the usual deep cup and the only eggs I have seen were like those of the Paddy-field Warbler. They were laid in June.

Habits. This is said to be a noisy, cheerful little bird, much like other small Reed-Warblers. Rickett, Styan and La Touche all describe it as haunting reed-beds and marshy places in China as well as hill-sides covered with scrub and bush-jungle. In India during the Winter it is found in the former kind of country, but in the Summer forsakes them for hill-sides far from water.

(802) Acrocephalus concinens haringtoni.

WITHERBY'S PADDY-FIELD WARBLER.

Acrocephalus agricola haringtoni Witherby, Bull. B. O. C., xli, p. 26 (1920) (Khagan Valley).

Vernacular names. None recorded.

Description. Differs from *A. c. concinens* in being a trifle darker. It is not any smaller.

Colours of soft parts as in the last bird.

Measurements. Wing 54 to 58 mm.; tail 54 to 58 mm.; tarsus about 20 mm.; culmen about 10 to 12 mm., "from skull ♂ 14–14·5 mm., ♀ 12·5–14·5." (*Witherby.*)

Distribution. Breeding in the North-West Frontier of India and in Winter wandering into the plains of the North-West.

Nidification. Whitehead and Harington both found this bird breeding in the Kurram and Khagan Valleys on the N.W. Frontier between 8,000 and 10,000 feet. The nest is described as like very neat and well-finished miniatures of *A. stentoreus* placed either in low bushes or fixed to a few nettle-stems and weeds on hill-sides far from water. The eggs seem to number three only in the full clutch and are like lightly marked bright specimens of *A. agricolus*. Twelve eggs average 17·7 × 12·8 mm.

The breeding-season appears to be July.

Habits. In the Winter this Reed-Warbler haunts marshes, reedy banks of streams and similar places, but during the breeding-season takes to high hills well away from all water. Whitehead says that it is an energetic little bird, not a skulker and that it has a loud song which it constantly utters.

(803) Acrocephalus concinens stevensi.

THE PLAINS PADDY-FIELD WARBLER.

Acrocephalus concinens stevensi Stuart Baker, Bull. B. O. C., xliii, p. 16 (1922) (Hessamara, N. Lakhimpur, Assam).

Vernacular names. None recorded.

Description. A very much darker bird than either *A. c. concinens* or *A. c. haringtoni*. The brightest Winter plumage is as dark as the darkest breeding-plumage of either of these races. Both *stevensi* and *haringtoni* seem to have a rather broader first primary than true *concinens*.

Colours of soft parts. "Iris olive-brown; bill, upper mandible horny-black, paler on edge of commissure, lower mandible horny, darker at tip; tarsus fleshy-brown." (*H. Stevens.*)

Measurements. Wing 49 to 53 mm.; tail 46 to 50 mm.; tarsus about 20 mm.; culmen 11 to 12 mm.; "culmen from true base 15 mm." (*H. Stevens.*)

The second primary is equal to the ninth or tenth, and the first primary measures about 11 mm.

Distribution. This Reed-Warbler, which was discovered breeding by Mr. and Mrs. H. Stevens in Lakhimpur appears to be a resident Plains-breeding form of *concinens*. Godwin-Austen obtained three breeding-specimens in May on the *chars* close to

Lakhimpur in early May which agree exactly with Mr. Stevens's specimens. Many Pegu specimens appear referable to this race, and birds obtained by myself in Cachar and Sylhet were also the same.

Nidification. It is probable that the Plains Paddy-field Warbler breeds wherever it is found from Assam to Lower Burma. Stevens describes the nest as a very neat, deep little cup of grass and shreds of reed-leaves, very well finished off and lined with still finer grasses. It is placed two or three feet from the ground in grass-covered plains and sand-banks and is fastened to three or four stems of the growing grass.

The full clutch of eggs numbers three, possibly four on rare occasions. They differ in colour from the mountain-breeding races much as do the eggs of Mrs. Stevens's plains-breeding Reed-Warbler from the Indian Great Reed-Warbler. In colour they are very brown-looking eggs with a light sienna ground boldly and heavily blotched with brown and pale olive-brown. Fifteen eggs average 16·1×12·0 mm.: maxima **17·2×12·0** and **15·9×12·2** mm.; minima **15·9×12·1** and **15·8×11·8** mm. The birds breed in April and May.

Habits. According to Mr. Stevens this is a bird of the dry grass-lands, though it frequents those which are close to rivers and swamps.

(804) Acrocephalus orinus.

THE LARGE-BILLED REED-WARBLER.

Acrocephalus orinus Oberholser, Proc. U.S. Nat. Mus., viii, p. 895 (1905) (Rampur).
Acrocephalus macrorhynchus. Blanf. & Oates, i, p. 300.

Vernacular names. None recorded.

Description. Upper plumage, closed wings and tail olive-brown; lower plumage pale ochraceous, the flanks rather darker; under wing coverts and axillaries pale ochraceous, lighter than the breast.

Colours of soft parts. Not recorded.

Measurements. Total length about 130 mm.; wing 61·5 mm.; tail 37 mm.; tarsus about 20 mm.; culmen 16·5 mm.

The first primary measures about 10 mm. and the second primary is between the ninth and tenth in length.

Distribution. Sutlej Valley, where the only specimen known was obtained.

Nidification and **Habits.** Nothing recorded.

Oberholser has shown that *macrorhynchus* is preoccupied and cannot be used for this bird and has therefore renamed it as above.

Genus LOCUSTELLA.

Locustella Kaup, Natürl. Syst., p. 115 (1829).

Type, *Locustella locustella* Lath.

The genus *Locustella* is represented in India by three species of somewhat similar appearance and size and of plain colours. They are found in reed-beds, swamps and wet cover of all sorts, and occur in India only in the Winter. Their Summer-quarters are the Northern parts of Asia, none of them breeding within the limits of this work. The Summer and Winter plumages only differ in the latter being a little paler and brighter; the young differ from the adults in being much more yellow and, perhaps, in being rather more heavily streaked. The sexes are alike.

The birds of this genus have a slender bill, about half as long as the head; the rictal bristles are very weak and hardly noticeable and the forehead is very smooth and free from all hairs; the plumage is soft but not fluffy in appearance; the first primary is very small and the second primary long, reaching almost to the tip of the wing; the tail is considerably graduated, the feathers being slightly pointed; the under tail-coverts are very long.

Key to Species.

A. Tail-feathers broadly tipped with white .... *L. certhiola*, p. 399.
B. Tail-feathers without broad white tips.
  a. Lower plumage streaked ..... *L. lanceolata*, p. 401.
  b. Lower plumage not streaked ..... *L. nævia* p. 401.

(805) Locustella certhiola.

PALLAS'S GRASSHOPPER-WARBLER.

Motacilla certhiola Pall., Zoogr. Rosso-Asiat., i, p. 509 (1811) (Lake Baikal).
Locustella certhiola. Blanf. & Oates, i, p. 352.

Vernacular names. *Sun-batta-sorai* (Assamese).

Description. Forehead and anterior crown olive-brown; crown and nape reddish brown; the latter often almost white, boldly streaked with black; back, scapulars and lesser wing-coverts reddish brown with broad central streaks of black, sometimes wanting on the hind neck in very old birds; greater coverts and innermost secondaries black with narrow whitish fringes; quills grey-brown edged paler; lower back and rump reddish brown, almost, or quite, unmarked; upper tail-coverts reddish brown with broad black centres; tail reddish brown, suffused with black on the terminal half, with black shaft-stripes and cross-rayed, the outermost feathers almost entirely black except for broad white tips; supercilium white or pale buffy-white; lores brown with a white line below the eye; ear-coverts brown with white shafts; sides of neck rufous-brown; below white or buffy-white, the flanks and sometimes the breast suffused with reddish brown; under tail-coverts bright buff.

Colours of soft parts. Iris brown or hazel-brown; upper mandible dark horny-brown, lower mandible fleshy-yellow or "ochraceous" (*Everitt*); legs and feet white to pale fleshy.

Measurements. Length about 130 mm.: wing 62 to 68 mm.; tail 58 to 63 mm.; tarsus about 20 mm.; culmen 11·5 to 12·5 mm.

The Nestling is like the male above but more profusely marked with black on the rump and lower back; below it is a bright yellow-buff, the sides of the throat, neck and breast boldly streaked with black and the sides of the head and flanks brownish; the under tail-coverts are pale rufous-brown; the supercilium is bright yellow-buff.

In the Autumn the nestling moults into a stage halfway between the adult and nestling plumage, retaining the buff lower plumage but losing most of the streaks.

The Summer plumage is a little brighter above than in Winter and is a clearer white below.

Distribution. Pallas's Grasshopper-Warbler breeds in Eastern Siberia as far West as the Yenesei. In Winter it is found



Fig. 63.—Head of L. certhiola.

throughout South China, Burma, Assam and Bengal, straggling thence into Central and South-Central India as far as Orissa.

Nidification. Breeds in damp grassy meadows, generally placing its nest low down in the grass growing on small hummocks. The nest is deep cup-shaped and made of grasses lined with grass-stems. The eggs are said to number four to six in a full clutch and are of two types—pale rose-pink dotted with reddish brown over the whole surface or deep lilac or rose-pink with a few tiny specks of brownish black and minutely freckled all over with reddish. A few eggs also have one or two hair-lines at the larger end. Sixteen eggs average 18·8×13·7 mm., and in general appearance are very like deep-coloured eggs of some of our Indian Triburas. The birds lay in late June to July.

Habits. Seebohm remarks that he "found it a very shy, skulking bird, frequenting the marshes and swampy copses on the great meadows by the river side." In the beginning of the breeding-season the male sings constantly, every now and then rising into the air, fluttering stationary for a few seconds and then dropping down again into cover.

Both this bird and the Streaked Grasshopper-Warbler were very common in Assam and E. Bengal in Winter, frequenting the

ricefields as well as reeds and water-plants in swamps. At this time of year they have, of course, no song but utter an occasional note sounding like *chr-chirrr*.

(806) Locustella lanceolata.

THE STREAKED GRASSHOPPER-WARBLER.

Sylvia lanceolata Temm., Man. d'Orn., ed. 2, iv, p. 614 (1840) (Mainz, Irtum).
Locustella lanceolata. Blanf. & Oates, i, p. 353.

Vernacular names. *Sun-batta-sorai* (Assam).

Description. Whole upper plumage russet olive-brown with broad, black, central streaks to the feathers; tail brown with narrow edges and tips of paler brown; under aspect of tail-quills whitish; wing-coverts like the back; quill-feathers brown, edged with russet-brown on the outer webs and on both webs on the inner secondaries; a very indefinite buff supercilium; lores dusky; ear-coverts and sides of neck dull brownish, the former with pale shaft-streaks; below white, tinged with ochraceous; sides of breast and flanks vinaceous-brown; the fore-neck, breast and flanks streaked with black; under tail-coverts sometimes immaculate, at other times boldly streaked with black; under wing-coverts and axillaries pale vinaceous-ochre.

Colours of soft parts. Iris hazel or yellowish brown; bill dark brown above, lower mandible fleshy-yellow at base, with a dark tip; legs fleshy-white, the claws pale horny.

Measurements. Length about 125 mm.; wing 52 to 57 mm.; tail 48 to 51 mm.; tarsus about 16 mm.; culmen 10 to 11 mm.

In very old birds the streaks on the lower surface tend to disappear but are always present to some extent.

Distribution. In Summer this Warbler is found from Eastern Siberia to North-East Russia and in Winter it wanders South through China, the Indo-Chinese countries, Burma and Eastern Bengal as far West as Etawah but is rare beyond Bengal and East Orissa.

Nidification. Similar to that of the last species. The eggs, which are said to number four to six, are described by Jourdain as "thickly marked with reddish brown on a rosy ground, with grey shell-markings." A clutch in my own collection is pale dull pink with numerous freckles of light red, forming a thicker cap at the larger end. Twelve eggs average 17·5×13·4 mm.: maxima 18·0×13·8; minima 17·0×13·0 and 17·4×12·8 mm.

They breed from early June to the middle of July.

Habits. The same as those of Pallas's Grasshopper-Warbler.

Locustella nævia.

Locustella nævia Bodd., Tabl. Pl. Enl., p. 351, no. 581 (1778).

Type-locality: Italy.

(807) Locustella nævia straminea.

THE EASTERN GRASSHOPPER-WARBLER.

Locustella straminea Seebohm, Cat. B. M., v, p. 117 (1873) (Turkestan); Blanf. & Oates, i, p. 354.

Vernacular names. None recorded.

Description. Whole upper plumage and wing-coverts olive-brown, each feather broadly centred dark brown; wing-quills brown, edged with olive-brown, sometimes slightly tinged with russet; tail brown, tipped and edged with paler olive-brown and obsoletely cross-rayed; lores and short narrow supercilium white; ear-coverts brown, with an occasional black spot or two; below pale buffy-brown; the chin, throat, and centre of abdomen almost white; under tail-coverts broadly centred with black.

Colours of soft parts. Iris light brown; upper mandible dark brown, lower mandible yellowish white or fleshy; legs and feet fleshy-white to pale fleshy.

Measurements. Total length about 140 mm.; wing 56 to 60 mm.; tail 49 to 53 mm.; tarsus about 15·5 mm.; culmen 11 mm.

Young birds are bright yellow-ochre below and are more olive, less brown in tint above.

The Eastern or Turkestan Grasshopper-Warbler differs from the Western form in being much darker and browner below, and in being decidedly smaller, the latter having a wing of 62 to 67 mm.

Distribution. From the Urals East through Transcaspia, the Caucasus, Turkestan, E. Persian mountains, to the Himalayas as far East as Sikkim. In Winter it is found practically all over Northern India, South to Coimbatore. It is rare in Eastern Bengal and has not yet been obtained in Assam. Ticehurst obtained it in Sind.

Nidification. Very little is known of the nesting of this bird, but it appears to be very similar to that of *L. n. nævia*, breeding either in the weeds and reeds in or on the edge of water, or in thick grass, weeds and scrub on hill-sides. Two clutches, each of three eggs, taken on the lower Amur and at Kamka-su, Turkestan, have the ground-colour a pale pink, profusely covered with reddish-brown specks and small blotches, in one clutch these being almost confluent everywhere. They measure about 17·5 × 13·6 mm. One nest was taken on the 26th of May, the other on the 5th of June. This bird has been found at an elevation of 15,000 feet in Summer.

Habits. Though nowhere so common in Winter in India as Pallas's and the Streaked Grasshopper-Warblers are in Assam and Burma, where one constantly puts them up when Snipe-shooting, this Warbler visits Western and Northern India in great numbers, arriving about September and leaving again in March and April. In habits it differs in no way from other birds of this genus.

Genus TRIBURA.

Tribura Hodgs., P. Z. S., 1845, p. 30.

Type, *T. luteoventris*.

The genus *Tribura* contains four species, all of which breed in the mountains, only visiting the plains of India and Burma in the cold weather.

These Warblers are birds of plain plumage and the feathers are very soft and silky in their texture. The sexes are alike but the young differ from the adults in being much more yellow. The second or Spring moult is complete or nearly so.

The four Indian species of *Tribura* are not perfectly congeneric, one differing from the others in its extremely large bill, whilst a second species is distinguished from the other three by the shape of the wing. These differences are, however, paralleled in the genus *Acrocephalus*, to which *Tribura* is very closely allied and do not seem to necessitate any further division of genera.

In *T. major* the bill is nearly as long as the head, in the other species about half the length of the head; in all four it is slender and straight. The rictal bristles are minute and invisible without a lens; the forehead is smooth and free from all hairs etc.; the wing is fairly long; the tail much rounded and the feathers rather pointed; the tarsus is rather long, though slight.

Key to Species.

A. First primary much less than half the second.	
a. Bill at front 15 mm. or over	*T. major*, p. 403.
b. Bill at front 13 mm. or under	*T. taczanowskia*, p. 404.
B. First primary about half the length of the second	
c. Throat ashy, spotted with black	*T. thoracica*, p. 405.
d. Throat unspotted white	*T. luteoventris*, p. 406.

(808) Tribura major.

THE LARGE-BILLED BUSH-WARBLER.

Dumeticola major Brooks, J. A. S. B., xli, p. 77 (1872) (Kashmir).
Tribura major. Blanf. & Oates, i, p. 362.

Vernacular names. *Chighchi* (Turki).

Description. Whole upper plumage and visible portions of wings and tail dull olive-brown; concealed portions of wings and tail brown; a white or creamy-white supercilium, often indistinct; lores and upper ear-coverts brownish; lower ear-coverts white, tipped with brown; chin white; throat and upper breast white spotted with dark brown; breast and flanks ochraceous-brown, paling to white on the centre of the abdomen; under tail-coverts ochraceous tipped with white.

In Winter plumage the underparts are less ashy and more ochraceous-brown and apparently less spotted.

The young bird is yellow below, suffused with brown on breast and flanks and with darker centres to the feathers of the breast and throat.

Distribution. Breeding in Central Asia and in the Himalayas from Kashmir to Nepal, Sikkim and Bhutan and possibly in the mountains of North Assam. Winters lower down in the valleys and very occasionally wanders into the plains.

Nidification. The Spotted Bush-Warbler breeds almost throughout the Himalayas from Kashmir to Bhutan at elevations between 7,000 and 10,000 feet or higher. The breeding-season lasts from early June to the end of July and in Sikkim some eggs are laid as early as the middle of May. The nest is a deep little cup of grass and scraps of reed-leaves, lined with coarse and fine grass-stems. It is not placed on the ground, though sometimes close to it, but at two to four feet up in some low bush, matted weeds, grass or similar cover.

The eggs, which number three to four, are pale pink in ground-colour speckled and flecked with reddish brown, lilac-brown or pinky-brown, generally less profusely than the eggs of other species of this genus. Forty eggs average 18·3×13·7 mm.: maxima **19·0**×14·5 and 18·8×**15·1** mm.; minima **17·0**×**12·8** mm.

Habits. This Bush-Warbler is probably not migratory in its habits, merely moving vertically under stress of heat and cold. At the same time a specimen has been obtained in Sylhet, some hundreds of miles from its nearest known breeding-place. It is a lively, cheerful little bird, always on the move, but very quiet and secretive in its movements. Its rather loud *tchik-tchik* may often be heard in thick weeds, long grass or scrub-jungle, though the bird itself may remain invisible. It has been found as high as 14,000 feet, but does not appear to breed at these elevations.

(811) Tribura luteoventris.

THE BROWN BUSH-WARBLER.

Tribura luteoventris Hodgs., P. Z. S., 1845, p. 50 (Nepal); Blanf. & Oates, i, p. 364.
Tribura mandellii. Blanf. & Oates, i, p. 365.

Vernacular names. *Dao-tisha-tchik* (Cachari).

Description. Whole upper plumage, wings and tail rufous-brown, the last a little darker and faintly cross-rayed: a dusky spot on lores; above this and running into a narrow supercilium pale buff; feathers of eyelids buff, forming a very distinct ring in some specimens; ear-coverts, sides of head and neck rufous, the first with faint white shaft-stripes; chin, throat, middle of lower breast and abdomen white; upper breast, flanks, vent and under

tail-coverts rufous, the last more or less edged with white. In some specimens the chin, throat and extreme upper breast are marked with small spots of black (*T. mandellii*) and the colours of the upper parts vary greatly in the depth of the rufous tinge, some specimens being almost olive-brown; these characteristics appear to be individual.

Colours of soft parts. Iris yellow-brown to bright hazel; bill above dark horny-brown or blackish, lower mandible and commissure fleshy-yellow or light horny, more yellow at the mouth; legs flesh-colour, fleshy-yellow to "dark fleshy-brown" (*Cockburn*).

Measurements. Wing 52 to 58 mm.; tail 55 to 66 mm.; tarsus 19 to 20 mm.; culmen 10 to 11 mm.

Distribution. Nepal, Sikkim, Bhutan and the hills of Assam both N. and S. of the Brahmaputra; Chin Hills, Annam.

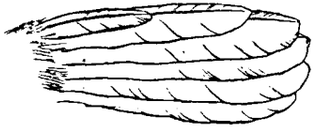


Fig. 64.—Wing of *T. luteoventris.*

Nidification. The Brown Bush-Warbler breeds in great numbers in the Khasia Hills above 4,500 feet, making a deep cup-shaped nest of grasses with an odd leaf or two in the base, and sometimes a weed-stem or tendril in the body of the nest. The lining, which is very thick, is of grass and grass-stems. Roughly the nests measure externally about 5 inches deep by less than 3 broad, the inner cup being about 2½ inches deep by 2 inches or less in width. The number of eggs laid is nearly always four, very rarely five, and rather more often three only. In shape they are broad, blunt ovals; the ground-colour is white to pale pink or pale lilac and they are freely marked all over with freckles of various shades of reddish or pinkish brown. Most eggs are about the same in depth of colouring as the eggs of the Grasshopper-Warbler, others are as deep a brown-pink as the darkest eggs of Pallas's Grasshopper-Warbler, whilst others, again, are as pale as the palest eggs of the Spotted Bush-Warbler.

Two hundred eggs average 18·2×14·3 mm.: maxima **19·9**×14·9 and 19·0×**15·2** mm.; minima **16·9**×14·5 and 18·0×**13·5** mm.

The nest is generally placed in a low bush or tangle of weeds, creepers and raspberry or blackberry vines and another favourite site is a Daphne bush. It is never placed actually on the ground, but may be at any height from a few inches up to 3, or even 4 feet. The breeding-season commences in the end of April and lasts until late July.

Habits. This Bush-Warbler inhabits and breeds at lower

elevations than any of its relations. In Summer it is found up to 9,000 or 10,000 feet but, far more often, between 5,000 and 7,000 feet, whilst in Winter it descends to the foot-hills and even into the adjacent plains. It is one of the few birds which are found in great numbers in the pine-forests of the Khasia Hills, haunting in preference those which have an undergrowth of low Daphne bushes. It is not a particularly shy bird and does not resent being watched, though it is naturally a skulker and lover of thick cover, where it is difficult to see it. One notices a little russet bird flitting about inside the bushes from one twig to another, very restless and very energetic but very stealthy and quiet in all its ways. Every now and then a soft single "*chik*" is uttered and this is all one hears, except in the breeding-season when it utters a complete little song from the top of a piece of grass or Daphne bush, much like that of the common Reed-Warbler, but much softer and lower. Like the rest of the genus and those closely allied to it, it lives entirely on the smallest insects and is very fond of ants and the smaller spiders. I once watched it in the Government House Garden in Shillong feeding on a blight which infested the rose-trees and so deeply engaged was it on its feast that it allowed me to watch it for some minutes from a distance of a few feet.

Genus **ELAPHRORNIS.**

Elaphrornis Legge, B. of Ceylon, p. 514 (1879).

Type, *Elaphrornis palliseri* Blyth.

This genus is very difficult to place but on the whole its affinities seem to be more Sylviine than anything else. In general appearance it is very like the Shortwings but the plumage of the young is like that of the adult, though paler, a character which suffices to eliminate it at once from the Thrushes. The bill is straight and slender as in *Tribura* and, like that bird, it has the rictal bristles very minute and the forehead very fully feathered. The tarsi are long and fairly strong, as in *Tribura*, but the wing is quite different. The first primary is equal to three-fourths of the second, and the fifth and sixth are subequal and longest. The tail is greatly graduated, the outermost feathers being equal to about half the longest.

(812) **Elaphrornis palliseri.**

PALLISER'S ANT-WARBLER.

Brachypteryx palliseri Blyth, J. A. S. B., xx, p. 178 (1851) (Ceylon).
Elaphrornis palliseri. Blanf. & Oates, i, p. 191.

Vernacular names. None recorded.

Description. A grey supercilium from the bill to the anterior

ear-coverts dull grey; a ring round the eye rather paler grey; lores and a patch under the eye deep brown, paling to grey on the posterior ear-coverts, which have white shafts; remainder of upper plumage and exposed parts of wings and tail rufous olive-brown, most rufous on the tail and upper tail-coverts; chin fulvous-white; throat rusty-fulvous; lower plumage slaty-olive, the centre of the abdomen paler and more yellow, and the posterior flanks, vent and under tail-coverts rufous-brown.

Colours of soft parts. Iris red-brown to bright red; bill horny-black, the lower mandible paler and more slaty at the base; legs and feet deep neutral brown or purplish brown, claws paler.

The female has the iris buff.

Measurements. Total length about 120 mm.; wing 60 to 64 mm.; tail 55 to 66 mm.; tarsus about 27 mm.; bill about 14 mm.

Young are like the adult, but want the rufous throat and chin, these parts being whitish with slaty-olive tips to the feathers. The underparts generally are more yellow as in the young of *Tribura*.

Distribution. Ceylon only.

Nidification. Palliser's Ant-Warbler breeds in Ceylon during February, March and April, at elevations of about 5,000 feet upwards. Bligh took its nest with young in 1870 and nearly forty years later eggs were sent me as of this species but without a parent bird. Finally in 1911 Capt. T. P. Aldworth took a nest with two eggs. The nests are made of moss, twigs and grass-stalks, lined with skeleton leaves and fibre. In shape they are very deep cups and they are placed low down in dense low bushes, generally in glades in deep forest and close to water.

The eggs are either two or three (*Legge*) in number, and are very like dull finely freckled eggs of some Bulbuls, but the texture is coarser and is glossless. The ground-colour is a pale dull cream and they are freckled all over with dull pinkish brown generally coalescing to form a ring or cap at the larger end, where there are one or two hair-streaks of dark brown. They measure about 22·0 × 16·1 mm.

Habits. This curious little bird frequents dense forests, and especially such as have undergrowth of "nilloo-scrub" or "elephant-grass," and is of such shy retiring habits that it is most difficult to find or observe. It has a sharp single little note which it utters constantly, as it hunts through the lower bushes and grass, every now and then descending to the ground in its search for insects. Holdsworth says that when on the ground it has a habit of flicking its tail like a Robin. Legge syllabifies its note as *quitze*. It is not found below 4,000 feet and is most common on the Horton Plains above 5,000 feet, where it is resident all the year round.

Genus ORTHOTOMUS.

Orthotomus Horsfield, Trans. L. S., xiii, p. 165 (1820).

Type, *O. sepium* Lafres.

The genus *Orthotomus* has been divided into two genera, *Orthotomus* and *Sutoria*, the former containing those species which never attain a long tail in Summer, and the latter those which do. The acquisition of long tail-feathers is, however, a feature of little importance and is bridged over by *maculicollis* which seldom acquires a long tail and then only to a degree of length much less than in *sutorius*. North-Western birds have the longest tails and Eastern birds the shortest. In this genus the bill is as long as the head, broad and rather flat; there are a few rictal bristles but no supplementary hairs and the forehead is very smooth and flat. There are long soft hairs springing from the nape; the wing is very short and rounded, the first primary large and the fourth and fifth longest and subequal; the tail of twelve feathers is much graduated; the tarsi are strong and long.

Key to Species.

A. Upper plumage suffused with green.
  a. Under wing-coverts, axillaries and under tail-coverts yellowish white ..... *O. sutorius*, p. 410.
  b. Under wing-coverts, axillaries and under tail-coverts bright yellow ..... *O. atrigularis*, p. 414.
B. Upper plumage ashy-grey.
  c. Tail chestnut ..... *O. ruficeps*, p. 415.
  d. Tail brown ..... *O. sepium*, p. 416.

Orthotomus sutorius.

Key to Subspecies.

A. Upper plumage grass-green, anterior crown chestnut ..... *O. s. sutorius*, p. 410.
B. Upper plumage darker, less yellow-green.
  a. Cheeks and ear-coverts rufescent-white.
    a'. Crown dark chestnut, nape olive-green ..... *O. s. patia*, p. 412.
    b'. Generally still darker, nape very dark ..... *O. s. longicaudus*, p. 412.
  b. Cheeks and ear-coverts marbled brown and white ..... *O. s. maculicollis*, p. 413.

(813) Orthotomus sutorius sutorius.

THE INDIAN TAILOR-BIRD.

Motacilla sutoria Forst., Ind. Zool., i, p. 7 (1769) (Ceylon).
Orthotomus sutorius. Blanf. & Oates, i, p. 366.

Vernacular names: *Likka-jitta* (Tel.); *Tavik* (Cing.).

Description. Lores and a faint supercilium white; forehead and crown *rufous* changing to ashy on the nape; ear-coverts very pale rufescent-white; back, scapulars, rump, upper tail-coverts and central tail-feathers yellowish green; lateral tail-feathers greenish brown, tipped whitish and sub-tipped darker brown, sometimes a second darker bar also showing, though more faintly; wings light brown, the feathers edged with greenish; cheeks and lower plumage almost white, tinged with fulvous-yellow; under wing-coverts and axillaries pale fulvous.

Colours of soft parts. Iris tan, yellowish red or buff; eyelids reddish grey; upper mandible dark horny, the tip quite dark, lower mandible pale fleshy; legs and feet straw-colour to pale fleshy-red.

Measurements. Wing 48 to 54 mm.; tail 28 to 112 mm. (Summer); tarsus 21 to 22 mm.; culmen 13 to 15 mm.

Distribution. Ceylon, South, Central and N.-West India. To the East it extends as far as Behar and Chota Nagpore, but the birds of Alluvial Bengal belong to the next race.

In my 'Catalogue of the Birds of the Indian Empire,' I unfortunately gave the type-locality of *sutorius* as Calcutta. As nearly all Forster's birds were named from Ceylon, Calcutta cannot be allowed to stand and *Ceylon* must be substituted therefore.

Nidification. This Tailor-Bird breeds throughout the plains and hills of India up to at least 5,000 feet everywhere and, occasionally, considerably higher than this in the North-West Himalayas. The breeding-months are principally May, June and July but in many parts they breed both earlier and later. The nest is sewn into one or more leaves of a weed, bush or tree. If in one leaf the outer edges are drawn together with vegetable-down or grass seed-down and inside the cavity so formed the true little cup-nest is made; first of strong grass-stems or fibre which is stiff enough to retain its shape and then a lining of softer material. The nest may be placed within a few inches of the ground or as much as 30 or even 40 feet above it but, most often, it is within four or five feet. It builds in gardens and verandahs of houses and in the vicinity of villages and towns and also in cultivated open country but never, I believe, in forest. The eggs number three to five, very rarely six, and vary very greatly in colour. The ground may be white, pale pink, a fairly warm cream, skim-milk blue or pale blue or blue-green; the markings vary to the same extent and may consist of blotches, spots, specks or freckles of red, reddish brown, brown, black or purplish black. In most cases they are sparse everywhere, but have a tendency to be more numerous at the larger end where they may form an ill-defined cap or zone. They are never as freckly or as numerous as they are in the eggs of the genus *Franklinia*. One hundred eggs average 16·4×11·6 mm.: maxima 17·6×12·0 and 16·1×12·2 mm.; minima 15·1×10·7 and 15·2×10·6 mm.

Habits. Few birds are so well known as the confiding little

Tailor-Bird, whose shrill cry is to be heard in every garden. His active little figure is constantly on view as he creeps, climbs or flits from one branch to another in his never-ending search for insects, in pursuit of which he will, without hesitation, enter rooms and verandahs where people are sitting and talking. His flight alone is enough to attract attention, for, when he really launches out for a flight of more than a few feet, he flicks his long tail so energetically and so far over his back that he always looks as if he would knock his own brains out and hurl himself to the ground. The male bird when sitting is a comical sight, for his beak and his tail almost meet together over his back; in spite, however, of his physical disabilities he is a good husband and takes his fair share of the duties of incubation.

(814) Orthotomus sutorius patia.

THE BURMESE TAILOR-BIRD.

Orthotomus patia Hodgs., P. Z. S., 1845, p. 29 (Nepal.).
Orthotomus sutorius. Blanf. & Oates, i, p. 366 (part.).

Vernacular names. *Tuntuni* (Beng.); *Patia* (Nep.); *Tee-tee Sorai* (Assam.); *Nani Duo-tee-tee* (Cachari).

Description. A very much darker bird than the preceding race, the upper parts being olive-green; the forehead and crown a much deeper rufous and the nape also darker; the underparts are tinged with buff.

Colours of soft parts as in *O. s. sutorius.*

Measurements. Wing 43 to 50 mm.; tail 35 to 66 mm. (Summer); tarsus 20 to 21 mm.; culmen 12 to 14 mm.

Distribution. Nepal, Sikkim, Assam, Eastern Bengal and the whole of Burma to Tenasserim.

Nidification. In every respect like that of the last bird. I have taken its nest up to 6,000 feet in both the Khasia and N. Cachar Hills and it is a very common breeder up to 5,000 ft. The eggs of the various races of *Orthotomus sutorius* are absolutely indistinguishable from one another. Two hundred eggs average 15·9×11·3 mm.: maxima **17·5×12·4** mm.; minima **13·3×11·0** and 14·3×**10·0** mm.

Habits. Those of the species. This bird ascends to at least 6,000 feet in the Assam Hills and to 5,000 feet in the Burmese Hills and is also found throughout the foot-hills and in the greater portion of the Plains.

(815) Orthotomus sutorius longicaudus.

THE CHINESE TAILOR-BIRD.

Motacilla longicauda Gmelin, S. N., i, p. 954 (1788) (China).
Orthotomus sutorius. Blanf. & Oates, i, p. 366 (part.).

Vernacular names. None recorded.

Description. The darkest of all forms of *Orthotomus sutorius*, with the underside strongly suffused with buff and the anterior crown deep rufous with a very dark nape.

Colours of soft parts as in *O. s. sutorius.*

Measurements. Wing 44 to 50 mm.; tail 35 to 60 mm.; tarsus 20 to 21 mm.; culmen 13 to 14 mm.

Distribution. Yunnan and China (Fokhien, Foochow). Specimens obtained by Harington in the Northern Shan States appear to be of this species. I cannot separate La Touche's *inexpectatus* (Yunnan) from the Fokhien birds, though they differ from Swinhoe's *phillarraphæus* from Amoy in being darker and duller.

Nidification. Not distinguishable from that of any other race of Tailor-Bird.

Habits. Those of the species.

(816) Orthotomus sutorius maculicollis.

THE SIAM TAILOR-BIRD.

Orthotomus maculicollis Moore, P. Z. S., 1854, p. 309 (Malacca).

Vernacular names. *Nok-a-chip* (Siam).

Description. Differs from all the preceding races of *sutorius* in having the ear-coverts and sides of the neck white mottled or streaked with blackish; the throat and upper breast invariably marked with black, owing to the black bases to the feathers showing through; the underparts are otherwise silky-white, very slightly suffused with buff.

Colours of soft parts as in the other races of *sutorius.*

Measurements. Wing 43 to 48 mm.; tail 35 to 56 mm.; tarsus 21 mm.; culmen 13 mm.

Distribution. South Siam, Malay States; there is one specimen in the British Museum from Cambodia and several Tenasserim specimens are referable to this race, though the great majority are *patia.*

Nidification. Messrs. Williamson and Herbert collected fine series of nests and eggs of this Tailor-Bird in the vicinity of Bangkok. Mr. E. G. Herbert gives the nesting-season as from early May to August and says that it breeds in the gardens, making nests quite similar to those of the Common Tailor-Bird, sewing them into one, two, or more leaves and placing them sometimes within a few feet of the ground but, on the other hand, often in wild almonds and prickly palms as high up as 20 feet. The average of fifty eggs is 15·5×11·4 mm.: maxima **16·7×12·2** mm.; minima **13·6×10·7** and 14·0×**10·6** mm. In appearance they cannot be distinguished from those of *O. s. sutorius* but one clutch taken by Mr. E. G. Herbert is practically pure blue.

Habits. Those of the species.

Orthotomus atrigularis.

Key to Subspecies.

A. Darker, more olive-green above ..... *O. a. atrigularis*, p. 414.
B. Brighter, more yellow-green above ..... *O. a. nitidus*, p. 415.

(817) Orthotomus atrigularis atrigularis.

THE BLACK-NECKED TAILOR-BIRD.

Orthotomus atrigularis Temm., Pl. Col., livr. 101 (1836) (Malacca); Blanf. & Oates, i, p. 368.

Vernacular names. *Nok-a-chip khor dum* (Siam).

Description. Lores, forehead to nape chestnut; upper plumage and exposed parts of wings and tail olive-green, more or less tinged with yellow; tail tipped faintly paler and sub-tipped with a dark band; ear-coverts, cheeks and chin white, the dark bases of the feathers showing through; throat and fore-neck black; breast and flanks ashy, the latter tinged with green posteriorly; thighs



Fig. 65.—Bill of *O. a. atrigularis*.

rufous; under wing-coverts, axillaries and under tail-coverts bright yellow.

Colours of soft parts. Iris tan-brown, tan-yellow to orange; upper mandible light horny-brown, lower mandible pale fleshy-brown; legs pale flesh-colour.

Measurements. Wing 42 to 48 mm.; tail 31 to 36 mm.; tarsus about 19 to 20 mm.; culmen 14 to 15 mm.

Female differs from the male in having the lower parts whiter and in having no black patch on the throat and fore-neck.

Young like the female.

Distribution. Malay Peninsula, Borneo, South of Siam and the extreme South of Tenasserim.

Nidification. Mr. Herbert found this Tailor-Bird breeding in the dense undergrowth in fruit-gardens round about Bangkok. The nests and eggs he describes as indistinguishable from those of *O. s. maculicollis*, though the latter average rather brighter in their coloration. The breeding-season is June and July. The twenty-one eggs I have seen average 15·6 × 11·6 mm.: maxima **16·8** × 12·1 and 16·0 × **12·3** mm.; minima **14·5** × 11·0 and 15·2 × **10·9** mm.

Habits. Mr. Herbert writes in the Journal of the Siam Nat. Hist. Soc., "its haunts are confined to fruit-gardens where it prefers the quiet and shade of the thick undergrowth to parading itself in the compounds like the Malay Tailor-Bird. This natural shyness keeps it very much out of evidence. Its note is a sweet-sounding trill, *kri-ri-i*, and contrasts with the shrill *too-wit* of its noisy cousin. When once this note has been recognized, it may be regularly heard in the fruit-gardens."

(818) Orthotomus atrigularis nitidus.

THE BURMESE BLACK-NECKED TAILOR-BIRD.

Orthotomus nitidus Hume, Str. Feath., ii, p. 507 (1874) (Tenasserim).
Orthotomus atrigularis. Blanf. & Oates, i, p. 368 (part.).

Vernacular names. *Nok-a-chip khor dum* (Siam). *Jungla Tee-tee Sorai* (Assam); *Hagra Dao-tee-tee* (Cachari).

Description. Similar to the preceding bird, but a much brighter, more yellow-green above and whiter, less ashy below.

Colours of soft parts and **Measurements** as in the last bird.

Distribution. Sikkim to Eastern Assam, Hills of Central Burma to Tenasserim, North Siam.

Nidification. This Tailor-Bird breeds from the foot-hills up to at least 6,000 feet, but more commonly below 4,000 feet than above it. It is common in the Khasia Hills in dense wet forest during the breeding-season near villages and cultivated land, but builds its nest on the fringe of the forest and never in gardens like the common Tailor-Bird. Most of the nests I found myself were either in the bushes and bracken on the outskirts of thick jungle or in open glades just inside. The nest and eggs cannot be distinguished from those of *O. sutorius*, though it apparently does not build on trees or bushes at any height from the ground. One hundred eggs average 15·4 × 11·4 mm.: maxima **16·2** × 11·2 and **16·0** × **12·5** mm.; minima **14·6** × 11·6 and 15·6 × **10·8** mm.

The breeding-months are April, May, June and July.

Habits. This Tailor-Bird takes the place of *O. sutorius* in forests and jungles and is much more wild and shy than that bird. Like the Malay race its shrill note is heard much more often than the bird itself is seen, as it keeps closely to undergrowth and thick cover.

(819) Orthotomus ruficeps.

THE RED-HEADED TAILOR-BIRD.

Edela ruficeps Less., Traité d'Orn., p. 309 (1830) (Singapore).
Orthotomus ruficeps. Blanf. & Oates, i, p. 368.

Vernacular names. *Nok-a-chip* (Siam).

Description. Upper part of head from lores to nape chestnut; back, scapulars, rump and exposed parts of wing dark ashy-brown; edge of inner webs of primaries and secondaries pinkish rufous; upper tail-coverts rufous-ashy; tail chestnut, the bases blackish; lower half of head white; remainder of lower plumage white tinged with buff, deepest on the under tail-coverts.

Colours of soft parts. Iris brown to salmon or yellow-tan; bill above horny-brown, below fleshy or yellowish horny; legs and feet fleshy-white to fleshy-brown.

Measurements. Wing 47 to 54 mm.; tail 36 to 43 mm.; tarsus about 21 mm.; culmen 16 to 17 mm.

Female. Differs from the male in having the black on the tail extended over nearly the whole length next the shaft, with a broad bar at the sub-tip.

Young are much more grey below.

Distribution. Peninsular Burma and Siam, through the Malay Peninsula to Borneo, Palawan and Sumatra. *Othotomus edela* of Temm., generally given as a synonym of this species, is a totally different bird, being merely a local race of *O. sutorius*. Lesson's type-locality for *O. ruficeps*, New Holland, is also of course wrong, and I now designate the type-locality as Singapore.

Nidification. A series of the nests and eggs of this Tailor-Bird, taken by Mr. W. A. T. Kellow during the months February to May, in the vicinity of Taiping in the Fed. Malay States, are not distinguishable from those of the Common Tailor-Birds but the nests seem to be more stoutly built, with more material in the nest itself and with a denser lining of vegetable down. They were all placed low down in weeds and bushes in scrub-jungle on the outskirts of forest. The eggs go through the same range of variations as the Common Tailor-Birds' do but they seem to average brighter with bolder markings. Thirty eggs average 15·4×11·4 mm.: maxima **16·3×11·5** and 16·2×**12·0** mm.: minima **15·0**×11·2 and 15·1×**11·0** mm.

Habits. Nothing recorded. This Tailor-Bird seems to be a frequenter of the outskirts of forests and low scrub-jungle, and not of villages and gardens like the Common Tailor-Birds.

Orthotomus sepium.

Lafres., Mag. de Zool., 1836, pl. li.

Type-locality: Java.

(820) Orthotomus sepium cineraceus.

THE ASHY TAILOR-BIRD.

Orthotomus cineraceus Blyth, J. A. S. B., xiv, p. 589 (1845) (Malacca).

Vernacular names. *Nok-a-chip* (Siam).

Description. Forehead, anterior crown, lores, sides of head, chin, sides of throat and supercilium bright cinnamon-rufous; posterior crown and upper plumage ashy-grey; tail brown, tipped pale fulvous-white and sub-tipped dark brown; wing-quills brown edged with rufescent; below ashy-grey, deepest on throat and upper breast, albescent on the centre of the belly; under tail-coverts pale buff.

This race differs from typical *O. s. sepium* in having the abdomen whitish instead of tinged with greenish and in having no green on the upper parts. From *borneensis* of Salvadori it is distinguished by its rather lighter plumage and less deep rufous on the head.

Colours of soft parts. Iris Naples-yellow; bill light horny-brown above, pale yellowish below; feet and legs tan-brown, or "pale warm brown" (*Everitt*).

Measurements. Total length about 100 mm.; wing 46 to 52 mm.; tail 34 to 46 mm.; tarsus about 19 mm.; culmen 14 to 16 mm.

Female. Much paler below and with the rufous head-markings very pale and weak.

Young. Like the female but more olive above and dull yellowish white below.

Distribution. South Tenasserim and Siam to Singapore and Sumatra. There is also one specimen from Cochin China in the British Museum collection.

Nidification and **Habits.** I can find nothing recorded.

Genus LUSCINIOLA.

Lusciniola Gray, List Gen. B., p. 28 (1841).

Type, *L. melanopogon* Temm.

The genus *Lusciniola* contains only one species of Indian bird which is frequently included in other genera by modern ornithologists. It, however, differs from *Tribura* in having fairly strong rictal bristles and from *Arundinax* in having no supplementary hairs in front of the rictal bristles. From other genera it differs still more widely in various respects.

Lusciniola has a slender bill about two-thirds the length of the head; there are two rictal bristles but no supplementary hairs in front of them, the forehead being smooth and sharply defined; the wing is fairly long, the first primary less than half the length of the second which reaches almost to the end of the wing; the tail is well graduated and the tarsus long.

This genus has a complete Spring moult without, however, any change in plumage.

Lusciniola melanopogon.

Sylvia melanopogon Temm., Pl. Col., pl. 245, fig. 2 (1823).

Type-locality: Rome.

(821) Lusciniola melanopogon mimica.

THE EASTERN MOUSTACHED SEDGE-WARBLER.

Lusciniola mimica Madarász, Verlauf. üb. ein. neu. Roles (1905) (Transcaspia).
Lusciniola melanopogon. Blanf. & Oates, i, p. 369.

Vernacular names. None recorded.

Description. Forehead, crown and nape black edged with rufous-brown; hind neck, back and scapulars rufous-brown, streaked with dark brown; rump and upper tail-coverts plain rufous-brown; wings and tail brown, edged with rufous-brown; lores and a streak through the eye dark brown; a bold white supercilium from the nostrils to the nape; ear-coverts mixed rufous and white; lower parts white suffused with buff from breast to under tail-coverts and more strongly so on flanks.

L. m. mimica is a much darker bird both above and below and is much more boldly marked on the back and scapulars than *L. m. melanopogon*.



Fig. 66. Head of *L. melanopogon mimica*.

Colours of soft parts. Iris brown; bill deep greenish brown above, below lighter and fleshy at the base; legs, feet and claws greenish brown (*Bingham*).

Measurements. Total length about 146 to 152 mm.; wing 61 to 66 mm.; tail 47 to 52 mm.; tarsus about 20 mm.; culmen about 11 to 12 mm.

Distribution. In India this bird has been found in Sind, Kashmir, the Punjab and N.W. Provinces, the majority of the specimens in the British Museum coming from Etawah and Sind. Outside India it is found from the delta of the Volga, Kirghis Steppes, Transcaspia, West Turkestan, Persia.

Nidification. It has been obtained breeding in Issuk Kul. The nest is like that of the Moustached Sedge-Warbler, a cup of grasses and roots lined with fine grasses placed low down in reeds in swampy ground. The only clutches of eggs I have seen were quite indistinguishable from those of the Western birds; in ground-colour they are pale greenish grey, stippled all over, with a darker shade of the same forming a ring at the larger end; there are also a few black hair-lines. The eggs in my collection vary from 16·1 × 12·9 to 19·0 × 13·5 mm.

The full number of eggs appears to be four and the breeding-months April and May.

Habits. A shy skulking little bird creeping actively but unobtrusively in and out of reeds, tamarisk and other bushes standing in water or other swampy ground. In Sind during heavy floods, when most of its normal cover is flooded out, Ticehurst says that it is much more conspicuous and by no means wild. He describes its note as a curious scolding chuckle.

Genus CISTICOLA.

Cisticola Kaup, Skizz. Nat. Syst. Eur. Thierw., p. 119 (1829).

Type, *Cisticola cisticola* (Temm.) (= *juncidis*).

The genus *Cisticola* contains two Indian species of Warbler which have two moults yearly, in one species the alteration in the plumage being very great, in the second negligible. The tail is generally decidedly longer in Winter than in Summer, but the degree of difference varies greatly and in some races there is none.

The first primary is very small and the bill is slender and pointed; there are two short rictal bristles, no supplementary hairs and the forehead is smooth.

Key to Species.

A. Tips to all tail-feathers indistinct, dull rufous-white ..... *C. exilis*, p. 419.
B. Tips to the lateral tail-feathers broad and pure white ..... *C. juncidis*, p. 422.

Cisticola exilis.

Malurus exilis Vig. & Horsf., Trans. L. S., xv, p. 223 (1827, ex Lath., MS.).

Type-locality: New Holland.

Key to Subspecies.

A. Crown plain, not streaked like the back. [p. 420.
  a. Head deep rufous ..... *C. e. erythrocephala*, ♂, æst.,
  b. Head golden-yellow ..... *C. e. tytleri*, ♂, æst., p. 420.
  c. Head very pale yellowish white . *C. e. equicaudata*, ♂, æst.,
B. Crown streaked like the back. [p. 422.
  d. Upper parts strongly suffused with rufous.
    a'. Rufous more prominent than black on crown..... [♂ hyem., p. 420.
      C. e. erythrocephala, ♀, p. 420.
    b'. Black more prominent than rufous on crown ..... *C. e. tytleri*, ♀, ♂ hyem., p. 420.
  e. Upper parts ashy with hardly any rufous tinge ..... [p. 422.
      C. e. equicaudata, ♀, ♂ hyem.,

(822) Cisticola exilis erythrocephala.

THE RED-HEADED FANTAIL-WARBLER.

Cisticola erythrocephala Blyth, J. A. S. B., xx, p. 523 (1851) (Nilgiris); Blanf. & Oates, i, p. 371.

Vernacular names. *Yedru-jitta* (Tel.).

Description.—Male in Summer. Forehead and crown chestnut shading into dull rufous on the nape and hind neck; back and scapulars rufous boldly streaked with black; wing-feathers blackish edged with rufous-fulvous; rump and upper tail-coverts rufous-brown; tail black with whitish tips and very narrow rufescent edges, soon wearing off; underparts bright light ferruginous, paler on centre of throat and abdomen.

Colours of soft parts. Iris tan or light brown; bill above horny-brown, below pale yellowish brown; legs and feet fleshy-white to fleshy-brown.

Measurements. Wing 45 to 51 mm.; tail 32 mm. in Summer, 44 to 46 mm. in Winter; tarsus about 18 mm.; culmen 10 to 11 mm.

Female and Male in Winter. Head rufous, broadly streaked with black; tail with broad olive-brown edges; below rather less rufous.

Young are like the female but paler and less boldly marked and with the underparts yellow, the flanks dusky.

Distribution. The Hills of Mysore and Travancore, North to Sangor in the Central Provinces. It is also common on the Brahmagiris in Coorg and I have had it reported from the Western Ghats in Kanara but have not seen any skins from thence.

Nidification. Nothing recorded.

Habits. The Red headed Fantail-Warbler is only found where there are wide stretches of grass-land and is not found in forest or scrub unless it is in patches of the latter standing in grass. Mr. Howard Campbell found it common in small colonies in the Palni Hills but has recorded nothing about its habits.

(823) Cisticola exilis tytleri.

THE YELLOW-HEADED FANTAIL-WARBLER.

Cisticola tytleri Jerdon, B. of I., ii, p. 176 (1873) (Dacca); Blanf. & Oates, i, p. 372.

Vernacular names. *Titi-daotisha* (Cachari); *Lal sir-phatki* (H.).

Description. Differs from *C. e. erythrocephala* in Summer in having the crown a much paler yellow and at all seasons in having the nuchal rufous collar much more pronounced and the upper parts darker, the black centres being broader and bolder and the rufous edges less wide.



CISTICOLA E. TYTLERI. ♂.
The Yellow-headed Fantail-Warbler.
¾ life size.

(822) Cisticola exilis erythrocephala.

THE RED-HEADED FANTAIL-WARBLER.

Cisticola erythrocephala Blyth, J. A. S. B., xx, p. 523 (1851) (Nilgiris); Blanf. & Oates, i, p. 371.

Vernacular names. *Yedru-jitta* (Tel.).

Description.—Male in Summer. Forehead and crown chestnut shading into dull rufous on the nape and hind neck; back and scapulars rufous boldly streaked with black; wing-feathers blackish edged with rufous-fulvous; rump and upper tail-coverts rufous-brown; tail black with whitish tips and very narrow rufescent edges, soon wearing off; underparts bright light ferruginous, paler on centre of throat and abdomen.

Colours of soft parts. Iris tan or light brown; bill above horny-brown, below pale yellowish brown; legs and feet fleshy-white to fleshy-brown.

Measurements. Wing 45 to 51 mm.; tail 32 mm. in Summer, 44 to 46 mm. in Winter; tarsus about 18 mm.; culmen 10 to 11 mm.

Female and Male in Winter. Head rufous, broadly streaked with black; tail with broad olive-brown edges; below rather less rufous.

Young are like the female but paler and less boldly marked and with the underparts yellow, the flanks dusky.

Distribution. The Hills of Mysore and Travancore, North to Sangur in the Central Provinces. It is also common on the Brahmagiris in Coorg and I have had it reported from the Western Ghats in Kanara but have not seen any skins from thence.

Nidification. Nothing recorded.

Habits. The Red headed Fantail-Warbler is only found where there are wide stretches of grass-land and is not found in forest or scrub unless it is in patches of the latter standing in grass. Mr. Howard Campbell found it common in small colonies in the Palni Hills but has recorded nothing about its habits.

(823) Cisticola exilis tytleri.

THE YELLOW-HEADED FANTAIL-WARBLER.

Cisticola tytleri Jerdon, B. of I., ii, p. 176 (1873) (Dacca); Blanf. & Oates, i, p. 372.

Vernacular names. *Titi-daotisha* (Cachari); *Lal sir-phatki* (H.).

Description. Differs from *C. e. erythrocephala* in Summer in having the crown a much paler yellow and at all seasons in having the nuchal rufous collar much more pronounced and the upper parts darker, the black centres being broader and bolder and the rufous edges less wide.

Colours of soft parts as in the last bird.

Measurements. Wing 44 to 47 mm.; tail 25 to 26 mm. in Summer, 46 to 48 mm. in Winter; tarsus 18 mm.; culmen about 10 mm.

Distribution. Bhutan Dooars to E. Assam, Bengal, Manipur, Lushai, Chin and Kachin Hills, Yunnan.

Nidification. The Yellow-headed Fantail-Warbler breeds throughout the Assam Hills wherever there are suitable grass-covered hills between 2,000 and 3,500 feet, rarely in the Khasia Hills a little higher than this. The nests are of two sorts: one a little egg-shaped nest of fine grasses very lightly and casually interwoven but otherwise just like the usual nest of the Common Fantail-Warbler. The other kind, which numbers at least four out of five, is about the most fragile nest made; a mere flimsy little half-cup of fine grasses and cotton-down sewn against the face of a leaf of some weed or lowly plant standing in grass-land. It is never sewn *inside* the leaf like that of *Orthotomus* and *Franklinia*, but the threads are passed through the unfolded leaf and knotted at the back, retaining the nest in its place against the leaf. The breeding-months are April and May when the male birds have bright golden heads but many eggs are laid again in June to August when the bleached heads of the males look as if they belonged to a different species. The eggs number four or five, very rarely six and are very beautiful. The ground-colour is a bright pale blue and the markings consist of reddish-brown, black or purple blotches and spots with a few similarly shaped secondary marks of grey. A few eggs are very pale blue and closely resemble boldly marked eggs of *Cisticola c. cursitans*. One hundred eggs average 14·8 × 11·4 mm.: maxima 16·0 × 12·0 mm.; minima 13·1 × 11·0 and 15·5 × 10·9 mm.

Habits. This Warbler is found wherever there are suitable plateaus of grass-land from the foot-hills of a thousand feet or so up to at least 5,000 feet, but it is most common between 2,000 and 3,500 feet. It seems to collect in colonies both in the breeding and non-breeding seasons, although it is never found in flocks. Ten or twenty pairs may occupy a hillside not more than half a mile square and then one may wander miles over what appears to be exactly similar country before one meets another colony. When disturbed the bird jerks itself straight into the air and then flies strong and well for fifty to a hundred yards before hurling itself headlong into the grass again. It has a call-note sounding like *chir-r-r-r-r*. and then, after a distinct interval, a beautiful bell-like tinkle which seems to come from quite a different direction. Its food consists entirely of ants and minute insects which it hunts for in among the grass-stems.

In Winter it is found in the plains of Assam and in Bengal and may possibly breed in these places.

(824) Cisticola exilis equicaudata.

THE SIAM GOLDEN-HEADED FANTAIL-WARBLER.

Cisticola erythrocephala equicaudata Stuart Baker, Bull. B. O. C., xliv, p. 39 (1924) (Samkok, Siam).
Cisticola volitans. Blanf. & Oates, i, p. 373.

Vernacular names. *Nok sare korey* (Siam).

Description. Differs from both the preceding races in being much more grey and less rufous above; the black is less pronounced and the grey edges to the feathers wider than the rufous edges in those races. In the breeding-season the head is a golden rufous quickly bleaching to golden-yellow.

Colours of soft parts as in the other races.

Measurements. Wing 42 to 46 mm.; tail 24 to 30 mm. in Summer. In Winter this race never has the tail exceeding 34 mm. and generally much less, whereas Philippine birds never have it less than 45 mm. and running up to 48 mm. Tarsus about 18 mm.; culmen about 10 mm.

Distribution. Siam, South Burma.

The true *volitans*, from Formosa, has a much paler head, almost white.

Nidification. Mr. E. G. Herbert found this bird breeding round about Samkok and Bangkok in Siam but it seems to vary its haunts from year to year, some years being much more plentiful than in others. All the nests he found there were of the egg-shaped type. The eggs are laid during June and possibly July and are like those of the last race. Thirty eggs average 14·9 × 11·2 mm.: maxima **16·2 × 12·1** mm.; minima **13·2** × 11·0 mm. and 14·0 × **10·8** mm.

Habits. The Siam Golden-headed Fantail-Warbler is a bird of the grass-plains and grass-covered open places, such as race-courses etc. In its habits it does not otherwise differ from *C. e. tytleri* and like that bird is found in colonies.

Cisticola juncidis.

Sylvia juncidis Rafinesque, Carratteri alc. nuovi gen. e nuovi spp. Animali della Sicilia, p. 6, sp. 10 (1810).

Type-locality: Sicily.

Key to Subspecies.

A. Smaller and paler ..... *C. j. cursitans*, p. 422.
B. Larger and darker ..... *C. j. omalura*, p. 424.

(825) Cisticola juncidis cursitans.

THE STREAKED FANTAIL-WARBLER.

Prinia cursitans Frankl., P. Z. S., 1831, p. 118 (Calcutta, Benares).
Cisticola cursitans. Blanf. & Oates, i, p. 374.

Vernacular names. *Nok-a chi-chang-pea* (Siam); *Nat-pi-hsat* (Burmese). *Ghaska-phutki* or *Ghaska-pitpitti* (Hin.); *Kheryasa* (Hin.: Bhagulpore); *Tuntunia* (Monghye); *Vedru-jitta* (Tel.).

Description. Head, back, scapulars, upper tail-coverts and lesser wing-coverts black, with broad rufous-fulvous edges, remaining wing-feathers dark brown with fulvous edges; rump plain rufous; tail blackish brown, edged with rufous, tipped broadly with white and sub-tipped deep black, the lateral feathers with a broad rufous patch; ear-coverts pale brown; lores and faint supercilium buffy-white; whole lower plumage white suffused with buff, more rufous on the flanks.

The head during Summer is often so abraded as to look almost wholly dark brown, whilst in Winter there are no rufous patches to the tail.

Colours of soft parts. Iris tan-yellow; bill dark on culmen and tip, horny-fleshy elsewhere, mouth black in the breeding-season, plumbeous-grey in Winter; legs and feet yellowish-fleshy.

Measurements. Wing 46 to 53 mm.; tail in Summer 31 to 35 mm., in Winter 36 to 39 mm.; tarsus 20 mm.; culmen 10 mm.

Young like the adult but the underparts very yellow



Fig. 67.—Bill of *C. j. cursitans*.

Distribution. Practically the whole of India, Assam, Burma, Siam and Yunnan.

Nidification. The Streaked Fantail-Warbler breeds both in the plains and in the hills up to about 6,000 feet or a little over. In the plains of India, Burma and Siam it breeds most often on the borders of rice-cultivation in grass growing on the dividing banks or in adjoining fields. In the hills it breeds in the great stretches of rolling grass-land which cover so large a portion of their surface. The nests vary a good deal; most are little egg-shaped affairs with the entrance close to or actually at the top; other nests are long deep purses, the upper entrance-end being the narrower. Less common than either of these are small cup-shaped nests with a canopy of living grass woven above them. The nests are almost invariably built in tufts of grass and, often, the grass-blades are incorporated, as they grow, into the nest itself together with other strips of grass. In each type of nest cobwebs are largely used to strengthen the structure and the lining is of soft vegetable-down or feathery grass-ends. Normally the eggs number three to five exceptionally six or seven. In ground-colour 9 out of 10 eggs are pure white, in a few tinged with blue and, in fewer still, a definite pale blue, never so deep as in the eggs of the *C. exilis*

group. The markings consist of specks and spots of reddish brown, generally most numerous at the larger end, where they may form a ring or cup. Siamese birds have eggs more boldly and richly marked than those of Indian birds. Four hundred eggs average 15·0 × 11·5 mm.: maxima **16·8** × 10·9 mm. and 16·6 × **12·3** mm.; minima **13·8** × 11·2 and 13·9 × **10·2** mm.

The principal breeding-months are after the Rains break in June until September, but in Assam, where the rains are more constant, they breed from April to July, though an odd nest or two may be found with eggs any month of the year.

Habits. Very like those of *C. e. tytleri* but the voice is quite different, a sharp vibrant note, generally uttered as the bird rises into the air and a low sibilant call used when a pair or family of birds are separated. It does not breed in colonies but often many pairs may be found breeding close to one another. It has a habit of soaring up into the air some twenty or thirty feet in the breeding-season, uttering its sharp cry as it leaves the shelter of the grass. Its flight is not as direct or strong as that of *C. e. erythrocephala*, though otherwise very like it.

(826) Cisticola juncidis omalura.

THE CEYLON STREAKED FANTAIL-WARBLER.

Cisticola omalura Blyth, J. A. S. B., xx, p. 176 (1851) (Ceylon).

Vernacular names. *Yedru-jitta* (Tel.).

Description. Similar to the preceding race but rather larger and darker, the rump especially being a very dull rufous.

Colours of soft parts as in *C. j. cursitans*.

Measurements. Wing 49 to 56 mm.; tail 34 to 36 mm., Summer and Winter alike.

Distribution. Ceylon only.

Nidification. Similar to that of *C. j. cursitans*. Most birds appear to breed in July, August and September, though nests with eggs or young may be seen in almost any month of the year. A series of eggs taken by Messrs. E. Waite and W. W. A. Phillips in Ceylon are quite similar to those of *C. j. cursitans*, but are perhaps more boldly marked than those laid in India. Fifty eggs average 15·2 × 11·8 mm.: maxima **16·8** × 11·9 and 16·2 × **12·6** mm.; minima **13·7** × 11·4 and 14·2 × **11·0** mm.

Habits much the same as those of the preceding bird.

Genus FRANKLINIA.

Franklinia Jerd., B. of I., ii, p. 186 (1863).

Type, *F. buchanani* (Blyth).

The genus *Franklinia* contains four species of birds found within our limits. They are divided from the genus *Prinia* by their tails which contain 12 feathers instead of 10 as in that genus. From *Cisticola* it is separable by its longer blunter bill.

Like *Cisticola* it has two moults in the year and the tail is longer in Winter than in Summer but the sexes are always alike.

The bill is slender and almost equal to two-thirds the length of the head; there are two strong rictal bristles, no supplementary hairs and the feathers of the forehead are close and smooth. The wing is rounded and very feeble, the first primary exceeds half the length of the second and the fifth is slightly the longest. The tarsus is long and fairly strong.

Key to Species.

A. Forehead and crown of same colour.
  a. Pale spots at tip of tail-feathers dull and shorter than wide.
    a'. Crown and upper plumage same colour ..... *F. gracilis*, p. 425.
    b'. Crown darker than back ..... *F. rufescens*, p. 426.
  b. Pale spots at tip of tail-feathers pure white and longer than wide ..... *F. buchanani*, p. 429.
B. Forehead rufous, fore crown bluish-ashy. *F. cinereocapilla*, p. 428.

(827) Franklinia gracilis.

FRANKLIN'S WREN-WARBLER.

Prinia gracilis Frank., P. Z. S., 1831, p. 119 (Vindhyani Hills).
Franklinia gracilis. Blanf. & Oates, i, p. 376.

Vernacular names. *Dao pitti*, *Dao tisha-pitti* (Cachari).

Description. Whole upper plumage dull ashy-grey, tinged with brown on rump and tail; wing-feathers edged with dull pale



Fig. 68.—Bill of *F. gracilis*.

rufous, tail-feathers tipped with white and sub-tipped with a dark brown patch, more conspicuous from below; lower plumage white with a broad pectoral grey band; flanks, where concealed by the wings, grey; under wing-coverts white.

Colours of soft parts. Iris yellowish brown, hazel to blood-red; edges of the eyelids orange; bill black, paler at the base, especially on the lower mandible; legs and feet light horny-brown to orange-brown.

Measurements. Wing 40 to 50 mm.; tail 37 to 50 mm.; tarsus about 20 mm.; culmen about 10 to 11 mm.

Winter. Whole upper surface rufous-brown, more rufous on

rump and tail; a white line over the lores sometimes extending over the eye; lower plumage dull fulvous-white, often greyish on breast and deeper fulvous on abdomen, vent and under tail-coverts.

Colours of soft parts. Edges of eyelids plumbeous; bill dark horny-brown, fleshy at the mouth and base of lower mandible; legs and feet yellowish brown.

Measurements. Tail 40 to 55 mm.

Young birds are like the adult in Winter, but rather paler and have the underparts yellowish white.

Distribution. Ceylon, all India, excluding Sind and desert Rajputana, Assam, Burma to Tenasserim, Siam and Annam.

Nidification. Franklin's Wren-Warbler breeds from the level of the plains up to about 6,000 feet but generally below 4,000 feet. It makes a nest very like that of the Common Tailor-Bird but very rarely sews it into more than one leaf or places it higher than two or three feet above the ground. As a rule, also, it can be distinguished by the coarser texture of the materials used in its construction. The eggs number three or four and vary in the most extraordinary degree; they may be pure white, pure bright blue or almost any shade of pinky white, pale grey-green or greenish blue speckled all over, or blotched or spotted in a ring or cap at the larger end. The spots themselves are nearly always rather light reddish brown, sometimes bright reddish. Four hundred eggs average 14·7 × 11·1 mm., but if measured separately the unspotted eggs average 15·4 × 11·4 and the spotted ones 14·6 × 10·6 mm. The spotless eggs are also much more glossy than the marked ones. The extremes of measurements are: maxima **16·6** × 11·3 and 15·6 × **12·0** mm.: minima **13·8** × 11·0 and 14·1 × **10·2** mm.

Odd nests may be found throughout the year, but the principal breeding-months in the hills are April to June and in the Plains June to August after the break of the Rains.

Habits. This little Wren-Warbler may be seen in almost any kind of country other than deep or evergreen forest. It is found in gardens and compounds where there are ample bushes as cover; in cultivated country, if well wooded; in grass-land or on the outskirts of forests and in thin bush-jungle. It is a very poor flier, proceeding by curious little jerky flights, the tail flicking over its head and looking as if it would upset it at any moment. On its feet it is quite active both in bushes and in grass, hunting for insects either on these or actually on the ground and very seldom venturing into the higher growths.

Franklinia rufescens.

Key to Subspecies.

A. Under surface pale rufescent-white .... *F. r. rufescens*, p. 427.
B. Under surface fulvous-rufous ..... *F. r. austeni*, p. 427.

(828) Franklinia rufescens rufescens.

BEAVAN'S WREN-WARBLER.

Prinia rufescens Blyth, J. A. S. B., xvi, p. 456 (1847) (Arrakan).
Franklinia rufescens. Blanf. & Oates, i, p. 377 (part.).

Vernacular names. *Daotisha gajao* (Cachari).

Description. **Summer.** A line from the nostrils over the eye white; lores brown; forehead, crown and nape ashy-brown; remainder of upper plumage rufous-brown, brighter and more rufous on tail and wing feathers; tail-feathers tipped with pale rufescent or white and sub-tipped with a blackish patch; lower plumage white faintly washed with fulvous, more pronounced on the vent, flanks and under tail-coverts.

Colours of soft parts as in *F. gracilis*, but the bill is paler.

Measurements. Wing 42 to 45 mm.; tail 34 to 38 in Summer and in Winter 42 to 52 mm.; tarsus about 20 mm.; culmen about 11 mm.

Winter. The forehead and crown are practically unicolorous with the back and the underparts are generally more suffused with rufous. The rufous of the upper plumage is also brighter in Winter than in Summer.

Young birds are like the adults in Winter plumage with yellow underparts.

Distribution. South India to the foot of the Himalayas; Burma South to Tenasserim, Yunnan (?), Siam and Annam.

Nidification. This does not differ in any way from that of *Franklinia gracilis* and the eggs vary to the same extent in coloration, though, as a whole, they are rather more boldly blotched. The few eggs I have seen measure about 15·9 × 11·6 mm.

Habits. The same as those of *Franklinia gracilis*.

(829) Franklinia rufescens austeni.

THE ASSAM WREN-WARBLER.

Franklinia rufescens assamensis Stuart Baker, Bull. B. O. C., xliv, p. 39 (1924) (Chota Naga Hills).
Franklinia rufescens. Blanf. & Oates, i, p. 377 (part.).

Vernacular names. *Daotisha gajao* (Cachari).

Description. Similar to *F. r. rufescens* but darker, especially below.

Colours of soft parts. As in *F. r. rufescens*.

Measurements. Wing 43 to 47 mm.; tail 30 to 47 in Summer and 48 to 67 in Winter; tarsus 20 mm.; culmen about 11 mm.

Distribution. Kumaon to Eastern Assam, North and South of the Brahmaputra, Manipur.

Nidification. Breeds both in the lower Hills and in those up to 6,000 feet, though it appears to be rare above 5,000 feet. The nests and eggs are quite similar to those of *F. gracilis* but the latter are more boldly blotched and are decidedly larger, although there is no difference in the size of the two birds. Eggs with white ground are less common than those with blue. Two hundred eggs average 16·1 × 11·8: maxima **17·4** × 12·1 and 16·6 × **12·3** mm.; minima **14·2** × 10·6 and 14·6 × **10·5** mm. The principal breeding-months are April, May and June, but I have taken eggs from March to September.

Habits. This appears to be a purely hill-form found from 1000 feet upwards and is never found in the Plains. In all its ways it is exactly like *F. gracilis*.

(830) Franklinia cinereocapilla.

HODGSON'S WREN-WARBLER.

Prinia cinereocapilla Hodgs., Moore, P. Z. S., 1854, p. 77 (Nepal).
Franklinia cinereocapilla. Blanf. & Oates, i, p. 379.

Vernacular names. None recorded.

Description. Forehead and a narrow line over the eye rufous; lores blackish; crown, nape and sides of neck ashy-grey, faintly cross-barred with blackish; upper plumage and exposed parts of wing bright dark rufous; tail rufous-brown, edged with rufous, tipped paler and sub-tipped with a dark brown patch; cheeks and whole lower plumage fulvous, darker on the vent, posterior flanks and under tail-coverts.

The only two Summer birds in the British Museum are rather pale, but otherwise show no difference in their plumage to the Winter specimens.

Colours of soft parts. None recorded.

Measurements. Wing 43 to 45 mm.; tail 53 to 67 mm.; tarsus about 20 mm.; culmen 10 to 11 mm. Summer specimens will probably prove to have shorter tails.

Distribution. Nepal, Sikkim and the Bhutan Duars.

Nidification. A nest sent me as that of this bird resembled that of *F. c. austeni*, and was built in a single leaf of a weed growing in secondary growth. It contained two eggs, plain blue, measuring 16·0 × 11·6 and 16·1 × 11·7 mm.

Habits. Very little known, but Mr. Stevens found it not uncommon in the Darjiling Terai. *In epistola* he tells me that its habits are just the same as those of *F. gracilis* and *F. cinereus*.

(831) Franklinia buchanani.

THE RUFOUS-FRONTED WREN-WARBLER.

Prinia buchanani Blyth, J. A. S. B., xiii, p. 376 (1844) (Bengal).
Franklinia buchanani. Blanf. & Oates, i, p. 378.

Vernacular names. *Chiho* (Sind).

Description. Whole upper plumage and exposed parts of wings pale rufescent grey-brown, the forehead and crown more rufous; tail brown, faintly cross-barred darker, all but the central, or two central, pairs with broad white tips and blackish sub-tips grading into the brown of the bases, the outer pairs also edged white; lores and faint supercilium whitish; ear-coverts and sides of the head pale grey; under plumage greyish white tinged with fulvous on the vent, posterior flanks and under tail-coverts.

Colours of soft parts. Iris tan-brown to orange; upper mandible pale horny-brown, lower mandible fleshy; legs and feet pale fleshy brown.

Measurements. Wing 50 to 54 mm.: tail 47 to 54 mm. in Summer, 58 to 60 in Winter; tarsus about 20 mm.; culmen about 11 mm.

Distribution. Sind, Rajputana, Southern Punjab, N.W. Provinces, Central India and the Central Provinces, Western Bengal and Behar as far east as Ranchi and Hazaribagh. There are three specimens in the British Museum labelled Madras and Jerdon states that this bird is found throughout the Carnatic and Table-land of Southern India. Since his time, however, it has never again been found in these parts of India.

Nidification. In Southern Rajputana, the Deccan and Central India this Wren-Warbler breeds in April, May and June, and often a second time later in the year. Over the rest of its habitat it breeds in the height of the rains in July, August and September. The nest is globular or egg-shaped, more rarely a deep purse or cup-shaped; it is made of grasses and fine roots and is lined with scraps of a salmon-coloured fungus either alone or mixed with grass. It is nearly always a very untidy, roughly made structure and is almost invariably placed in a thick, low, thorny bush, one to four feet from the ground. The eggs number four or five and are a faint greenish or greyish white, finely speckled with dingy reddish brown. The markings are usually numerous everywhere, sometimes more so at the larger end where they may form a ring or cap. One hundred eggs average 15·9 × 12·0 mm.: maxima **17·5** × 12·0 and 16·2 × **12·5** mm.; minima **14·2** × 11·9 and 15·1 × **11·0**.

Habits. The Rufous-fronted Wren-Warbler is essentially a bird of the drier regions; haunting bush and grass-clad plains and plateaus, thin deciduous forest and actual deserts so long as these afford a scanty cover of bushes or grass. They are said to be found in small flocks in Winter, probably family parties only,

and to be energetic noisy little birds, the male constantly uttering its shrill *chirrup*. It has a pleasant little song during the breeding-season.

Genus **LATICILLA.**

Laticilla Blyth, J. A. S. B., xiv, p. 596 (1845).

Type, *L. burnesi* (Blyth).

The genus *Laticilla* contains two Indian species characterized by their very long tails. They have a Spring moult, during which the tail and wing feathers are moulted and a shorter tail is acquired. The plumage is strongly streaked.

The bill is about half the length of the head; there are three rictal bristles and, like all the other genera of Reed-Warblers, there are no supplementary hairs and the frontal feathers are short and smooth. The wing is very short and rounded, the first primary large and the next three graduated. The tail is very long, especially in Winter and is strongly graduated.

Key to Species.

A. Under tail-coverts dark ferruginous ..... *L. burnesi*, p. 430.
B. Under tail-coverts greyish white like the abdomen ..... *L. cinerascens*, p. 431.

(832) **Laticilla burnesi.**

THE LONG-TAILED GRASS-WARBLER.

Eurycercus burnesi Blyth, J. A. S. B., xiii, p. 374 (1844) (Upper Sind).
Laticilla burnesi. Blanf. & Oates, i, p. 380.

Vernacular names. *Hedela* (Sind).

Description. Lores, a ring round the eye and fine supercilium pale grey; forehead, crown, nape and neck rufescent grey

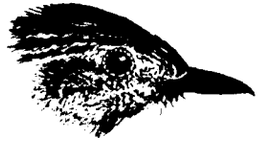


Fig. 69. Head of *L. burnesi*.

changing to rufous-brown on the back and scapulars, each feather with a broad black mesial streak; lower back, rump and upper tail-coverts grey-brown, the first with faint dark centres; tail rufescent olive-brown, faintly cross-rayed darker; the lateral feathers with pale rufescent tips; sides of the head and cheeks white, streaked with blackish; wing-coverts olive grey-brown

with darker centres; quills brown with pale edges; lower plumage white, changing to fulvous on the abdomen and flanks and the latter streaked with blackish; under tail-coverts deep rufous.

Colours of soft parts. Iris tan-brown or brown; bill pale horny, fleshy on the lower mandible; legs and feet pale brown.

Measurements. Wing 53 to 57 mm.; tail 85 to 108 mm.; tarsus 20 to 21 mm.; culmen 10 to 11 mm.

Young. All pale grey-brown above with only faint central streaks; below pale fulvous with no streaks on flanks; under tail-coverts pale rufous.

Distribution. Sind, Rajputana, Punjab, United Provinces and extreme Western Bengal, where it has been obtained in Monghyr.

Nidification. The Long-tailed Grass-Warbler has been found breeding in Sind from March to September (*Doig*) and in February, April and May (*T. R. Bell*). Major J. Lindsey-Smith obtained nests near Multan in May and General R. M. Betham took eggs both at Ferozepore and Lahore in September. The nests are described as substantial well-made cups of grass and tamarisk-twigs, lined with the same or with down and a feather or two, placed well inside thick tufts of grass a few inches from the ground. The sites selected are in grass-land or in low scrub and grass mixed. The full complement of eggs seems to be three or four, but the birds desert on the slightest provocation and it is, therefore, difficult to obtain full clutches. The ground-colour is white or pale greenish white, and they are thickly speckled and spotted with dark reddish brown, profuse everywhere but even more so at the larger end. In shape they are blunt ovals and twenty eggs average 17·9 × 14·2 mm.: maxima **19·1 × 14·6**; minima **16·2 × 13·8** and **17·1 × 13·3** mm.

Habits. This Warbler is only found in the vicinity of the larger rivers and their tributaries running through rather bare country, or even in deserts or sandy wastes with a little scrub and "sarpat grass" in patches here and there. It is a skulking little bird but during the breeding-season it has a joyous song much like that of a Hedge-Sparrow which gives away its hiding-places as well as the site of its nest.

(833) **Laticilla cinerascens.**

DAY'S LONG-TAILED GRASS-WARBLER.

Eurycercus cinerascens Wald., A. M. N. H., (4) xiv, p. 156 (1874) (Dhubri).
Laticilla cinerascens. Blanf. & Oates, i, p. 381.

Vernacular names. None recorded.

Description. Whole upper plumage ashy olive-grey, streaked with dark brown; visible portions of the wings the same but

unstreaked; tail grey-brown, the centres darker; lores, a narrow ring round the eye, cheeks, chin and throat grey-white; remainder of lower plumage pale grey, darker on the flanks and vent.

Colours of soft parts. "Iris sienna-brown; bill horny black, above dark, below bluish horny; tarsus brownish horny, plumbeous or slaty brown" (*Stevens*).

Measurements. Wing 51 to 52 mm.; tail (imperf.) 68 to 79 mm.; tarsus 21 mm.; culmen 10 and 11 mm.

Distribution. Assam.

Nidification. Mr. H. Stevens took nests of this Warbler in the North Lakhimpur District of Assam. Deep cups very well and strongly made of grass, lined with flowering ends of the same and placed low down in thick scrubby bushes growing in among the dense grass and ekra which covers the overflow land on either side of the Subansiri River. The nests contained four and three eggs respectively, very like those of the preceding bird, but with a more decided green tinge. They average about 17·0 × 14·0 mm. and hardly vary at all in size.

Habits. This bird is not shy but lives in such impenetrable grass and reed cover in swamps and on the sides of rivers that little is known about it. I found it in Gowhatty on the North side of the river, not uncommon in Tezpur and Dhubri and again in the Cachar and Sylhet Plains where the hill-streams debouched into the swamps.

Genus **GRAMINICOLA**.

Graminicola Jerdon, B. of I., ii, p. 177 (1863).

Type, *G. bengalensis* Jerdon.

The genus *Graminicola* contains but one species which is found in suitable localities from the Nepal Terai in India to Hainan. It has a partial moult in the Spring confined to the tail and, possibly, to the wing-quills. The tail is longer in Winter than in Summer. The upper plumage is streaked and the tail is long, very broad and greatly graduated.

The bill of the genus is tolerably stout and is about half the length of the head; there are four large rictal bristles, but no supplementary hairs; the feathers of the forehead are firm and close. The wing is similar in form to that of the genus *Laticilla*.

Graminicola bengalensis.

Key to Subspecies.

A. Black streaks above very broad, making the upper parts appear blackish ..... *G. b. bengalensis*, p. 433.

B. Black streaks above very narrow, the rufous edges dominating the colour..... *G. b. striata*, p. 434.

(834) **Graminicola bengalensis bengalensis.**

THE LARGE GRASS-WARBLER.

Graminicola bengalensis Jerd., B. of I., ii, p. 177 (1863) (Ganges); Blanf. & Oates, i, p. 381.

Vernacular names. None recorded.

Description. Head, back to upper tail-coverts black edged with bright rufous, the margins narrowest on the head, but taking up nearly the whole feather on the rump; feathers of the sides of the neck and on the hind neck with narrow white edges; tail black, edged with olive-rufous, each lateral pair of tail-feathers with increasingly broad white tips and all the feathers very faintly cross-rayed; lores, slight supercilium and round the eye pale grey; cheeks and ear-coverts dull rufous; lower plumage fulvous-white; more ochraceous-fulvous on sides of breast and flanks; under tail-coverts ochraceous with dark shaft-streaks.



Fig. 70.—Head of *G. b. bengalensis*.

Colours of soft parts. Iris reddish brown; bill horny-brown, paler at the base and fleshy on lower mandible; legs and feet fleshy-brown.

Measurements. Total length about 155 to 175 mm.; wing 58 to 63 mm.; tail 73 to 90 mm.; tarsus 24 mm.; culmen 13 to 15 mm.

Young birds are more rufous above, the black centres being narrower; below they are more ochraceous.

Distribution. Nepal Terai, Bhutan Duars, Assam both North and South of the Brahmaputra, Manipur.

Nidification. Although I found this bird very common in Cachar and Sylhet, I never obtained its nests myself. One of my collectors, however, finally succeeded and sent me nests and eggs with the parent-birds, said to have been shot off the nests. These latter were like very large, bulky nests of Reed-Warblers, made of grass, ekra bark and rushes and lined with finer grass; they were placed low down among ekra or elephant-grass in the endless swamps which run through Cachar and Sylhet during the rainy season. The nests were taken in July and August. The eggs are pale cream or almost white speckled and spotted with light or dark reddish brown, generally fairly numerous over the whole egg, occasionally more so at the larger end where they form a ring or cap. They measure about 17·2 × 14·3 mm.

Distribution. From Hoshangabad on the West, through Central India to Orissa and Bengal, rare in South-West Behar; common in Assam; the greater part of Burma in suitable places from the Chin and Kachin Hills to Tenasserim in the South. Siam, Shan States, Yunnan, Annam and Java.

Nidification. In Assam and Northern Burma the Striated Marsh-Warbler breeds from the end of April throughout May, but in Siam Mr. E. G. Herbert found them breeding principally in June and July. They make a large globular nest of grass, sometimes with a few bamboo-leaves added, very roughly and loosely put together and placed in any tangle of weeds, grass, or bushes overgrown with grass and weeds. In Lakhimpur, in Assam, a favourite site was a pineapple-plant overgrown with weeds and grass. The eggs number three or four, sometimes five in Siam; in ground-colour they are white or very pale creamy or greyish, rather densely spotted and speckled all over with dark brown and with secondary marks of lavender giving a grey tinge to the eggs. Fifty eggs average 22·8 × 16·8 mm.: maxima **25·3** × **18·0** mm; minima **20·0** × 15·4 and 21·0 × **15·3** mm.

Habits. The Striated Marsh-Warbler is found in open grass-lands or in the vicinity of villages and habitations in cultivated and semi-cultivated lands. In Assam it is a bold bird, quite unheeding of all passers by but in Siam it is said to be very shy. It has a loud shrill song during the breeding-season which it utters in the air, constantly soaring up for some twenty to forty feet and then gliding down again to some bush or other perch near where the hen is sitting. Forrest obtained it at 5,400 feet in Yunnan and Harington, Hopwood and others found it breeding at nearly this elevation in N. Burma.

Genus **SCHŒNICOLA**.

Schœnicola Blyth, J. A. S. B., xiii, p. 374 (1844).

Type, *S. platyura* (Jerdon).

The genus *Schœnicola* differs from *Megalœus* in having two complete moults in the year. The bill is rather short, being about half as long as the head; there are two strong rictal bristles, no supplementary hairs and the feathers of the fore-head are short and close. The wing is rather long, the third primary longest and the first and second large and graduated; the tail is long, broad and well graduated and the feet are powerful.

With the material at present available, it is impossible to say whether Oates is correct in assigning the very great differences in the plumage of these birds to seasonal changes. There are 10 specimens in the British Museum collection from Travancore and Ceylon and 7 from Belgaum: the former, collected April to June, are all rich brown above, rich ochraceous below; the latter, collected in August–September, are all fulvous-brown above and pale ochraceous-white below. Again, the former wing-measurements vary between 63 and 67 mm., the latter between 66 and 71 mm. It may be unsafe to separate them until material for both the breeding and non-breeding season is available from one place but it looks as if there would prove to be two well-defined races.

(837) **Schœnicola platyura.**

THE BROAD-TAILED GRASS-WARBLER.

Timalia platyura Jerd., Madr. Jour. L. S., xiii, p. 170 (1844) (Nilghiris).
Schœnicola platyura. Blanf. & Oates, i, p. 384.

Vernacular names. None recorded.

Description.—Plumage April to June. Lores and small indistinct supercilium pale grey; the whole upper plumage rich brown tinged with rufous, rather brighter on the wings; back, rump and tail faintly cross-rayed and the tail a darker brown, pale-tipped; chin, throat and centre of breast and abdomen white; remainder of lower plumage, cheeks, ear-coverts and sides of neck rich ochraceous, this colour often meeting across the throat.



Fig. 72.—Head of *S. platyura*.

Colours of soft parts. Iris olive-brown; bill black above, pale horny-blue below; legs and feet brown in front, pale fleshy behind and on soles.

Measurements. Total length about 175 to 180 mm.; wing 63 to 67 mm.; tail 59 to 66 mm. (Travancore and Ceylon); wing 66 to 71 mm.; tail 60 to 70 mm. (Belgaum); tarsus about 21 mm.; culmen about 11 to 12 mm.

Birds obtained in Belgaum in August–September are much paler throughout: the upper parts are fulvous-brown and the lower parts are pale ochraceous-white. Judging from the birds in the British Museum series, there is no seasonal difference in the length of the tail.

Distribution. Nilgiris, Palni Hills to South Travancore and North to the Bombay Presidency to Belgaum and Kanara.

Nidification. Col. A. E. Butler in 1880 found the bird breeding during September in Belgaum, and in 1900 Mr. T. R. Bell again obtained nests and eggs in the same district during the same month. The nests are balls of coarse grass-blades mixed with a few finer stems and strips but without any real lining. They are

generally placed in patches of thick high grass near rice-fields, and are well hidden in thick tussocks some one to two feet from the ground. The eggs, four or five in number, are short broad-ovals, pinky-white in ground-colour and speckled and blotched with pinkish red and with secondary spots of lavender. These are scattered everywhere but are more numerous at the larger end. Ten eggs average 19·4 × 14·8 mm. and vary between 19·0 × 14·1 and 20·0 × 15·3 mm.

Habits. Very similar to those of *Megalurus* and *Chætornis*, singing in the same manner as it soars into the air. It is, however, a greater skulker, much more shy than *Megalurus* and often frequents very heavy jungle. It is said sometimes to sing when perched on a bush or mound, a thing I have never seen *M. palustris* do.

Genus CHÆTORNIS.

Chætornis Gray, Gen. Birds, i, p. 107, pl. xlviii, fig. 9 (1848).

Type, *C. striata* (Jerdon).

The genus *Chætornis* is characterized by having unfeathered lores with five exceptionally strong rictal bristles arranged in a vertical row in front of the eye. The sexes are alike and there appears to be no Spring moult, though abrasion alters the colour of the feathers very greatly. The young are more richly coloured than the adults.

There are no supplementary hairs in front of the five rictal bristles and the feathers of the forehead are short and smooth.

(838) Chætornis locustelloides.

THE BRISTLED GRASS-WARBLER.

Dasyornis locustelloides Blyth, J. A. S. B., xi, p. 602 (1842) (Faridpore).
Chætornis locustelloides, Blanf. & Oates, i, p. 388.

Vernacular names. *Gronta-pitta* (Tel.).

Description. Lores and narrow superciliary fulvous-white; whole upper plumage and wings fulvous-brown broadly streaked with black; tail grey-brown barred with black, the bars coalescing in the centre and stopping short of the edge; tips fulvous-white with a broad subterminal black patch; lower plumage pale ochraceous, albescent on the chin, throat and centre of the abdomen.

Colours of soft parts. Iris hazel to deep brown; bill, black in the breeding-season, horny-brown at other times with a fleshy base; legs fleshy-brown to light brown.

Measurements. Total length about 220 mm.; wing 80 to 92 mm.; tail 75 to 95 mm.; tarsus about 28 mm.; culmen about 12 mm.

In Summer the plumage becomes very abraded and dull, the lower plumage becoming almost entirely white.

Distribution. Nellore, Mysore, Deccan, Rajputana, Central Provinces, Punjab, United Provinces, Bengal, Behar and Assam. Jerdon records it from the Nilgiris and there is a specimen in the British Museum marked Darjeeling. It does not occur in the Khasia Hills except at the foot of the Hills in the Plains, certainly never occurred as high up as Darjeeling and probably not in the Nilgiris. General Betham found it common in Guzerat. Ticehurst also thought he saw it near Karachi.

Nidification. This bird breeds in some numbers in the great stretches of grass-land in Behar, Eastern Bengal and Assam during July, August and September; General Betham found it breeding at Baroda in August, and Mr. A. J. Currie near Lahore in August and September. It makes a fragile domed nest of



Fig. 73.—Head of *C. locustelloides*.

grass which it places on the ground among the roots of long grass, very well concealed. The eggs number three to five and are white speckled with primary markings of purplish red and secondary ones of neutral tint. The texture is glossy and the shape broad-ovals. They measure from 19·0 × 14·6 mm. to 22·0 × 15·9 mm.

Habits. Very like those of *Megalurus*. They frequent great stretches of grass-land, especially such as have a good deal of water lying about. During the breeding-season the male is very conspicuous flying up into the air, singing loudly all the time and then floating round where its mate is sitting in the grass. It feeds both among the shrubs, grass, lower growths and on the ground itself, and is very active on its feet wherever found.

Genus PHRAGMATICOLA.

Phragmaticola Jerdon, Madr. Journ. Lit. Sci., xiii, p. 129 (1845) (ex Blyth MS.).

Type, *P. æedon* (Pall.).

Blyth's name *Arundinax* for this genus was probably published some months later than *Phragmaticola*, and the latter must therefore be used. This genus differs from all those of the *Sylviidæ* already dealt with in having the feathers of the forehead rough

	b'. Second primary shorter than seventh .	*H. scita*, p. 444.
	b. Upper plumage sandy-brown	*H. caudata*, p. 444.
B	Wing always over 70 mm.	*H. languida*, p. 445.

(840) Hippolais rama.

SYKES'S TREE-WARBLER.

Sylvia rama Sykes, P. Z. S., 1832, p. 89 (Deccan, India).
Hypolais rama. Blanf. & Oates, i, p. 391.

Vernacular names. *Koktalga* (Turki).

Description. Whole upper plumage pale fulvous-brown, darker as the pale edges to the feathers become abraded; outermost tail-feathers edged paler; a line above the lores to the eye pale buff; lores dusky; cheeks and ear-coverts pale buff; lower plumage very pale sandy-buff, the flanks darker and the centre of the abdomen almost white.

Colours of soft parts. Iris hazel or hazel-brown; bill horny-brown above, pale fleshy-horny below; legs and feet yellowish grey.

Measurements. Total length about 132 to 137 mm.; wing 59 to 64 mm.; tail 47 to 52 mm.; tarsus about 20 to 21 mm.; culmen 10 to 11 mm.

Young are rather darker and richer brown above, brighter buff or yellowish buff below.

Distribution. Breeding in South Mongolia, Turkestan, Afghanistan, Baluchistan, Persia to Transcaspia. Doig also found it breeding in the Eastern Narra, Sind; General Betham in Quetta and, on one occasion only, in Ferozepore; Major Lindsay Smith also obtained its nest in Multan. In Winter it is found throughout India as far South as the Palni Hills and as far East as Western Bengal.

Nidification. Sykes's Tree-Warbler breeds in Sind in late April and early May in the Tamarisk-jungles North of Hyderabad and Sukkur; in Quetta it breeds during May and June, and in Persia during April, May, June and July, generally having two broods. Except in Sind they nearly always select a rose-bush in which to build their nests, often breeding in colonies, almost every rose-bush within a very small area having at least one nest in it. The nests are deep cups composed of grass, roots and fibre, often mixed with pieces of string, cotton, etc. The lining is of wool vegetable-down, hair, fur or feathers, or two or more of these mixed together. They are all well hidden and are generally placed low down between two feet and four feet from the ground, though Mr. T. R. Bell found it placed as high as seven feet up in Tamarisk-trees. The eggs number from three to five and are quite different from those of the other species of the genus. The ground varies from pure white to pale buff, cream or greenish white, whilst the most common form of markings consists of tiny twisted lines and streaks of reddish brown or black, often most numerous and running into one another in a ring at the larger end and sparse everywhere else. These eggs are just like tiny Buntings' eggs. Other eggs have few or no lines and merely scanty specks and spots of black. Both forms have secondary markings of lavender or neutral tint. Two hundred eggs average 15·8 × 12·3 mm.: maxima 18·0 × 13·2 and 15·6 × 13·3 mm.; minima 14·4 × 12·1 and 15·0 × 12·0 mm.

Habits. Sykes's Warbler appears to be a resident in many places, but in Persia it is a Summer visitor, immense numbers appearing in that season when every rose-bush in every garden holds its pair. In India it is resident in a few arid places in Northern India, but its numbers are enormously increased even there by Winter migrants, whilst over the rest of India it is a Winter visitor only. In Quetta, as probably in Sind, many birds come to breed which migrate farther South in Winter. According to General Betham it is a lively cheerful little bird, everlastingly on the move, creeping in and out of the dense tangles of briars, flitting here and there after passing insects, constantly uttering its little song and, though keeping much out of sight, quite tolerant of close observation and showing little signs of fear of man.

(841) Hippolais pallida elæica.

THE OLIVACEOUS TREE-WARBLER.

Salicaria elæica Lindermayer, Isis, 1843, p. 342 (Greece).
Hypolais pallida. Blanf. & Oates, i, p. 392.

Vernacular names. None recorded.

Description. Whole visible upper plumage grey-brown; concealed parts of closed wing and tail dark brown, the latter edged paler; a line above the lores and round the eye white or pale fulvous; lores mottled white or dusky; whole lower plumage dull fulvous-white.

This form differs from typical *H. p. pallida* in being more grey, less brown above. The latter appears to be restricted to Egypt and adjoining countries, not including Palestine.

Colours of soft parts as in *H. rama*.

Measurements. Total length about 155 mm.; wing 64–69 mm.; tail 50 to 58 mm.; tarsus about 20 to 22 mm.; culmen 12·5 to 14·5 mm.

Distribution. Breeding in South-East Europe, Cyprus, Eastern Asia (? Arabia) to Turkestan, Persia, Baluchistan, Afghanistan. The occurrence of this bird in India has hitherto rested wholly upon Dresser's statement that he had seen a specimen collected in Sind. In a letter to me he said that he was certain of his identification but I never heard from who received it. Meinertzhagen also records this as a breeding-specimen near Quetta and there are two specimens from that place in collection.

and disintegrated. In general appearance it is very much like the birds of the genus *Acrocephalus* but in addition to the difference in the forehead the first primary also differs in being very large.

This Warbler has two moults every year but undergoes no seasonal change of plumage.

The sexes are alike. The bill is short and rather wide with three strong rictal bristles placed diagonally; in front of these are some supplementary hairs and the feathers of the forehead are soft and disintegrated with lengthened shafts. The wing is pointed, the third primary sub-longest and the first very large. The tail-feathers are narrow and much graduated.

(839) Phragmaticola aedon.

THE THICK-BILLED WARBLER.

Muscicapa aedon Pall., Reise Prov. Russ. Reichs, iii, p. 695 (1776) (Dauria).
Arundinax aedon. Blanf. & Oates, i, p. 390.

Vernacular names. None recorded.

Description.—Summer. Lores dull white; feathers round the eye fulvous; whole upper plumage fulvous olive-brown, the concealed parts of the wing-feathers brown; the upper tail-coverts



Fig. 74.—Head of *P. aedon*.

are paler and more pure fulvous; lower plumage white or very pale fulvous, the breast generally suffused with buff and the flanks buff extending on to the sides of the abdomen; under tail-coverts, axillaries and under wing-coverts buff.

Colours of soft parts. Iris brown; "upper mandible dark horn-colour, lower one flesh-colour, the tips of both and the gape tinged with orange; mouth bright salmon-colour" (*Oates*); legs and feet plumbeous or dark horny-brown.

Measurements. Total length about 190 to 200 mm.; wing, ♂ 73 to 83 mm. (86 mm., *Hartert*), ♀ 72 to 80 mm.; tail 78 to 87 mm.; tarsus 27 mm.; culmen 15 to 16 mm.

Young are more richly coloured above and below, with a faintly rufescent tinge on the former and a decided brown tinge on the latter.

Distribution. Breeding in South Siberia from Tomsk to Manchuria and North China. Wintering in Eastern Bengal, Nepal Terai, Bhutan Duars, Assam, Burma and Siam. It has also been recorded from the Carnatic and Bangalore.

Nidification. This Warbler is said to make a deep cup-shaped nest of dry grass, lined with finer grass or horse-hair, which it builds on a Willow or Birch bush one to five feet from the ground. The eggs number three to five and are very unusual. In colour they are a pale rosy-purple or violet, marked with very fine hair-lines of black or deep purple. They measure about 23·0 × 16·5 mm. (*Dresser*).

Habits. In its breeding-haunts it is said to be a shy retiring bird, haunting humid and marshy places, covered with reeds, bushes or low trees. It has a fine song and a loud call-note, which Dresser syllabifies as *tschok*, *tschok*. In Burma and Assam, where it is quite common in winter, it is not nearly so shy, though, as it quietly clambers about in reeds, grass or low scrub, it does not attract much attention. It wanders freely into gardens and cultivated country as long as there is sufficient cover.

Genus HIPPOLAIS.

Hippolais Brehm, Isis, 1828, p. 1283.

Type, *H. icterina* Brehm.

This genus contains five species found within our limits, all of which are very like one another superficially, so that it is not easy to check the records which have been made from time to time unless the skins are available for comparison.

Hippolais has two moults in the year without any change in coloration. The sexes are alike and the young more yellow than the adults, though the difference is not so striking as it often is in this family. The species are all migratory, though in some a certain number of individuals are resident, breeding and also staying throughout the winter in the same quarters.

Hippolais resembles *Sylvia* closely, differing principally in having a longer bill.

In *Hippolais* the bill from the tip to the gape is longer than the middle toe and claw; there are three weak rictal bristles and the supplementary hairs in front of them are obsolete and only visible with a lens; the first primary, though not minute, is small and the third primary reaches to the tip of the wing; the tail is only slightly rounded.

Key to Species.

A. Wing always under 70 mm.
  a. Culmen from front of feathers always over 12 mm. ..... *H. pallida*, p. 443.
  b. Culmen from front always under 12 mm.
    a'. Upper plumage fulvous-brown.
      a''. Second primary longer than seventh.. *H. rama*, p. 442.

Nidification. This little Warbler breeds in immense numbers both in Palestine and in Persia as well as in intermediate countries, making a neat little cup of grasses and other fibrous material, lined with finer grasses and placed in a bush or small tree between one foot and seven feet from the ground. The eggs, three or four in number, are pale pink or lilac-grey, sparsely speckled or spotted with blackish and with an occasional line of the same. One hundred eggs average 16·9 × 13·0 mm.: *maxima* **19·0 × 12·6** and 18·8 × **14·2** mm.; *minima* **15·4** × 13·0 and 15·9 × **12·0** mm. They breed from early April to late June.

Habits. Very similar to those of *H. rama*.

(842) Hippolais scita.

THE BOOTED TREE-WARBLER.

Sylvia scita Eversm., Add. Pall. Zoogr. Rosso-Asiat., iii, p. 12 (1842) (Ural Mts.).
Hippolais caligata. Blanf. & Oates, i, p. 393.

Vernacular names. None recorded.

Description. Similar to *Hippolais rama*, but smaller and with a different wing-formula, the second primary being always shorter than the 7th, or even the 8th, whereas in *H. rama* it is always longer than the 7th.

Colours of soft parts as in *H. rama*.

Measurements. Wing 56 to 61 mm.; tail 45 to 50 mm.; tarsus about 20 to 21 mm.; culmen about 9 to 11 mm.

Distribution. *Breeding* in East Russia to the Kirghis Steppes and West Siberia to the Altai, Turkestan and Transcaspia. Extending in Winter to India and Ceylon, there being three specimens of this species in the Ceylon Museum killed in Ceylon.

Nidification. The Booted Tree-Warbler breeds in May and June, making a neat little cup-shaped nest of grass, weed-stems, roots, etc., lined with grass and, generally also, with hair, wool, feathers or some similar soft material. It is placed either low down in a bush or on the ground itself in rank herbage. The eggs number four to six and are like those of *H. pallida* but almost always a much deeper tint of rose-lilac, salmon or pink. Sixty eggs (45, *Jourdain*) average 15·8 × 12·5 mm.: *maxima* **17·2** × 13·0 and 15·0 × **13·5** mm.; *minima* **14·0** × **11·3** mm.

Habits. Those of the genus. A shy skulking little bird haunting bushes, reeds and cover in the vicinity of water.

(843) Hippolais obsoleta.

THE DESERT TREE-WARBLER.

Salicaria obsoleta Severtz., Turk. Jevotna p. 63 (1873) (Moscow).
Hypolais obsoleta. Blanf. & Oates, i, p. 393.

Vernacular names. None recorded.

Description. Whole upper plumage pale sandy-brown; concealed parts of wings and tail pale brown; a well-defined white supercilium from the nostrils to behind the eye white; lores dusky sandy; ear-coverts very pale sandy-brown; below almost white washed with pale sandy-grey, chiefly on the breast and flanks.

Colours of soft parts. The same as in the Booted Tree-Warbler.

Measurements. Wing 63 mm.; tail 46·5 mm.; tarsus 30 mm.; culmen 10·5 mm.

Distribution. Fao, Turkestan and an alleged specimen from Sind identified by Seebohm.

Neither Hartert nor Ticehurst admit this species, but there is no doubt that there are specimens in the British Museum collection, too pale, too sandy a grey to be *rama* in any stage of plumage. These might be aberrant specimens but this seems to be unlikely and I retain the species until we know more about it.

Nidification and **Habits.** Unknown.

(844) Hippolais languida.

UPCHER'S WARBLER.

Curruca languida Hemp. & Ehr., Symb. Phys., Aves, cc. (1833) (Syria).

Vernacular names. None recorded.

Description. Upper plumage rather greyish brown; wing-quills and tail dark brown, edged paler; the outer web and tip of the outermost tail-feathers all pale; lores dusky; a line above the lores to back of eye whitish; whole lower surface white, tinged with buff on the breast and abdomen and rather more strongly so on the flanks, vent and under tail-coverts.

Colours of soft parts. Iris dark brown; legs and feet dark brown.

Measurements. Wing 73 to 79 mm.; tail 58 to 65 mm.; tarsus 21 to 22 mm.; culmen 14 to 16·5 mm.

Distribution. From Syria and Palestine to Persia, Afghanistan, Baluchistan and Turkestan. In Winter to Egypt and Abyssinia, and thrice to India, one specimen having been obtained in Quetta and sent to me for identification in 1908. Meinertzhagen (Bombay Nat. Hist. Soc. Journal, xxiii, p. 362) records it as a breeding-species near Quetta and has two specimens in his collection.

Nidification. Similar to that of other species of *Hippolais*, but the nest is placed in bushes and low trees in gardens, wooded ravines, or in bushes in semi-desert or open bush-clad plains. The eggs are like those of *H. pallida* but larger and generally a much brighter, clearer pale rose-pink. Twenty-eight eggs (17, British Museum) average 18·9 × 13·6 mm.: maxima **19·9** × **14·5** mm.; minima **17·6** × **13·1** mm.

The birds breed during May and June up to some 5,500 feet elevation.

Habits. Those of the genus, though they are *not* so fond of frequenting water as some of the species are but, like *rama*, are often found in plains and semi-desert as long as there are sufficient bushes. Dresser calls the note "a sharp cry like *tschick-tschick*," and it is said to have a sweet little song like that of *H. p. elaica*.

Genus SYLVIA.

Sylvia Scop., Ann. i. Hist. Nat. p. 154 (1769).

Type, *S. cinerea* (=*communis*) (Bechst.).

The genus *Sylvia* contains six Indian species, three of which are only subspecies of European forms. *Sylvia* differs from *Hippolais* in having a smaller bill and somewhat brighter colours, whilst in some species the two sexes differ in colour.

Sylvia has two moults in the year, unaccompanied by any change in the coloration of the plumage. All the species found in India are to some extent migratory.

In *Sylvia* the bill from the gape to the tip is shorter than the middle toe and claw; the three rictal bristles are weak and the supplementary bristles obsolete; the feathers of the forehead are decomposed and rough; the first primary is small and the second about equal to the sixth; the tarsus is short and stout and the tail is slightly graduated.

Key to Species.

A. First primary very small, not reaching to tips of primary-coverts	*S. communis*, p. 446.
B. First primary not so small, extending beyond tips of primary-coverts.	
a. Crown of head black or dark brown	*S. hortensis*, p. 447.
b. Crown of head fawn-colour	*S. nana*, p. 449.
c. Crown of head grey.	
a'. Upper plumage greyish brown, darker on crown	*S. althæa*, p. 450.
b'. Upper plumage earthy-brown; more grey on the crown	*S. curruca*, p. 451.
c'. Upper plumage sandy-brown; more bluish grey on the forehead	*S. minula*, p. 451.

Sylvia communis.

Sylvia communis Lath., Gen. Syn. Suppl., i, p. 287 (1787).

Type-locality: England.

(845) Sylvia communis icterops.

THE INDIAN WHITETHROAT.

icterops Menetr., Cat. rais. Caucas., i, p. 34 (1832) (Tabysch).
cinerea. Blanf. & Oates, i, p. 395.

Vernacular names. None recorded.

Description. Whole upper plumage rather grey russet-brown, wing-feathers edged with pale rufous-fulvous; a ring round the eye white; tail dark brown, edged paler and the outermost pair almost all white, more or less faintly mottled with brown; lores and ear-coverts like the back; under surface white suffused with vinous-buff on breast and flanks; under tail-coverts very pale fawn.

In Summer birds are more grey and less russet than in Winter.

Colours of soft parts. Iris brown; bill yellowish-horny or dusky horny-brown above, paler and fleshy below; legs and feet yellowish brown.

Measurements. Wing 72 to 78 mm.; tail 52 to 62 mm.; tarsus 28 to 29 mm.; culmen 10 to 11 mm.

The Indian Whitethroat is much less russet-brown than is *S. c. communis* with less rufous on the wings.

Distribution. Caucasus to Persia, Transcaspia, Turkestan, West Siberia to the Altai Mts. and Yenesei, in Winter to South Arabia and India. In the latter country it wanders as far South as Mt. Aboo and Deesa and as far East as Cawnpore. Ticehurst writes of it as a common migrant through Sind in September and October.

Nidification. The nest is like that of the Common Whitethroat, a flimsy untidy little cup made of grass-stems, roots, weed-stems, and a few scraps of dead leaves, lined with the finest grass-stems. It is placed in low bushes or hedges in gardens or in tangles of roses and weeds. The eggs seem to be always four in number and cannot be separated from those of the typical form. The ground-colour of the few I have seen is white to olive-grey, and they are stippled and spotted all over with darker grey-brown, in some cases with larger blotches. The markings often form a ring at the larger end. Thirty-nine eggs average 18·5 × 14·5 mm.: maxima **20·0** × 14·1 and 18·6 × **15·3** mm.; minima **17·2** × 14·3 and 18·6 × **13·8** mm.

Habits. Apparently very much the same as those of the European race, haunting gardens, brushwood, etc., and singing from the tops of bushes.

Sylvia hortensis.

Motacilla hortensis Gmel., Syst. Nat., i, p. 955 (1788).

Type-locality: France.

(846) Sylvia hortensis crassirostris.

THE EASTERN ORPHEAN WARBLER.

Sylvia crassirostris Cretz., Atlas p-is. Rupp., p. 49 (1826) (Nubia).
Sylvia jerdoni. Blanf. & Oates, i, p. 395.

Vernacular names. *Pedda nalla kanpa-jitta* (Tel.).

Description. Upper parts of head, ear-coverts and nape black; back, scapulars, rump and upper tail coverts slaty-grey tinged with brown; tail black, the outermost feathers largely white with brown bases, the next pair broadly and the third pair narrowly tipped white; wings dark brown edged with brownish grey, and the innermost secondaries wholly this colour; cheeks and lower plumage white, tinged with pale buff on the abdomen and vent, and with grey on the flanks.

Colours of soft parts. Iris white to pale yellow; bill dark horny-black, slaty at the base of the lower mandible; legs and feet slaty-grey.



Fig. 75.—Head and foot of *S. h. crassirostris.*

Measurements. Total length about 175 mm.: wing 77 to 83 mm.; tail 64 to 72 mm.; tarsus 22 to 23 mm.; culmen 16 to 17 mm.

Females have the black of the head replaced by dark grey, the ear-coverts darker; otherwise like the male.

The Eastern Orphean Warbler differs from the Western form in having the head black contrasting with the back, whereas the latter has only the fore-crown black grading into the brown of the back.

Distribution. Greece, Dalmatia and South East Europe to Palestine, Turkestan, Persia, Afghanistan, Baluchistan and North-West Frontier of India. In Winter over all India as far South as Trichinopoli, and as far East as Chota Nagpore and Barrackpore, where I obtained an adult male.

Nidification. The Eastern Orphean Warbler breeds in some numbers on the N.E. Frontier of India. General Betham took a good many nests at Quetta and Mr. A. E. Jones sent me a clutch of three eggs taken at Cherat. Outside India it breeds from Greece through South-East Europe to Persia, etc. The breeding-months are May and June, possibly April also, as Betham found young hatched early in May. The nest, in India, is a compact well-made cup of grasses, roots and leaves, lined with fine

roots and grass-stems, placed low down in thorn-bushes in fairly open country. The eggs number three to five and are greeny-white in ground-colour, speckled and blotched with light grey-brown to almost black with a few underlying ones of pale grey and neutral tint. As a rule, the markings are sparse everywhere but less so at the larger end. Twenty-five Indian-taken eggs average 20·6×16·5 mm.; 100 others (*Hartert*) 20×14·9 mm.

Habits. These differ in no way from those of the Garden-Warbler. A rather shy skulking bird, feeding on fruit and insects and with a sweet song.

(847) Sylvia nana nana.

THE DESERT-WARBLER.

Curruca nana Hemp. & Ehr., Symb. Phys., Aves, cc (1833) (Sinai).
Sylvia affinis. Blanf. & Oates, i, p. 396.

Vernacular names. None recorded.

Description. Forehead to lower back, scapulars and wing-coverts fawn-brown; rump and upper tail-coverts pale rufous; central tail-feathers rufous with black shafts, the next two pairs dark brown with rufous edges, the next pair brown with white tips and edges, the next with far more white and the outermost pair almost wholly white; lores and round the eye almost white; wings brown, the feathers edged with rufescent-fawn; whole lower plumage pale buffy-white, whitest on the throat and chin, darkest on the posterior flanks, abdomen and under tail-coverts.

Colours of soft parts. Iris white to pale yellow; bill pale horny-brown above, yellowish-fleshy below; legs and feet straw-yellow.

Measurements. Total length about 125 mm.; wing 54 to 61·5 mm.; tail 43 to 50 mm.; tarsus 19 mm.; culmen 8 to 9 mm.

Distribution. Breeding distribution not certainly known; probably Transcaspia, Turkestan, South and East Persia, and Baluchistan. In Winter through the more arid parts of North-West India. Sind, Rajputana and Punjab.

Nidification. Nothing recorded. A clutch of eggs taken in Baluchistan on the borders of Sind which were sent to Mr. J. Stewart and given by him to me, are typical little Whitethroats' eggs, pale cream with small grey and brown blotches chiefly at the larger end where they form indefinite caps. They measure 17·0×12·6; 16·9×13·3 and 17·5×13·3 mm. They were taken at the end of April but no description of the nest was sent. Doig was undoubtedly wrong in believing they bred in Sind, although they do breed in the adjoining hills of Baluchistan.

Habits. This little Warbler is essentially a bird of the most arid deserts and stony bare hills. As Ticehurst remarks: "It is found in such barren spots as no other self-respecting *Sylvia* would deign to haunt." It arrives in September, leaving again in March.

and early April. It has the usual habits of the genus and even in sandy wastes, with hardly any cover but a few scanty bushes or tufts of coarse grass, it manages to elude observation to a wonderful extent.

(848) Sylvia althæa.

HUME'S LESSER WHITETHROAT.

Sylvia althæa Hume, Str. Feath., vii, pp. 60, 62 (1878) (Kashmir); Blanf. & Oates, i, p. 397.

Vernacular names. None recorded.

Description. Upper plumage greyish brown, purer and darker grey on the crown; tail brown, the central feathers tipped and narrowly edged white; the white on the others increasing in extent until the outermost are almost wholly white; wing dark brown, the feathers edged paler and the innermost secondaries like the back; lores, round the eye and ear-coverts a darker brown than the head; the whole lower plumage pale buffy-grey, almost white on chin, throat and abdomen, darker and ashy on flanks.

Colours of soft parts. Iris dark brown; bill black, paler on the base of the lower mandible; legs and feet dark plumbeous to almost black.

Measurements. Total length about 140 mm.; wings 64 to 71 mm.; tail 52 to 56 mm.; tarsus 20 to 21 mm.; culmen about 10 mm.

Distribution. Transcaspia, East Persia, Turkestan, Kashmir, and, according to Ticehurst, Baluchistan. In Winter it straggles into India, wandering through N.W. Provinces, the Punjab, and Central Provinces as far South as the Carnatic and Ceylon; possibly some of these supposed records refer to *Sylvia curruca affinis*, a much more common bird. There are, however, several specimens in the Colombo Museum, which were obtained in Ceylon.

Nidification. Breeds during May and June, making a frail cup-shaped nest of dried grass, roots and perhaps a few leaves, placed in a low bush or clump of weeds and briars. Apparently it breeds between 6,000 and 9,000 feet and is said to breed in Kashmir at the latter height. The eggs number four or five and are like those of the Whitethroat. The ground-colour is a very pale greyish white or cream, with rather bold blotches of some shade of brown or almost black with secondary markings of pale neutral tint. Occasionally there is a faint greyish tinge to the markings.

The few eggs I have seen measure from 16·0 × 12·9 to 18·2 × 13·9 mm.

Habits. Practically nothing on record. It is a bird of mountains and rugged country with scrub or scanty grass and scattered bushes, and has been found breeding up to 9,000 feet.

(849) Sylvia curruca affinis.

THE INDIAN LESSER WHITETHROAT.

Curruca affinis Blyth, J. A. S. B., xiv, p. 564 (1845) (South India). *Sylvia affinis.* Blanf. & Oates, i, p. 397.

Vernacular names. *Chinna nalla kampa-jitta* (Tel.).

Description. Similar to *S. althæa* but with the upper plumage earthy-brown, the forehead and crown rather more grey.

Colours of soft parts. Iris yellow to yellow-brown; bill horny-brown, paler below and at the base; legs and feet pale to dark plumbeous.

Measurements. Length about 140 mm.; wing 61 to 67 mm.; tail 51 to 57 mm.; tarsus about 21 mm.; culmen 10 to 11 mm. The second primary between 6th and 7th.

Distribution. West Siberia to Transbaikalia and Manchuria and South to Baluchistan, Kashmir and Garhwal. In Winter South through Western India to Ceylon. East as far as Behar and Western Bengal.

Nidification. Within our limits this bird breeds in great numbers in Kashmir, and General Betham found it breeding at Quetta. The nests are neat but rather fragile cups of grass and roots lined with horse-hair or, less often, with fine grass-stems. In the early part of the season, April and May, it nests in the low scrub-jungle but when these are burnt out in June it resorts to the outer branches of firs and pines, 10 to 20 feet from the ground. The eggs are like those of the Common Lesser Whitethroat and go through the same variations. One hundred eggs average 16·5 × 13·1 mm.: maxima **19·0** × 13·7 and 18·5 × **14·2** mm.; minima **15·8** × **12·3** mm.

Habits. In Summer these Warblers keep much to undergrowth of forest and scrub-jungle until they are forced into trees by the burning of the lower cover. In Winter, however, they keep far more to trees and are then very seldom found in the more desert treeless areas affected by *Sylvia nana* and, to a less extent, by *Sylvia c. minula*. Their song is sweet, though short, and their call-note a shrill one, much like that of the Blue-Tit.

(850) Sylvia curruca minula.

THE SMALL WHITETHROAT.

Sylvia minula Hume, Str. Feath., i, p. 198 (1873) (Bhawalpur). *Sylvia minuscula.* Blanf. & Oates, i, p. 398.

Vernacular names. *Tiat-kornu*; *Tuntu* (Yarkand).

Description. Similar to the two preceding birds but with upper plumage rather dark sandy-brown, contrasting with the greyer head.

Colours of soft parts. Iris very pale yellow; bill horny above, paler at the base and on the lower mandible; legs and feet "horny, greenish grey" (*Home*).

Measurements. Total length about 135 mm.; wing 60 to 64 mm.; tail 46 to 90 mm.; tarsus about 20 mm.; culmen 9 to 10 mm. Second primary between, or equal to, 7th and 8th.

Distribution. Breeding in Sirdarya and Amudarya in Transcaspia; Bochara, East Turkestan, Afghanistan and Baluchistan. In Winter South through Western India to Rajputana and East to Jodhpore.

Nidification. As far as is known, exactly like that of the preceding bird. Three eggs in my collection measure about 17·2 × 12·2 mm.

Habits. This appears to be the Asiatic representative of *S. curruca curruca* in the barren and semi-desert countries, as *S. c. affinis* is in the better-wooded ones. In Sind it is as common as that race is in Winter, but, whereas *S. c. affinis* keeps principally to the tracts with ample tree-cover, *S. c. minula* keeps to the more desert portions with only scanty scrub and bush cover.

Genus **HERBIVOCULA**.

Herbivocula Swinhoe, P. Z. S., 1871, p. 354.

Type, *H. schwarzi* (Radde).

The genus *Herbivocula* is very like the next genus, *Phylloscopus*, differing principally in its much thicker bill. The one species which visits India is migratory. It has two moults but practically no seasonal change of plumage. The bill is very stout and deep for a Warbler and about equal to one-third the length of the head; there are three strong rictal bristles and the supplementary bristles are ample, but short, not covering the nostrils; the first primary is large and the second about equal to the eighth.

(851) **Herbivocula schwarzi**.

RADDE'S BUSH-WARBLER.

Sylvia schwarzi Radde, Reis. Sibir. Vög., p. 200 (1863) (Tarei Nor).
Herbivocula schwarzi. Blanf. & Oates, i, p. 399.

Vernacular names. None recorded.

Description. Upper plumage and closed wings and tail tawny olive-brown, more tawny on the rump; concealed parts of wings and tail dark brown; a distinct buff supercilium from the nostrils to the nape; lores and a streak behind the eye dark brown; ear-coverts and cheeks mottled buff and brown; lower plumage buff, practically white on the chin, throat and centre of abdomen; axillaries and under wing-coverts buff. In abraded plumage the lower parts become very white.

Colours of soft parts. Iris brown; bill pale horny-brown, paler below and at the base; the gape yellow; legs and feet fleshy-yellow.

Measurements. Total length about 140 to 145 mm.; wing 57 to 66 mm.; tail 45 to 53 mm.; tarsus about 21 to 22 mm.; culmen about 9 mm.

Young are much more yellow than the adult.



Fig. 76.—Head of *H. schwarzi*.

Distribution. Eastern Siberia from Lake Baikal to Ussuri and Saghalien. Winter, South to South China and Burma and the Indo-Burmese countries.

Nidification. Nothing recorded.

Habits. This Warbler frequents thick scrub and bush cover on the outskirts of forests. It is said to be a shy bird, avoiding observation, with a short jerky song. It is a not infrequent visitor to Southern Burma.

Genus **PHYLLOSCOPUS**.

Phylloscopus Boie, Isis, 1826, p. 972.

Type, *Phylloscopus trochilus* (Linn.).

The genus *Phylloscopus* contains 13 Indian species, some of which are divided further into subspecies. These are Summer visitors to the plains, all of them retiring to the Mountains to breed; some only to the Himalayas, some to Central and Northern Asia, etc. The birds of this genus are very close to the next, *Acanthopneuste*, but are separable by their smaller, more narrow bill and by the supplementary hairs which in *Phylloscopus* only reach to the edge of the nostril, whereas in *Acanthopneuste* they overhang the whole of it.

In *Phylloscopus* the rictal bristles are always fairly strong but the supplementary hairs in front vary considerably, in some species being weaker, in some stronger; they never, however, extend to the culmen or beyond the lower edge of the culmen. The first primary is small and the length of the second varies, forming a useful character to aid identification. The tail is either square or slightly forked.

The various species of *Phylloscopus* resemble each other so closely as to render their identification very difficult and the key will probably be found of greater help in this than the detailed descriptions.

In *Phylloscopus* there are two moults a year, the sexes are alike and the young are more brightly coloured than the adults but do not differ from them otherwise.

Key to Species.

A. Crown with no coronal bands and same colour as back.
  a. Under wing-coverts and axillaries yellow.
    a'. Lower plumage deep dull yellow ... *P. affinis*, p. 454.
    b'. Lower plumage pale dull yellow ..... *P. tytleri*, p. 455.
    c'. Lower plumage buff ..... *P. collybita*, p. 456.
  b. Under wing-coverts and axillaries yellowish white or white; lower plumage very pale buff ..... *P. neglectus*, p. 458.
  c. Under wing-coverts and axillaries brown; lower plumage buffish-yellow ..... *P. griseolus*, p. 459.
  d. Under wing-coverts, axillaries and lower plumage dusky oil-green ..... *P. fuligiventer*, p. 460.
  e. Under wing-coverts and axillaries rich buff.
    d'. Throat, breast, and abdomen buff .... *P. fuscatus*, p. 461.
    e'. Throat and breast pale greenish white. *P. armandii*, p. 463.
B. Crown darker than back with coronal bands.
  f. Lower portion of rump bright yellow.
    f'. Inner webs of outer tail-feathers white. p. 465.
      a''. Throat and upper breast grey ..... *P. maculipennis*.
      b''. Throat and upper breast yellow ... *P. pulcher*, p. 464.
    g'. Inner webs of outer tail-feathers not white ..... *P. proregulus*, p. 466.
  g. Lower portion of rump like the back, not yellow.
    h'. Lower plumage rather dark yellow tinged with ochraceous..... *P. subviridis*, p. 468.
    i'. Lower plumage very pale yellow or yellowish white..... *P. humii*, p. 469.

(852) Phylloscopus affinis.

TICKELL'S WILLOW-WARBLER.

Motacilla affinis Tick., J. A. S. B., ii, p. 576 (1833) (Borabhoom).
Phylloscopus affinis. Blanf. & Oates, i, p. 401.

Vernacular names. *Daotisha gabi* (Cachari); *Ani chin* (Tibet).

Description. Upper plumage brown, faintly tinged with olive; wing and tail feathers brown, edged with olive-yellow; a broad yellow supercilium from the nostrils to the nape; lores and a patch behind the eye brown; whole lower plumage deep dull yellow, suffused with olive on the flanks and sides of the neck and breast; axillaries and under wing-coverts pale olive-yellow.

Colours of soft parts. Iris dark brown; bill dark horny-brown above, pale yellowish-horny below; legs and feet yellowish brown or greenish brown to dark brown.

Measurements. Total length about 110 to 115 mm.; wing 56 to 62 mm.; tail 42 to 45 mm.; tarsus about 20 mm.; culmen 9 mm. Second primary as long or longer than the 9th.

Distribution. In Summer throughout the Himalayas from Kashmir to East Assam, Tibet, and Western China to Kansu. In Winter practically throughout India as far South as South Travancore, Burma, but so far not recorded in the Punjab or North-West Provinces.

Nidification. Tickell's Warbler breeds in the Himalayas from the Afghan and Baluchistan Frontier to S.E. Tibet at elevations between 9,000 and 14,500 feet or even higher. The nests are very round domed affairs of grass, rather untidily put together and very thickly lined with feathers, sometimes mixed with fur or moss, sometimes with both. They are placed low down in scrub, rhododendrons, junipers, etc., often not more than a few inches from the ground and in conspicuous positions. The eggs number three to five, generally four, and vary in colour from pure white to white sparsely spotted with pale reddish brown at the larger end. Eggs in the same clutch vary greatly and all are never alike—as a rule one egg is well spotted, one or two only faintly so and the others not at all. One hundred eggs average 15·5×12·0 mm.: maxima **17·2**×12·3 and 16·0×**12·5** mm.; minima **14·7**×12·0 and 15·0×**11·4** mm. They breed during June and July.

Habits. This little Warbler is a bird of the scrub-jungle rather than of the forests, and is found from about 8,000 feet up to the extreme limit of bushes. In Winter its migration-routes would appear to be due East at first and then South, as it has not yet been obtained in the North-West Frontier Plains, Sind, Rajputana or the Punjab. It, however, occurs in the Bombay Presidency, the Central Provinces and Eastwards throughout Bengal, Behar, Orissa, Assam and Northern Burma. I also have seen specimens from Siam. In Winter it is found both in forest, open well-wooded country and in cultivated lands and it has all the habits of a Willow-Warbler, though it is not so active, restless a bird as are some of its nearest relations.

(853) Phylloscopus tytleri.

TYTLER'S WILLOW-WARBLER.

Phylloscopus tytleri Brooks, Ibis, 1872, p. 23 (Kashmir); Blanf. & Oates, i, p. 402.

Vernacular names. None recorded.

Description. Upper plumage olive-brown; wing and tail feathers dark brown edged with olive, brighter than the back; a pale yellow supercilium from the nostrils to the nape; lores and behind the eye dark brown; whole lower plumage pale yellow, greyer on the breast and suffused with brownish grey on the sides of the neck, breast and flanks; under wing-coverts and axillaries pale sulphur-yellow.

Colours of soft parts. Iris dark brown; bill dark horny brown to almost black above, yellowish-horny below; legs and feet greenish brown to dark brown, the soles paler and more yellow; claws blackish.

Measurements. Total length about 125 to 130 mm.; wing 54 to 62 mm.; tail 40 to 42 mm.; tarsus about 20 mm.; culmen about 10 mm.

Distribution. Western Himalayas from Afghanistan, Kashmir and Kumaon to Garhwal; Winter, Western India South to the Nilgiris.

Nidification. Tytler's Willow-Warbler breeds from the end of May to early July in its Summer habitat from about 8,000 feet up to the limit of tree-forest, about 12,000 to 13,000 feet. It makes a neat, very small nest of grass, mixed with feathers, birch-bark and hair, often with a great deal of lichen in the outer part and with a dense lining of feathers. They are placed in pollarded trees and firs between 10 and 20 feet from the ground. The eggs vary from three to five in number, usually four; in colour they are normally pure white, but occasionally an egg, or even a whole clutch, may be speckled with reddish. Thirty eggs average 16·0 × 12·3 mm.: maxima 17·2 × 12·2 and 17·0 × 13·0 mm.; minima 14·3 × 12·1 and 14·8 × 12·0 mm.

Habits. Tytler's Willow-Warbler is a forest-bird, though it keeps to the outskirts or to the more open parts, hunting both in the trees and in the lower growths for the insects on which it feeds. It is very restless and active and during the Spring has a note, constantly repeated, which Osmaston syllabifies as "Let's kiss him." In Winter it keeps much to trees and almost deserts the scrub, undergrowth and bushes.

Phylloscopus collybitus.

Sylvia collybita Vieill., Nouv. Dict. d'Hist. Nat. nouv. ed. xi. p. 235 (1817).

Type-locality: France.

Key to Subspecies.

A. Wings in fresh plumage well tinged with green ..... *P. c. tristis*, p. 456.
B. Wings never with any tinge of green .... *P. c. sindianus*, p. 457.

(854) Phylloscopus collybitus tristis.

THE BROWN WILLOW-WARBLER.

Phylloscopus tristis Blyth, J. A. S. B., xii, p. 963 (1843) (Calcutta); Blanf. & Oates, i, p. 403.

Vernacular names. None recorded.

Description. Upper plumage brown, with a tinge of green when newly moulted, more especially on the rump and wing-coverts; tail-feathers dark brown, edged paler; a narrow pale buff supercilium from the nostrils to the back of the ear-coverts; lores and behind the eye dark brown; sides of the head and whole lower plumage earthy-buff, paler on chin, throat and centre of abdomen; under wing-coverts and axillaries sulphur-yellow.

Colours of soft parts. Iris dark brown; bill dark horny-brown or blackish, paler at base of lower mandible; legs and feet black or dark brown, soles yellowish.

Measurements. Total length about 125 mm.; wing 54 to 65 mm.; tail 43 to 49 mm.; tarsus 19 to 20 mm.; culmen 8 to 9 mm. The female is decidedly smaller than the male. Second primary between 7th and 9th; first primary exceeds primary coverts by 6 to 9 mm.

Distribution. Summer from the Petchora to Japan, South to West Turkestan, the Northern Tian Schan and Lake Baikal. Wandering West as far as Great Britain in Winter, and South to India over the whole of the North and Central parts as far South as Bombay and Orissa. Records of this and the next bird are mixed and the series in the British Museum show that no reliance can be placed on them, as many specimens named *tristis* are *sindianus* and *vice versa*.

Nidification. The Brown Willow-Warbler breeds from Petchora to Japan, but probably does not breed anywhere in Central Asia, South of the Altai and Lake Baikal. In Japan it breeds in considerable numbers, making a domed grass-nest profusely lined with feathers, which it places on the ground on banks in bush-cover. The eggs, which number four to six, are white spotted and speckled, nowhere densely, with very deep reddish or purplish black. In shape they are short broad ovals. They measure about 15·1 × 12·7 mm.

Reputed eggs in my collection of *P. c. tristis*, taken in Aksu and Issik Kul in Eastern Turkestan, appear to be those of *P. c. sindianus*, which they much more nearly resemble in type, having bright red markings.

Habits. Found singly or in small parties in cultivated and well-wooded country, frequenting trees, brushwood and crops. Ticehurst found it catching flies, like a Flycatcher, in reed-beds in the Manchar Lake in Sind, over a mile from land. It arrives in Northern India during the latter part of October, and leaves again in the end of March and early April.

(855) Phylloscopus collybitus sindianus.

THE SIND WILLOW-WARBLER.

Phylloscopus sindianus Brooks, Str. Feath., viii, p. 476 (1880) (Sind); Blanf. & Oates, i, p. 406.

Vernacular names. None recorded.

Description. Hardly distinguishable from *P. c. tristis*, but does not ever acquire the greenish tinge sometimes present on the wings and rump of that bird; generally the yellow on the axillaries and under wing-coverts is less clear. I can see no difference between the two birds in the wing-formulæ, nor in the shape and size of the first primary.

Colours of soft parts as in *P. c. tristis*.

Measurements exactly the same as in *P. c. tristis*, but the culmen never measures less than 9 mm.

Distribution. Breeding in Ladak and Tibet, possibly also in North Kashmir; in South-Eastern Turkestan as far North as Aksu. In Winter South to Sind, Punjab, the United Provinces and Rajputana.

Nidification. Mr. F. Ludlow first obtained this Warbler between 11,000 and 14,000 feet breeding near Leh, and since then Messrs. H. Whistler and B. B. Osmaston have found it breeding in great numbers in Ladak during May, June and July. All three of these gentlemen sent me specimens which I at first identified as *P. c. tristis*, but on receiving a series of eggs from Mr. Osmaston these differed so greatly from those of that bird that I again examined the specimens sent by him and found them to be of this race. *P. sindianus* is apparently the Himalayas and Central Asian breeding form, whilst *tristis* is a bird whose breeding is confined to the North. The nest is domed and is made of fine grass lined first with cotton-down and finally with feathers. It is placed in low thorny bushes only a few inches above the ground or very often in the thorns growing on the top of stone boundary-walls. The eggs are longer ovals than those of *tristis* and are spotted more boldly with rich bright red, which forms caps or rings at the larger end instead of being marked with almost black specks scattered over the whole surface. Twenty eggs average 15·7 × 12·0 mm.: maxima **17·0 × 13·0** mm.: minima **15·0 × 11·9** and 15·3 × **11·7** mm.

Habits. Similar to those of *P. c. tristis* but keeping much more to semi-desert and poorly wooded tracts. Apparently never catching insects like a Flycatcher, as *tristis* does.

Phylloscopus neglectus.

Key to Subspecies.

A. Smaller, wing never exceeding 55 mm. ..... *P. n. neglectus*, p. 458
B. Bigger, wing over 55 mm. ..... *P. n. lorenzii*, p. 459

(856) Phylloscopus neglectus neglectus.

THE PLAIN WILLOW-WARBLER.

Phylloscopus neglectus Hume, Ibis, 1870, p. 143 (Punjab); Blanf. & Oates, i, p. 406.

Vernacular names. None recorded.

Description. Similar to *P. c. tristis*, but decidedly paler and very much smaller.

Colours of soft parts. Iris dark brown; bill dark brown, paler at the base of the lower mandible: legs and feet brown.

Measurements. Total length about 100 to 105 mm.; wing 48 to 53 mm.; tail 38 to 42 mm.; tarsus about 18 mm.; culmen about 8 mm. Second primary equals 9th or 10th; first primary exceeds coverts by 8 to nearly 11 mm.

Distribution. Breeding in Transcaspia to Persia and wintering in Sind and the Punjab. A few birds remain to breed in Northern Kashmir and Ladak.

Nidification. Eggs sent me from Ladak, in one case with the skin, are like those of *P. c. sindianus* but smaller, measuring from 13·1 × 10·4 mm. to 15·0 × 11·4 mm. The nest was said to have been placed on the ground and to have been domed, made of grass and moss and lined with feathers. I do not feel quite confident about the authenticity of these eggs.

Eggs taken by Witherby in Farsistan on the 20th April were pure white; the nest was placed in a low bush, the usual domed affair densely lined with feathers.

Habits. In its Winter haunts this little Willow-Warbler frequents "babool" and tamarisk jungle and, sometimes, more lofty trees and it seems particularly partial to the banks of rivers, lakes and swampy ground. It is a restless, active, little bird with an alarm-note which Mr. T. R. Bell syllabifies as "*tshak-tshak*," with an ordinary feeding-call of "*twissa twissa*."

(857) Phylloscopus neglectus lorenzii.

THE CAUCASIAN WILLOW-WARBLER.

Phyllopneuste lorenzii Lorenz, Beitr. Kennt. Faun. N. Kaukasus, p. 28 (1887) (N. Caucasas).

Vernacular names. None recorded.

Description. Similar to *P. n. neglectus*, but bigger.

Measurements. Wing, ♂ 62–63 mm., ♀ 55 to 58 mm.

Distribution. Caucasas. Winter South, once as far as India. A specimen sent me from the N.W. Frontier with a wing of 63 mm. appears to be of this race. Shot at Bannu, January 1917.

Nidification. Breeds in the Caucasus between 5,000 and 8,000 feet. The eggs are white, marked with dark reddish brown.

Habits. Those of the genus.

(858) Phylloscopus griseolus.

THE OLIVACEOUS TREE-WARBLER.

Phylloscopus griseolus Blyth, J. A. S. B., xvi, p. 443 (1847) (Calcutta).
Phylloscopus indicus. Blanf. & Oates, i, p. 404.

Vernacular names. None recorded.

Description. Upper plumage earthy-brown, sometimes faintly tinged with olive on the rump; wing-feathers dark brown edged paler; rectrices brown, edged paler, and the outermost pair, or two pairs, narrowly tipped with white; supercilium from nostrils to nape yellow, buffish posteriorly; lores and line through the eye brown; sides of head mixed brown and buff; lower plumage buffy-yellow, dusky on the breast and flanks and often pure yellow on the centre of the abdomen; axillaries and under wing-coverts brown.

Colours of soft parts. Iris dark brown; bill blackish above, pale yellowish or greenish horny below; legs and feet greenish yellow.

Measurements. Total length about 130 to 140 mm.; wing 58 to 66 mm.; tail 47 to 50 mm.; tarsus about 23 mm.; culmen 10 to 11 mm.

Distribution. Afghanistan, Baluchistan, Turkestan, Bochara to Altai, Kashmir and Tibet. In Winter South to the Punjab (rare), Central India, Behar, Bengal, Assam and N.W. Burma.

Nidification. Nests, eggs and young were found by Mr. H. Whistler during June and July at and about Lahul and Spiti between 11,500 and 13,500 feet. The nests he describes as roughly made globes about the size of a cocoanut, composed of grass, strips of bark, etc., densely lined with feathers and placed quite low down in a Juniper bush, Gooseberry-bush or dwarf Willow. A distinctive feature of the nest seems to be the large entrance-hole, placed near the top rather than at the side of the nest. The eggs number four and are white spotted with dull red, mostly in a broad zone at the larger end. Mr. Whistler's series varied from 17·0×12·0 to 17·5×13·0 mm. Whitehead found them breeding freely on the Safed Koh Range and in the Kurram Valley between 10,000 and 12,000 feet, and Col. H. Deluć-Ratcliffe obtained them in July, evidently breeding, in Baluchistan at Ziarat at about 8,000 feet.

Habits. Although it has not been often recorded thence, this Warbler is doubtless a common Winter visitor to the Punjab and North-West Province, as well as to the whole of Northern India as far East as Dibrugarh in Assam, where Dr. H. N. Coltart and I found it very numerous in January and December. It prefers big-tree cover in this season, though it may sometimes be seen scrambling about in bushes or even feeding on the ground itself. It has a habit, not shared to the same extent by any other Willow-Warbler, of running about the trunks and larger horizontal branches of big trees just like a Tree-Creeper.

(859) Phylloscopus fuliginiventer.

THE SMOKY WILLOW-WARBLER.

Horornis fuliginiventer Hodgs., P. Z. S., 1845, p. 31 (Nepal).
Phylloscopus fuliginiventris. Blanf. & Oates, i, p. 404.

Vernacular names. None recorded.

Description. Upper plumage deep smoky-brown, almost blackish, sometimes faintly tinged with olive; wings and tail dark brown, the feathers edged with olive-brown; a narrow supercilium dull green; sides of head dull buff and brown; whole lower plumage dull oil-green, the breast and flanks suffused with dusky-brown.

Colours of soft parts. Iris brown; bill black, the lower mandible horny-brown; legs and feet ochraceous-green.

Measurements. Total length about 110 mm.; wing 52 to 60 mm. (Tibet, one, 65 mm.); tail 42 to 46 mm.; tarsus about 21 mm.; culmen 10 to 11 mm. Second primary equal to tenth.

Distribution. Nepal and Tibet to Eastern Assam, North of the Brahmaputra. In Winter South throughout Assam and Eastern Bengal. I found it very common at Dacca in January and February.

Nidification. Three eggs taken at Rhamtso, Tibet, at almost 14,000 feet elevation on the 4th August, 1921, were sent me with the remains of a skin of this species. They are like exceptionally heavily marked eggs of *P. affinis*. They measure 15·0×12·0 mm., 14·6×12·2 mm. and 15·0×12·1 mm. No nest was sent and I could obtain no description of it.

Habits. In Summer the Smoky Willow-Warbler is found in the higher ranges, certainly up to 15,000 and probably breeding between 12,000 feet and that height. In Winter it is very aquatic in its habits. Stevens found it keeping much to bushes and reeds in swampy places, whilst in Eastern Bengal I found it keeping almost entirely to bushes on Islands in the Megna, Brahmaputra and other large rivers.

Phylloscopus fuscatus.

Key to Subspecies.

A. Upper plumage paler, with no reddish tinge. *P. f. fuscatus*, p. 461.
B. Upper plumage darker, with a reddish tinge. *P. f. homeyeri*, p. 462.

(860) Phylloscopus fuscatus fuscatus.

THE DUSKY WILLOW-WARBLER.

Phyllopneuste fuscata Blyth, J. A. S. B., xi, p. 113 (1842) (Calcutta).
Phylloscopus fuscatus. Blanf. & Oates, i, p. 405.

Vernacular names. None recorded.

Description. Whole upper plumage brown, the feathers of the wings and tail edged with a paler, more olive, brown; a distinct supercilium from the nostrils to the nape pale buff; lores and behind the eye dark brown; cheeks and ear-coverts light buffy-brown; below buff, albescent on the chin, throat and centre of

forty feet from the ground, at the end of a branch and almost inaccessible. It lays three or four eggs, rarely five, during May and June. The ground is pure white and they are speckled with reddish pink, brick-red or dark brownish red. In most eggs these are most numerous at the larger end, where they may form a ring; in others they are scattered more or less profusely over the whole surface. Forty eggs average 14·1 × 11·0 mm.: maxima 15·0 × 11·1 and 14·8 × 11·8 mm.; minima 13·6 × 10·6 and 14·1 × 9·9 mm.

Habits. This little Willow-Warbler is a bird of the Pine- or Fir-forests and Birch-woods, where it keeps much to the upper branches of the trees, occasionally uttering a loud sharp "tsip" as it scrambles or flits about after insects. During the breeding-season it has a loud and not unpleasant little song, something like that of the Common Willow-Wren.

(869) Phylloscopus subviridis.

BROOKS'S WILLOW-WARBLER.

Reguloides subviridis Brooks, P. A. S. B., 1872, p. 148 (N.W. Provinces).
Phylloscopus subviridis. Blanf. & Oates, i, p. 408.

Vernacular names. None recorded.

Description. Whole upper plumage clear greenish yellow; faint coronal streak and supercilia yellow; wing and tail feathers brown edged with the colour of the back; wings with two bars formed by the yellowish-white tips to the median and greater coverts, the former indistinct, the latter well-defined; sides of head and lower plumage yellow or ochre-yellow, more grey on the throat and breast and more brownish ochre on the flanks.

Colours of soft parts. Iris brown; bill dark horny or greenish brown, paler at the base of the lower mandible; in Summer the bill is wholly dark; legs and feet greenish grey.

Measurements. Wing 53 to 58 mm.; tail 38 to 40 mm.; tarsus about 18 mm.; culmen 8 to 9 mm.

Distribution. Breeding in Afghanistan and North Kashmir, in Winter South to Punjab and the N.W. Provinces as far East and South as Cawnpore.

Nidification. Whitehead found this bird breeding freely in the Safed Koh in June and July on the wooded slopes of the Kurram Valley between 7,000 and 9,000 feet. The nest was placed in the bank of a nullah under a bush and was domed, made of grass and lined with goats' hair. It contained three eggs, white spotted with red, measuring about 14·0 × 10·7 mm.

Habits. During the Summer this Willow-Warbler keeps much to undergrowth but during the Winter it is found more often in trees. It has the usual vivacious active habits of the genus. The call-note is said to be a monosyllabic "*tweet*," and the song is described by Mr. H. Whistler as "*wet-wet-wet-weet-whir-r-r-r.*" It occurs in the months of October and March in the Punjab and North-West Provinces.

Phylloscopus humii.

Key to Subspecies.

A. Upper plumage bright olive-green..... *P. h. humii*, p. 469.
B. Upper plumage darker olive-green ..... *P. h. præmium*, p. 470.

(870) Phylloscopus humii humii.

HUME'S WILLOW-WARBLER.

Reguloides humii Brooks, Str. Feath., vii, p. 131 (1878) (N.W. India) (now restricted to Srinagar, Kashmir).
Phylloscopus humii. Blanf. & Oates, i, p. 410.

Vernacular names. None recorded.

Description. Upper plumage rather bright olive-green; a faint coronal streak greyish green; a broad supercilium from the nostrils to the nape pale yellow; the crown above the supercilium being sometimes much darker than elsewhere; lores and a line through the eye dark brown; wing-feathers dark brown edged with olive-green and with two broad wing-bars formed by the pale yellow tips to the coverts; tail dark brown edged with greenish outwardly and, in very fresh plumage, with a narrow whitish edging on the inner webs: sides of the head mixed brown and yellow; lower plumage yellowish white, often tinged with ochre and darker on the breast; axillaries and under wing-coverts yellow.

Colours of soft parts. Iris dark brown; upper mandible dark horny-brown, lower mandible pale yellowish-horny, tipped darker; legs and feet dark horny-brown to plumbeous-brown.

Measurements. Total length about 100 mm.; wing 51 to 60 mm.; tail 38 to 44 mm.; tarsus about 19 mm.; culmen 8 to 9 mm.

Distribution. Turkestan, Tianschan, Afghanistan, Baluchistan, Kashmir and Garhwal Hills. In Winter South to the greater part of Western India as far South as Travancore. To the East it is found regularly as far as Western Bengal and Orissa, and straggles as far as Mudderpore, Manbhum and even Calcutta, from which places there are specimens in the British Museum.

Nidification. Hume's Willow-Warbler breeds over the whole of its Summer habitat between 7,000 and 12,000 feet, making a domed nest of grass which it places on the ground, preferably on a bank, in scrub-jungle or in open country. The lining is of finer grass, sometimes with a little hair mixed and is never of feathers as in the nests of so many other Willow-Warblers. The normal clutch of eggs is four, sometimes three and rarely five. The

Distribution. Himalayas, Sutlej River to Eastern Assam, North and South of the Brahmaputra, Manipur.

Nidification. Unknown.

Habits. This Warbler is a resident bird between 5,000 and 8,000 feet, some birds moving down to the foot-hills and the plains in their immediate vicinity in Winter but the majority remaining in the hills above 2,500 feet. It probably does not breed in the hills South of the Brahmaputra, though it may be seen there occasionally in early May. Those birds I saw were all in forest, and were busily hunting for insects high up in the topmost branches. It was some years before I discovered their habits, but once these were known they proved to be very numerous. Several individuals were often seen hunting in company.

Phylloscopus pulcher.

Key to Subspecies.

A. Duller, upper parts more olive-brown ..... *P. p. pulcher*, p. 464.
B. Brighter, upper parts more olive-green .... *P. p. kangræ*, p. 465.

(864) Phylloscopus pulcher pulcher.

THE NEPAL ORANGE-BARRED WILLOW-WARBLER.

Phylloscopus pulcher Blyth, J. A. S. B., xiv, p. 592 (1845) (Nepal); Blanford & Oates, i, p. 407.

Vernacular names. None recorded.

Description. A very faint yellowish coronal streak; narrow supercilia from the nostril to the nape greenish buff; crown and nape dark olive-brown, changing to olive-green on the back, scapulars and lesser wing-coverts; the median and greater coverts dark brown, broadly edged with orange, forming two wing-bars, the median one often ill-defined; feathers of rump broadly tipped with yellow; tail brown, the feathers edged with olive-yellow, the three outer pairs white, with the terminal halves of the outer webs brown; sides of the head brownish green; lower plumage greenish yellow, darkest on the breast and flanks, more yellow on the abdomen and under tail-coverts.

Colours of soft parts. Iris brown; bill black, the base of the lower mandible and gape yellowish; legs and feet dusky greenish, the claws darker and soles yellowish.

Measurements. Total length about 105 mm.; wing 52 to 60 mm.; tail 35 to 38 mm.; tarsus 22 to 23 mm.; culmen 10 to 11 mm.

Distribution. Nepal to Eastern Assam, Manipur, Chin and Kachin Hills, Shan States and Yunnan. Burma South to Tenasserim.

Nidification. Mr. P. Wickham appears to be the only collector who has taken the nest of this bird. He records that it was common in the Chin Hills, and that he took three and four eggs respectively from two nests found on the 13th and 24th of April near Haka at about 6,000 feet elevation. The eggs were white, speckled with reddish, both nest and eggs being indistinguishable from those of the next and better-known race.

Habits. In Sikkim this Orange-barred Willow-Warbler has been found up to 13,000 feet but its ordinary habitat is much lower and it is probably resident betwen 4,000 and 8,000 feet. It certainly breeds in the higher hills, South of Assam, above 5,000 feet, though I never found a nest. It is essentially a forest-bird keeping well up in high trees, where it is very energetic in its search for insects, constantly uttering a loud shrill note, or rather succession of notes running into one another.

(865) Phylloscopus pulcher kangræ.

THE NORTH-WEST ORANGE-BARRED WILLOW-WARBLER.

Phylloscopus pulcher kangræ Ticehurst, Bull. B. O. C., xliv, p. 29, (1923) (Simla).

Vernacular names. None recorded.

Description. Similar to *P. p. pulcher*, but much brighter in colour, more olive-green. The supercilium is more distinct.

Colours of soft parts and **Measurements** as in the last bird; wing 51 to 60 mm.

Distribution. North-West Himalayas from Afghanistan and Gilgit to the Simla States and Garhwal.

Nidification. The nest and eggs of this bird were obtained by Messrs. S. L. Whymper and B. B. Osmaston in Garhwal and by Col. Buchanan in Kashmir during June and July at elevations between 9,000 and 14,000 feet. The nests are very untidy ragged balls of grass, "old man's beard," strips of birch-bark, etc., densely lined with feathers, many of which protrude from the large entrance at the side. They are placed in Willows or Birch-trees in Forest, either built in forks or placed between bits of loose bark and the trunk itself. They are generally at about ten to fifteen feet from the ground.

The eggs number three or four and are pure white with small reddish specks and blotches, either scattered all over the egg or confined to a ring or cap at the larger end. They are not distinguishable from the eggs of *Phylloscopus proregulus* and measure about 15·4 × 11·4 mm.

Habits. The Orange-barred Willow-Warbler is found in Summer above 8,000 feet and in Winter may descend some three thousand feet lower but never to the foot-hills or to the Plains. It hunts for its insect-prey in the higher branches of forest-trees and is as active and restless as the rest of its genus. Osmaston says that, whilst its ordinary call distinguishes it at

ground is pure white speckled and spotted with reddish brown, often coalescing at the larger end to form a ring or cap. Fifty eggs average 14·3 × 11·3 mm.: maxima 15·5×12·0 mm.: minima 13·0 × 11·0 and 13·1 × 10·4 mm. The first few eggs are laid in early May and they continue to lay until the end of June.

Habits. Hume's Willow-Warbler is found in Summer in the open grass-lands, between 8,000 feet and the snow-line, which are surrounded with forests of fir, pine or birch. They especially affect such as have an ample supply of small streams, on the banks of which they breed. The call-note is a loud double note sounding like *whee-it*, constantly repeated, the song being merely this note sharply and quickly reiterated. The alarm-note of the female is said to sound like *tiss-yip*. They keep much to trees when hunting for insects but also may be found in bush and scrub cover.

(871) Phylloscopus humii præmium *.

THE CROWNED WILLOW-WARBLER.

Phylloscopus humii præmium Mathews and Iredale, Aus. Av. Record, iii, p. 44 (1915) (Russia).
Phylloscopus superciliosus. Blanf. & Oates, i, p. 409.
Phylloscopus mandellii. Id., ibid., p. 411.

Vernacular names. *Dautisha koro* (Cachari).

Description. Similar to *P. h. humii* but very much darker.

Colours of soft parts and **Measurements** as in *P. h. humii*.

Distribution. Breeding from the Ob to Kamchatka in Siberia as far South as Lake Baikal and Baikalia, Mongolia, N. China and a great part of Tibet and North-West China. In Winter South to Bengal, Assam, Burma, South China and the Indo-Chinese countries. It also straggles into Russia and Eastern Europe and rarely into Western Europe and Great Britain.

I cannot separate *P. mandellii*. As far as I know, no form of *P. humii* breeds South of Tibet in Sikkim and certainly none breed in the Khasia Hills. The very dark head and rich coloration on which Oates relies as distinguishing features seem to be individual characters which crop up in both races all over their habitat.

Nidification. Similar to that of *P. h. humii*, making a ball-nest of grass lined with hair and placed on a bank under the shelter of a bush, fern or patch of grass. The eggs cannot be distinguished from those of Hume's Willow-Warbler. Hartert gives the measurements of fifty eggs as follows: average 14·0 × 11·25 mm.: maxima 16·0 × 12·0 mm.; minima 13·0 × 11·0 mm.

* It is unfortunately impossible to use the name *P. inornatus* of Blyth for the Crowned Willow-Warbler, as Blyth himself stated subsequently that it does not apply to this species.

Specimens of birds nesting in Tibet and obtained in abraded breeding-plumage are very difficult to place, but seem to me to be of this race. In the South of Tibet and Sikkim there are no authentic records of its having bred but in Ladak and N.E. Tibet it is not uncommon, though apparently very local. These latter birds have hitherto been recorded as *P. h. humii* but may possibly prove to be *P. h. superciliosus*.

Habits. Similar to those of Hume's Willow-Warbler.

Genus ACANTHOPNEUSTE.

Acanthopneuste Blasius, Naum. p. 313 (1858).

Type, *A. borealis* (Blas.).

The genus *Acanthopneuste* differs from *Phylloscopus*, as already remarked, in having a larger and heavier bill and in having the nostrils overhung by hairs, which grow right up to the culmen. There are seven species which occur in India, geographical races of which have hitherto been given the rank of species. In many cases species which have a race breeding in the far North and visiting India in Winter on migration have a representative race breeding in the Himalayas which is sedentary or only locally migratory. These are very close to one another in appearance and, in consequence, records of occurrence, nidification, etc., are often very contradictory and puzzling.

Key to Species.

A. With no band on crown of head.
  a. Second primary about equal to sixth .. *A. borealis*, p. 471.
  b. Second primary between sixth and eighth.
    a'. Wing-bars white or inconspicuous.. *A. nitidus*, p. 473.
    b'. Wing-bars yellow and conspicuous . *A. magnirostris*, p. 476.
  c. Second primary about equal to tenth .. *A. lugubris*, p. 478.
B. With a coronal band.
  d. Inner webs of outermost tail-feathers with no white edging or only slightly developed: second primary between sixth and eighth ..... *A. occipitalis*, p. 479.
  e. Inner webs of outer tail-feathers wholly white or with broad white edging: second primary between eighth and tenth..... *A. trochiloides*, p. 480.

Acanthopneuste borealis.

Key to Subspecies.

A. Head and back the same olive-green; first primary generally under 11 mm. .. *A. b. borealis*, p. 472.
B. Head more grey and darker than back; first primary generally over 11 mm..... *A. b. xanthodryas*, p. 47

(872) Acanthopneuste borealis borealis.

THE ARCTIC WILLOW-WARBLER.

Phyllopneuste borealis Blas., Naum., 1858, p. 313 (Lake Ochotska).
Acanthopneuste borealis. Blanf. & Oates, i, p. 412.

Vernacular names. None recorded.

Description. Whole upper plumage, including exposed parts of wings and tail olive-green, a little lighter on the rump; wing-coverts tipped with yellowish white forming two wing-bars, conspicuous in fresh plumage but inconspicuous in abraded plumage, the tips to the median coverts being often completely worn away; a well-defined supercilium from the nostrils to the nape yellowish white sometimes tinged with buff; lores and a line behind the eye dark brown; ear-coverts olive-brown, mottled with yellow; under plumage yellowish white, deeper yellow in Winter than in Summer; flanks generally suffused with dusky; under wing-coverts and axillaries pale yellow.

Colours of soft parts. Iris hazel to dark brown; bill, above dark brown tipped yellowish, below paler, the basal half almost orange-yellow; mouth bright orange-yellow; legs and feet flesh-colour or yellowish-fleshy.

Measurements. Total length about 130 mm.; wing 64 to 72 mm.; tail 45 to 51 mm.; tarsus about 19 to 21 mm.; culmen 11 to 12 mm.; first primary 9 to 11 mm.

Distribution. Breeding in Norway, North Russia and Northern Asia to Dauria, Transbaikalia, Corea, Ussuri-land to Kamchatka. In Winter South to Assam, Burma, Andamans, the Indo-Chinese countries and South China, etc.

Nidification. Breeds during June, making a domed, or semi-domed, nest of moss and dried grass lined with finer grass and placed on the ground in deciduous forests. The eggs number five to eight, and are just like rather large eggs of the Common Willow-Warbler. The ground-colour is pure white with numerous small specks of light reddish scattered over the whole surface. Hartert, quoting Pleske, gives the average size as 15·3 × 12·3 mm.; maxima 16·0 × 12·5 mm.; minima 15·0 × 12·0 mm.

Habits. Similar to those of the Willow-Warbler.

(873) Acanthopneuste borealis xanthodryas.

THE JAPANESE ARCTIC WILLOW-WARBLER.

Phylloscopus xanthodryas Swinh., P. Z. S., 1863, p. 226 (Amoy).

Vernacular names. None recorded.

Description. Similar to the Arctic Willow-Warbler but darker and greyer on the head and generally much more yellow below.

Colours of soft parts and **Measurements** as in the Arctic Willow-Warbler but the first primary is very much larger, measuring 11 to 16 mm., generally over 14 mm.

Distribution. Breeding in Japan, the Kuriles and ?Kamchatka; South in Winter to South China, the Indo-Chinese countries and straggling into South Burma.

Nidification. The nests of this Warbler are like those of the preceding bird, and I have one clutch of eggs which could not possibly be distinguished from those of that species, though they are larger. The majority of eggs in private collections taken by Alan Owston's collectors are so large that they cannot be those of a Willow-Warbler and are probably those of the Japanese Wren.

Habits similar to those of the Arctic Willow-Warbler.

Acanthopneuste nitidus.

Key to Subspecies.

A. Median wing-bar inconspicuous.	
a. Above light olive-green, below bright yellow	*A. n. nitidus*, p. 473.
b. Above browner, below much less bright yellow	*A. n. viridanus*, p. 474.
c. Darker above, more grey below	*A. n. plumbeitarsus*, p. 474.
B. Median wing-bar very conspicuous; a very dark bird	*A. n. saturatus*, p. 475.

(874) Acanthopneuste nitidus nitidus.

THE GREEN WILLOW-WARBLER.

Phylloscopus nitidus Blyth, J. A. S. B., xii, p. 965 (1843) (Calcutta).
Acanthopneuste nitidus. Blanf. & Oates, i, p. 413.

Vernacular names. None recorded.

Description. Upper plumage light olive-green, rather brighter on the rump; lores and a line behind the eye dark brown; supercilium bright yellow; wings brown, the feathers edged with green like the back and with two white or yellowish-white wing-bars formed by the tips to the coverts; tail brown edged with greenish; cheeks greenish yellow; whole lower parts bright yellow, the flanks greenish; the axillaries and under wing-coverts pale bright yellow.

Colours of soft parts. Iris dark brown; bill horny-black above, yellowish-horny below; legs and feet olive-grey.

Measurements. Total length about 125 mm.; wing 59 to 64 mm.; tail 44 to 48 mm.; tarsus 19 to 20 mm.; culmen 10 to 11 mm. Second primary between sixth and seventh in length, sometimes equal to seventh.

Distribution. Breeding in the Caucasas, Transcaspia, Bochara and Persia. Possibly also Afghanistan and the N.W. Frontier. In Winter to practically the whole of India as far East as Calcutta and Ceylon. I never met with it in Assam.

Nidification. Nothing certain known.

Habits. Those of the genus. This bird seems, at all events in Winter, to frequent trees in preference to lower growths.

(875) Acanthopneuste nitidus viridanus.

THE GREENISH WILLOW-WARBLER

Phylloscopus viridanus Blyth, J. A. S. B., xii, p. 967 (1843) (Calcutta).
Acanthopneuste viridanus. Blanf. & Oates, i, p. 414.

Vernacular names. *Inruite* (Kacha Naga).

Description. Similar to the Green Willow-Warbler but much browner above and much less yellow below; the wing-bar on the median coverts is wanting and the second is often obsolete.

Colours of soft parts and **Measurements** as in *A. n. nitidus*; wing 55 to 65 mm.

Distribution. Breeding in N.E. Europe, West Siberia to Turkestan, Tian-Schan, Tibet, Kashmir and Garhwal to Sikkim and Hills of Northern Assam. In Winter South to Assam and practically the whole of India and Ceylon with the exception of Sind and Western Rajputana.

Nidification. This Warbler breeds in Kashmir and Garhwal from the middle of June to the middle of July, in Sikkim and the Assam Mountains from the end of May to June, whilst in Tibet few eggs will be found before July. The nest is a large untidy ball of grass and moss, mixed sometimes with a few roots and dead leaves. The lining is of hair, either of goats, yaks or horses, occasionally mixed with fur. The nest is always placed on the ground; generally on a steep bank in among juniper or other scrub, ferns or grass; occasionally quite in the open and once I found a nest in among mossy boulders on a road-side. The eggs, four in number, are pure white, of a soft texture and almost glossless; thirty-six eggs average 15·3 × 11·9 mm.: maxima 16·8 × 12·0 mm. and 16·0 × 12·6 mm.; minima 13·2 × 10·3 mm.

Habits. The Greenish Willow-Warbler is a bird of well-wooded areas, though during the breeding-season it may be found in open places if surrounded by woods. In Winter it keeps principally to the higher branches of trees of some size, though the smaller Acacias which attract so many insects are a favourite resort.

(876) Acanthopneuste nitidus plumbeitarsus.

MIDDENDORFF'S WILLOW-WARBLER.

Phylloscopus plumbeitarsus Swinh., Ibis, 1861 p. 325 (Taku and Peking).
Acanthopneuste plumbeitarsus. Blanf. & Oates, i, p. 414.

Description. A darker bird above than *A. n. viridanus* and below more grey, less yellow. A few birds have faint signs of a bar on the median coverts but this is by no means constant and forms a very poor character for diagnosis. Swinhoe's type, which is in the British Museum collection, agrees perfectly with the Burmese specimens and not with the next race.

Colours of soft parts and **Measurements** as in *A. n. nitidus.*

Distribution. Breeding in Transbaikalia to Ochotsk and N.W. China; in Winter to South China, the Indo-Chinese countries, Malay Peninsula, Burma and occasionally Assam.

Nidification. Nests and eggs taken by Dybowski and Godlewski during June and July in Transbaikalia were like those of the Greenish Willow-Warbler and the eggs measured between 15 × 11·3 and 15·8 × 11·6 mm.

Habits. Like those of the preceding race. Owing to the fact that our older writers on Indian birds did not realize that geographical races existed, there has been much confusion over records of the various subspecies of *A. nitidus* and other Oriental Willow-Warblers. This has been further complicated because, though each race has a fairly well-defined breeding-area, their Winter haunts often overlap. The present Willow-Warbler is not found farther West in Winter than Assam, where it is fairly common in the Eastern portions and, again, South in the Surma Valley. In the Western districts of Assam and in Eastern Bengal the last race takes its place.

(877) Acanthopneuste nitidus saturatus.

THE ANNAM WILLOW-WARBLER.

Acanthopneuste nitidus saturatus Stuart Baker, Bull. B. O. C., xliv, p. 62 (1924) (Daban, South Annam).

Vernacular names. None recorded.

Description. A very deep-coloured bird, with dark olive-green upper parts, brighter and greener on the rump; the underparts very grey with yellow smears on the abdomen and breast; the wing-bars are much more conspicuous at all seasons than they are in any other race and are very white; the supercilium is very broad and very white.

Colours of soft parts. "Iris dark; maxilla blackish or dark brown; mandible dull yellow or ochreous with a dark tip; feet and legs brown, olive-brown or dark brown, sides ochreous" (*Robinson & Kloss*).

Measurements. Wing 56 to 62 mm.; tail 40 to 44 mm.; tarsus 19 mm.; culmen 9 to 10 mm.

Distribution. Breeding in Manchuria; Winter, Annam, Yunnan and Northern Shan States.

Nidification. Unknown.

Habits. Those of the other races.

(878) Acanthopneuste magnirostris.

THE LARGE-BILLED WILLOW-WARBLER.

Phylloscopus magnirostris Blyth, J. A. S. B., xii, p. 966 (1843) (Calcutta).
Acanthopneuste magnirostris. Blanf. & Oates, i, p. 415.

Vernacular names. None recorded.

Description. Upper plumage dark olive-green, the head darker and more grey, the rump rather brighter; wing-feathers brown edged with bright olive-green and with two yellowish or buffy-white wing-bars formed by the tips of the median and greater coverts; the median bar seldom shows at all within a very short time after the moult; tail brown, edged with green on the outer webs and with narrow white edges to the tips of the inner webs; supercilium yellowish white, broad and well defined; lores and behind the eye dark brown; cheeks and ear-coverts mottled green and yellowish; lower plumage yellowish white, suffused with olive-grey on the breast and flanks; axillaries and under wing-coverts greyish yellow.



Figs. 77 and 78.—Bill and wing of *A. magnirostris*.

Colours of soft parts. Iris hazel to dark brown; bill, upper mandible dark horny with pale yellowish or fleshy edges, lower mandible fleshy-horny with dark tip; legs and feet pale fleshy-plumbeous to deep fleshy.

Measurements. Total length about 130 to 135 mm.; wing 64 to 72 mm.; tail 46 to 53 mm.; tarsus about 19 mm.; culmen 11 to 12 mm.

The second primary is intermediate in length between the seventh and eighth; the first primary is very large.

Distribution. Breeding from Kashmir, Ladak, Tibet to Kansu. In Winter South numerously to Rajputana, Central India, Behar, Bengal, Assam and Burma, less frequently still farther South to Central Burma. Hume records it from Tenasserim, but there are no specimens from that district in his collection.

Nidification. The Large-billed Willow-Warbler breeds in great numbers during the months of June, July and August in South Kashmir, the Murree Hills, Simla States and Garhwal, between 7,500 and 12,000 feet. The nest is a round ball of grass, rather loosely and untidily put together, more or less mixed with moss,

roots and stems of maiden-hair fern and lined with grass alone or with a little hair mixed. It is placed on the ground or in a hole in the sloping bank of a ravine or some steep hill-side, a very favourite site being among the roots of a pine or other tree, often well inside a rather deep hole. The eggs, four or five in number, are pure white, rather glossy and bigger than those of any other bird of the genera *Phylloscopus* and *Acanthopneuste*. Fifty eggs average 18·2 × 13·2 mm.: maxima 20·0 × 13·9 mm.; minima 16·0 × 13·0 and 17·0 × 12·7 mm.

Habits. The Large-billed Willow-Warbler is essentially a forest-bird, though it prefers such as have open glades and grassy spaces, where it haunts both the lower tangle of jungle and rocks and the higher trees. It has a clear, pretty little song of four notes, constantly repeated and almost more like that of a Robin than that of a Willow-Warbler. It is generally found near streams and ravines through which a certain amount of water trickles. In the Cold Weather it is abundant over the greater part of Northern India and Assam, becoming more rare in Southern India.

(879) Acanthopneuste tenellipes.

THE PALE-LEGGED WILLOW-WARBLER.

Phylloscopus tenellipes Swinh., Ibis, 1860, p. 53 (Amoy).
Acanthopneuste tenellipes. Blanf. & Oates, i, p. 416.

Vernacular names. None recorded.

Description. Upper plumage, wings and tail brown, tinged with olive on the back, head and scapulars and suffused with ochraceous on the rump, upper tail-coverts and edges of the tail; concealed portions of wing dark brown; median coverts faintly, greater coverts more strongly, tipped with buff, forming wing-bars; supercilium from the nostrils to the nape dark buff over the lores and paling behind the eye to white; lores and behind the eye dark brown; ear-coverts mingled buff and brown; below white, the vent and under tail-coverts yellow to buff, and the flanks and breast also tinged with this colour in varying degrees; under wing-coverts and axillaries yellow to buff.

Colours of soft parts. Iris dark brown; bill above horny-brown, below fleshy-brown; legs and feet pale fleshy.

Measurements. Total length about 130 mm.; wing 59 to 65 mm.; tail 40 to 46 mm.; tarsus 18 to 19 mm.; culmen 9 to 10 mm.

Young are very green above and brighter below.

Distribution. Breeding in Amurland, North China, Korea and Japan. In Winter South to China, Burma, Malay States and intervening Indo-Chinese countries.

Nidification. The only known eggs of this species were taken by Alan Owston's collectors in Japan. They are pure white,

glossless and measure 14·9 × 12·0 and 15·0 × 12·0 mm. They were taken on the 12th May from a domed nest in a bank.

Habits. Nothing recorded.

(880) Acanthopneuste lugubris.

THE DULL GREEN WILLOW-WARBLER.

Phyllopneuste lugubris Blyth, A. M. N. H., xii, p. 98 (1843) (Calcutta).
Acanthopneuste lugubris. Blanf. & Oates. i, p. 417.

Vernacular names. None recorded.

Description. Very like *A. magnirostris*, from which it differs in wing-formula. It is slightly darker and smaller; the superciliary streak is less developed and is more greenish yellow, less buff.

Colours of soft parts as in the Large-billed Willow-Warbler.

Measurements. Total length about 125 mm.; wing 55 to 64 mm.; tail 41 to 49 mm.; tarsus about 18 to 19 mm.; culmen 9 to 10 mm. The second primary is intermediate between the ninth and tenth.

Distribution. Breeding from Garhwal to East Tibet and N.W. China and the Tsinling Mts., also possibly Kashmir. In Winter, Eastern India, Assam, Burma, Yunnan, Annam, Siam, Malay States and South China.

Nidification. Mr. S. L. Whymper took several nests of this bird in the Nila Valley in Garhwal in 1910, and later Mr. B. B. Osmaston found it breeding between 11,500 and 12,500 feet elevation in the Dhauli Valley of the same hills. A nest taken by the latter in a crevice in the side of an old birch-tree, about six inches from the ground, was built of moss and lichen lined with felted moss mixed with a few hairs and feathers. It was well put together, domed, and was taken on the 26th June. The two eggs it contained were pure white and measured 15·7 × 11·7 mm. A nest and eggs sent me from Gyantse in Tibet resemble in every respect those found by Mr. Osmaston. The eggs vary in size between 16·2 × 12·2 and 15·5 × 11·7 mm., and were taken on the 28th June at an altitude of about 13,000 feet.

Habits. In Summer this Willow-Warbler is found at great heights, seldom below 10,000 feet and in Tibet certainly up to 15,000 feet. In Winter it wanders South in India into Bengal, Assam and Burma South to Tenasserim. The numerous records of its occurrence in the South and West are probably due to mistakes in identification, though it is almost certain to occur in the plains of the United Provinces. It is found during the breeding-season in forested country with open glades and grass-covered hill-sides but in Winter in almost any kind of country provided there are sufficient trees. Osmaston says that its note is a loud Sparrow-like chirp, repeated several times in succession.

Acanthopneuste occipitalis.

A. Above paler; below yellowish, the under tail-coverts not contrasting with the abdomen ..... *A. o. occipitalis*, p. 479.
B. Above darker; yellow under tail-coverts contrasting with almost white abdomen . *A. o. coronatus*, p. 480.

(881) Acanthopneuste occipitalis occipitalis.

THE LARGE CROWNED WILLOW-WARBLER.

Phyllopneuste occipitalis Blyth, J. A. S. B., xiv, p. 593 (1845) (S. India).
Acanthopneuste occipitalis. Blanf. & Oates, i, p. 418.

Vernacular names. None recorded.

Description. An irregular coronal streak from the forehead to the nape yellowish grey; a fairly well-defined pale yellow supercilium to the nape; remainder of the upper plumage olive-green, the head darker and more brown; wing-feathers brown edged with olive-green and with yellow tips to the median and greater coverts forming two wing-bars, the former often slight and sometimes absent; tail brown edged with olive-green; lores and feathers behind the eye brown; ear-coverts and cheeks yellow mixed with dusky; below yellowish white suffused with brown on the breast and flanks; axillaries and under wing-coverts bright yellow.

Colours of soft parts. Iris brown; bill horny or horny-brown above, below pale horny or yellowish; legs and feet pale brown or plumbeous-brown.

Measurements. Total length about 135 mm.; wing 58 to 69 mm.; tail 44 to 50 mm.; tarsus 17 to 18 mm.; culmen 11 to 12 mm.; second primary intermediate between sixth and seventh.

Distribution. Breeding in Turkestan, Afghanistan, Kashmir and Garhwal Hills. In Winter South to Travancore and Orissa in India; East to Bengal and rarely to Assam.

Nidification. The Large Crowned Willow-Warbler is an exceedingly common bird from the North-West Frontier to Nepal, breeding during May and June between 6,500 and 9,000 feet. It makes a nest principally of moss, but sometimes mixed with a little hair, grass or fur. It is lined with scraps of moss felted together in a pad which is sometimes mixed with the same materials. In shape it fits the hole in which it is placed, sometimes being cup-shaped and at others domed or semi-domed, the entrance to the hollow being banked up with moss leaving a small circular hole for the birds to go in and out by. It may be placed in practically any hole in bank, wall, dead tree, living tree or even in an old building, whilst Rattray found it breeding under the eaves of bungalows in Murree. The nest is generally very well hidden but the birds are so noisy and demonstrative when it is

approached that it is easy to find it once one knows the habits the birds themselves. The eggs number four to six and are pu white with a fair gloss. Fifty eggs average 16·4 × 12·7 mm maxima 18·0 × 13·0 and 17·3 × 13·2 mm.; minima 15·0 × 12·0 ar 15·1 × 11·9 mm.

Habits. This Warbler is a bird of forests and well-wooded are and where there are sufficient trees will come into gardens ar compounds, being far more confiding and familiar in its ways tha most Willow-Warblers. In Winter it is extremely common i the greater part of Northern India, and it has been found as f South as Travancore and is not uncommon in the Souther Bombay Presidency. I found it not rare over the whole of Assa during October and again in March, most birds passing throug and not wintering in that Province. It is an extraordinarily activ energetic little bird, ever on the move and often fluttering int the air after passing insects and catching them on the wing lik a Flycatcher.

(882) Acanthopneuste occipitalis coronatus.

TEMMINCK'S CROWNED WILLOW-WARBLER.

Ficedula coronata Temm. & Schl., Faun. Jap., Aves, p. 48 (1847 (Japan).
Acanthopneuste coronata. Blanf. & Oates, i, p. 417.

Vernacular names. None recorded.

Description. Similar to *occipitalis* but darker, especially on th head; below whiter with the under tail-coverts bright pale yellow contrasting with the abdomen.

Colours of soft parts and **Measurements.** The same as i *A. o. occipitalis.* The second primary is intermediate between th seventh and eighth.

Distribution. Breeding in East-Siberia, Korea and Japan. I Winter South to China, Formosa, the Indo-Chinese countries t Burma, Manipur and Eastern Assam.

Nidification. This Willow-Warbler breeds in Japan from th middle of May to the end of June, making a nest very similar i structure and site to that of the preceding race. It lays five t seven eggs, pure white and measuring about 16·6 × 12·6 mm.

Habits. Those of the Large Crowned Willow-Warbler, but apparently not so confiding a bird and keeping further away from human habitations.

Acanthopneuste trochiloides.

Key to Subspecies.

A. Below yellow or yellowish white.
  a. Outer tail-feathers merely tipped and narrowly edged with white on the inner web ..... *A. t. trochiloides*, p. 481.

  b. Outer tail-feathers broadly tipped and edged with white ..... *A. t. harterti*, p. 481
  c. Outer tail-feathers wholly white on inner web ..... *A. t. davisoni*, p. 482.
B. Below white with an oily-green tinge.... *A. t. claudiæ*, p. 483.

(883) Acanthopneuste trochiloides trochiloides.

BLYTH'S CROWNED WILLOW-WARBLER.

Acanthiza trochiloides Sundev., Physio. Sällskapets Tidsk., i (1838) (Calcutta).
Acanthopneuste trochiloides. Blanf. & Oates, i, p. 419.

Vernacular names. None recorded.

Description. Similar to *A. o. occipitalis* but darker and greener than either that bird or *A. o. coronata*, darker and more yellow below, smaller and with a different wing-formula. The outer tail-feathers nearly always have a white tip and edge to the inner web, these white markings sometimes extending to the three outer pairs.

Colours of soft parts as in *A. o. occipitalis.*

Measurements. Total length about 120 mm.; wing 51 to 61 mm.; tail 31 to 43 mm.; tarsus 16 to 17 mm.; culmen about 9 mm.

Distribution. Breeding from Afghanistan frontier through Gilgit and Kashmir to Garhwal, Nepal, Sikkim and Tibet. Winters in Bengal, Assam, Burma to Tenasserim.

Nidification. This Willow-Warbler breeds throughout the North-West Himalayas between 7,000 and 10,000 feet. Col. Rattray describes the nest and eggs as being very similar to those of *A. o. occipitalis*, but the birds are much more quiet and secretive and do not give away the site of their nest so readily. The eggs are pure white and twenty-five average 15·9 × 12·0 mm.: maxima 17·1 × 12·2 and 16·1 × 12·3 mm.; minima 14·4 × 11·7 and 14·6 × 11·2 mm. The birds breed during May, June and July.

Habits. Those of the genus. So far as is recorded and according to my own experience, this Warbler is strictly arboreal, hunting for insects very high up in tall trees. I have never seen it hawking for insects on the wing.

(884) Acanthopneuste trochiloides harterti.

BAKER'S WILLOW-WARBLER.

Acanthopneuste trochiloides harterti Stuart Baker, Bull. B. O. C., xxxi, p. 36 (1912) (Khasia Hills, breeding).

Vernacular names. None recorded.

Description. Similar to *A. t. trochiloides*, but in general colour darker and brighter; the yellow bars broader and more yellow;

the white on the inner webs of the outer rectrices greater in extent, the outermost pair often having the whole inner web more or less white, mottled with pale brown.

Colours of soft parts as in *A. t. trochiloides*.

Measurements. Wing 50 to 56 mm.; tail 38 to 43 mm.; tarsus about 17 to 18 mm.; culmen about 9 mm. The second primary is intermediate between the 8th and 10th, sometimes equal to the 10th.

Distribution. Breeding in the Mountains of Assam, South of the Brahmaputra, Manipur. La Touche's "*disturbans*," a winter bird found in Yunnan, appears to be the same as this. In Winter South to Bengal, Burma, Siam and Yunnan.

Nidification. This little Warbler breeds throughout Assam South of the Brahmaputra and Manipur above 4,500 feet, making a beautiful little ball-shaped nest of green moss, mixed occasionally with hair and grass and lined with small soft feathers, silk cotton-down, or, less often, merely with a felt of moss-scraps. The greater number of nests are placed in banks in Pine-forests, and where the hole is at all deep the nest may be cup-shaped or only semi-domed. The birds are very noisy, and call repeatedly when one approaches the nest, so that it is impossible to miss it. The eggs number four to six and are pure white, though rarely a few faint specks of red are visible. Fifty eggs average minima 11·9 mm.: maxima **17·0 × 11·6** and **16·1 × 13·0** mm.; **13·6 × 10·9** mm.

Habits. Those of *A. t. trochiloides*. This Warbler keeps in preference to open Pine-forests. It is resident all the year round in the hills, merely moving a little vertically with the season into the plains at the foot of them.

(885) Acanthopneuste trochiloides davisoni.

THE TENASSERIM WHITE-TAILED WILLOW-WARBLER.

Acanthopneuste davisoni Oates, N. & Eggs of Ind. B., i, p. 269 (1889) (Muleyit), nom. nud.; Oates, Fauna B. I., i, p. 420 (descr.) (1889).

Vernacular names. None recorded.

Description. Differs from *A. t. harterti* in having the whole of the inner web of the outermost feather pure white and more white also in the next pair. It is darker and duller above, and has less yellow below.

Colours of soft parts as in *A. t. trochiloides*.

Measurements. Wing 47 to 52 (one, 55) mm.; tail 36 to 40 mm.; tarsus 16 mm.; culmen 8 to 9 mm.; 2nd primary between 9th and 10th.

Distribution. Breeding in the Burmese Hills from Karenni to Tenasserim. One specimen from Yunnan collected by Forrest has the whole inner web of the outermost tail-feathers white; it has the underparts also like those of *davisoni* and not the silky, rather oily-green white of *claudiæ*. It is a December bird, and may possibly have wandered thus far. It may also extend to the Kachin Hills and Shan States.

Nidification. Nests and eggs taken in Tenasserim (Muleyit) by Davison in February and by my own collector in May were exactly like those of *A. t. harterti*. Other nests taken by Harington, Grant and Hopwood in the Bhamo Hills in April to July were also similar but I have seen no specimens from these Hills and they may be referable to *harterti*, though all three of these close observers are positive as to the identity of their birds with *davisoni*. The eggs are indistinguishable from those of the preceding bird. Like those they are more glossy and stout-shelled than any eggs of Munias, but less glossy, smooth and stout than those of the genus *Seicercus*.

Habits. Those of the species.

(886) Acanthopneuste trochiloides claudiæ.

LA TOUCHE'S YUNNAN WILLOW-WARBLER.

Acanthopneuste trochiloides claudiæ La Touche, Bull. B. O. C., xliii, p. 22 (1922) (Yunnan).

Vernacular names. None recorded.

Description. Similar to *A. t. trochiloides*, but practically white underneath, with just a tinge of oily-green; the under tail-coverts are yellow; the wing-bars well developed, and the coronal streak and supercilia conspicuous.

Colours of soft parts as in the other races.

Measurements. I make this out a much smaller bird than La Touche does. His series of specimens in the British Museum have wings ranging from 52 to 60 mm.

Distribution. Yunnan only so far as is known at present.

Nidification and **Habits.** Nothing recorded.

Genus MUSCITREA.

Muscitrea Blyth, J. A. S. B., xvi, p. 121 (1843).

Type, *Tephrodornis grisola* Blyth, 1843.

The genus *Muscitrea* is one which it has been very difficult to place, in part owing to the plumage of the young bird not being known. Mr. B. B. Osmaston has now shown (Journal Bombay Nat. Hist. Soc. xvii, p. 159) that the young is at no stage spotted or squamated, characteristics which at once prevent it being placed either in the *Muscicapidæ* or the *Pericrocotidæ* (*Campephagidæ*). As the young is paler, but brighter, than the adult, it appears best

suited by its other characters to a place in this family, though even in this it is somewhat aberrant.

In *Muscitrea* the sexes are alike. The bill for a Warbler is exceptionally strong, deep and is much compressed laterally; there are three strong rictal bristles and there are numerous supplementary hairs which overhang the nostrils; the wing is long and the first primary large, exceeding in length half the second; the tail is square.

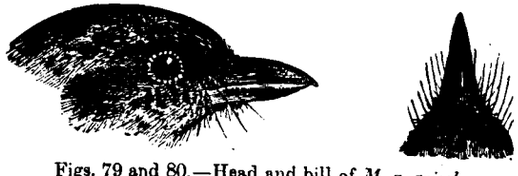
(887) Muscitrea grisola grisola.

THE GREY FLYCATCHER-WARBLER.

Tephrodornis grisola Blyth, J. A. S. B., xii, p. 180 (1843) (Malay Peninsula).
Muscitrea grisola. Blanf. & Oates, ii, p. 31.

Vernacular names. None recorded.

Description. Upper plumage, wings and tail rufous olive-brown, more ashy-brown on the crown and nape; the secondaries and greater wing-coverts are edged with a more rufous-brown;



Figs. 79 and 80.—Head and bill of *M. g. grisola.*

underparts white, the breast suffused with ashy and the throat often mottled with ashy.

Colours of soft parts. Iris reddish brown; bill dark brown to blackish; mouth flesh-colour; legs and feet horny-brown to plumbeous-brown.

Measurements. Total length about 160 to 170 mm.; wing 81 to 89 mm.; tail 55 to 61 mm.; tarsus about 23 mm.; culmen 13 to 14 mm.

The young birds are much more rufous and, even in adult birds, the older seem to get greyer and paler than birds of the first year.

Nestling. Still more rufous, the secondaries being almost wholly of this colour and pure white below.

Distribution. Andamans, Arrakan, Pegu, Tenasserim, Annam, Siam, Malay Peninsula and Islands, Java, Sumatra and Borneo.

Nidification. According to Mr. Osmaston this Warbler "breeds in May and June and two eggs only are laid. The nest is rather a thin, flimsy cup-shaped structure made of roots, which are attached by cobwebs to the twigs supporting it. The eggs could

be seen from below through the nest, which was unlined and somewhat resembled that of a Bulbul. The nests were all in small trees from 6 to 12 feet from the ground. The eggs are slightly glossy, dark cream or pale *café-au-lait* spotted with dark yellowish brown or sepia. The spots are rather small and not numerous, and they tend to form a zone towards the big end. The eggs remind one a little of those of *Rhipidura albicollis*. They vary very little in size, the mean of 8 eggs being ·85″ × ·62″."

Habits. Not uncommon round about Port Blair, frequenting there, as elsewhere, open jungle and clearings in forest. It is said to be a quiet unobtrusive bird very like a Flycatcher or a Warbler of the genus *Seicercus* in its habits, sometimes catching insects on the wing and, at other times, on the branches and trunks of trees. Mr. Osmaston says that it has a fine loud whistle which it repeats three or four times or prolongs into one long note, followed by another either higher or lower in key.

Genus SEICERCUS.

Seicercus Swainson, Class. Birds, p. 84 (1837).

Type, *Cryptolopha aureicapilla*=*Sylvia burkii* Barton, 1835.

The name *Cryptolopha* Swainson, which occurs on p. 259, *op. cit.*, cannot be used, as it is antedated by *Seicercus* on p. 84. Swainson, in creating the name *Cryptolopha*, merely says that he does so to replace the name *Seicercus*, which might possibly be confused with *Seiurus*. This genus includes a large number of Oriental Warblers which superficially very closely approach the Flycatchers in appearance, more especially in the very great development of the frontal hairs. The young, however, are neither spotted nor squamated, but paler and even brighter than the adults, as is usual in the *Sylviidæ*.

In *Seicercus* the bill is about half the length of the head, very broad and blunt; the rictal bristles are greatly developed and the supplementary hairs reach beyond the nostrils and, in some cases, almost to the tip of the bill; the wing is rather rounded, the first primary small, the second and third graduated; the tail is moderate, square or, occasionally, slightly forked. It has a partial Spring moult. The species are not migratory, though they move vertically to some extent with the seasons.

Key to Species.

A. Entire lower plumage deep yellow.
  a. Lateral bands on crown blackish; median band well defined.
    a'. A white ring round eye; sides of head bluish grey ..... *S. affinis*, p. 486.
    b'. A yellow ring round eye; sides of head yellowish ..... *S. burkii*, p. 487.

b. Lateral bands on head ashy; median band ill-defined ..... *S. xanthoschistus*, p. 488.

B. Lower plumage not entirely yellow.

c. Inner webs of outer tail-feathers white.

c'. Chin grey; crown blackish..... *S. poliogenys*, p. 491.

d'. Chin, throat and upper breast grey; crown chestnut ..... *S. castaneoceps*, p. 492.

d. Inner webs of tail-feathers not white.. *S. cantator*, p. 492.

(888) Seicercus affinis.

THE ALLIED FLYCATCHER-WARBLER.

Abrornis affinis (Hodgs.) Horsf. & Moore, Cat., i, p. 341 (1854) (Nepal).
Cryptolopha affinis. Blanf. & Oates, i, p. 422.

Vernacular names. *Inshushia-gaté* (Kacha Naga).

Description. Centre of crown from forehead to nape bluish grey; sides of crown and nape black; lores yellowish green, almost white above; supercilium bluish grey, tinged with green; a ring round the eye white, interrupted above by a black patch; upper plumage and visible portion of wings bright olive-green; the greater wing-coverts tipped yellow; tail olive-green, the two outer pairs of tail-feathers white on the greater portion of the inner webs; sides of the head bluish grey; entire lower plumage, axillaries and under wing-coverts bright yellow; flanks tinged with olive, never very pronounced.

The third pair of tail-feathers occasionally have a spot of white at the tip of the inner web.

Colours of soft parts. Iris hazel; bill above horny-brown, below yellowish flesh-colour to yellow; legs and feet horny-yellow to yellowish-fleshy, claws darker.

Measurements. Total length about 110 mm.: wing 52 to 58 mm.; tail 42 to 45 mm.; tarsus about 18 mm.; culmen 9 to 10 mm.

Distribution. Sikkim to East Assam, North and South of the Brahmaputra, Chin and Kachin Hills and Annam (*ocularis* Rob. & Kloss, 'Ibis,' 1919, p. 448).

Nidification. The Allied Flycatcher-Warbler breeds from the middle of April to the middle of June, from 4,000 feet up to about 7,000 or perhaps 8,000 feet, making a beautiful domed nest of green moss, *sometimes* mixed with a few roots and bits of dead leaf. The lining is of moss, well felted together and nearly always with a dense over-lining of cotton-down or vegetable-silk. Most nests are placed on the ground on mossy banks or the sides of ravines in Evergreen or Pine forests but occasionally it is built in among the living moss growing on some fallen log or dead stump. The eggs, which number four or five, are pure white, moderately glossy and rather fragile. Thirty eggs average 15·4 × 12·4 mm.: maxima 16·3 × 12·7 and 15·3 × 13·1 mm.; minima 14·1 × 12·1 mm.

Habits. In the Cold Weather months this little Warbler keeps principally to tree-forest or to mixed giant bamboo and tree-jungle, but in Summer it resorts more to the scrub and undergrowth in dense humid evergreen forest. It is an intensely active, energetic little bird; now catching insects on the wing from some fixed perch like a Flycatcher, now bustling in and out of branches and foliage, hunting every leaf and every cranny in the bark for spiders and ants. It is practically never still, except when singing its sweet little song and, even then, it expresses its surplus energy in quivering wings and pulsating throat. It displays, like all the species both of this genus and *Abrornis*, by fluffing out all its feathers, spreading its tail and wing, whilst it cowers low down on some small branch close to the female; then suddenly it stands erect and bursts into song; sings rapidly for a minute or two and then repeats the display. It is a very bold little bird and seems to have no fear of man, although, from its habits, it comes little under observation.

Seicercus burkii.

Key to Subspecies.

A. Coronal streak and sides of the head green, hardly tinged with grey .... *S. b. burkii*, p. 487.

B. Coronal streak and sides of the head grey, hardly tinged with green .... *S. b. tephrocephalus*, p. 488.

(889) Seicercus burkii burkii.

THE BLACK-BROWED FLYCATCHER-WARBLER.

Sylvia burkii Burton, P. Z. S., 1835, p. 153 (Himalayas).
Cryptolopha burkii. Blanf. & Oates, i, p. 424.

Vernacular names. *Inshushia-gadeba* (Kacha Naga).

Description. Differs from *S. affinis* in having a yellow ring all round the eye; the central coronal streaks and sides of the head are green, much the same in tint as the upper parts and in but few cases faintly tinged with grey; the lateral coronal bands are a browner black and are not carried so far down the nape; upper parts a lighter olive-green and lower parts more tinged with orange.

Colours of soft parts. Iris dark brown; upper mandible horny-brown to almost black, lower mandible yellow-horny; legs and feet pale horny-yellow.

Measurements. Total length about 110 to 115 mm.; wing 55 to 60 mm. (one 63 and two specimens 62 mm.); tail 45 to 46 mm.; tarsus about 18 mm.; culmen about 10 mm.

Distribution. Himalayas from extreme North-West and Kashmir to Manipur, and Hills South and East of the Brahmaputra.

green moss, very densely lined with soft vegetable silk or cotton, the favourite material being the silk from the pods of the cotton-tree. The nest is placed on the ground or low down in among the moss on some boulder or old stump and is very hard to find. I found one beautiful cup-shaped nest fixed in a fork of a fallen branch but this type of nest is quite abnormal. The eggs number four and are pure white, generally fairly glossy, in shape being rather pointed, broad ovals. Fifty eggs average 15·7 × 11·9 mm.: maxima **16·2 × 12·0** and 15·2 × **12·2** mm.; minima **14·1 × 10·5** mm.

The eggs of this species are the most fragile and least glossy of the eggs of this genus.

Habits. The Grey-headed Warbler is confined entirely during Summer to dense forests, either Evergreen or Pine and Fir, but in Winter may be found often in bamboo-jungle and in the secondary growth which grows up in deserted cultivation. It is a lively, cheerful, little bird, catching insects both on the wing and among the branches of trees at all heights from the ground. It has a pretty trilling little song and has a habit of constantly spreading its tail-feathers to show the white of the inner webs. In the breeding-season it accompanies this action with a puffing out of all the body-feathers, drooping and shivering its wings at the same time. It descends to the foot-hills and the adjacent plains in Winter, at which season it is found all over Assam.

(892) Seicercus xanthoschistus albosuperciliaris.

THE KASHMIR GREY-HEADED WARBLER.

Abrornis albosuperciliaris Jerdon (Adams, B. of Cashmere, P. Z. S., 1859, p. 182), B. of India, ii, p. 202 (1863) (Kashmir).
Cryptolopha xanthoschista. Blanf. & Oates, i, p. 425.

Vernacular names. None recorded.

Description. Similar to the last bird but much paler, the sides of the head are grey-brown instead of blackish-brown, and the whole upper surface, wings and tail are paler both on the grey and on the green parts.

Colours of soft parts as in the last bird.

Measurements. Total length about 105 to 110 mm.; wing 53 to 59 mm.; tail 43 to 46 mm.; tarsus about 19 mm.; culmen 9·5 to 10·5 mn.

Distribution. From Garhwal and possibly the extreme West of Nepal to the extreme N.W. Frontier, Baluchistan, Afghanistan, and Ladak.

Nidification. Similar to that of the preceding race, but it is an earlier breeder, commencing to build in the end of March. The nests only differ in their lining, which consists of, first, goats' hair

or some similar material, and then wool. The eggs only differ in being larger and broader, averaging for fifty eggs 15·9 × 12·5 mm.: maxima **17·0 × 13·3** mm.; minima **14·9 × 12·0** mm. In Kashmir and the Simla States they breed between 5,000 and 8,000 feet, but in Garhwal Mr. S. L. Whymper found them breeding higher still.

Habits. Those of the preceding bird, but wandering farther into the plains' districts in Winter. It is common in the North-West Provinces and Punjab, and also wanders as far as the South of the United Provinces.

(893) Seicercus poliogenys.

THE GREY-CHEEKED FLYCATCHER-WARBLER.

Culicipeta poliogenys Blyth, J. A. S. B., xvi, p. 441 (1847) (Darjiling).
Cryptolopha poliogenys. Blanf. & Oates, i, p. 426.

Vernacular names. None recorded.

Description. A ring nearly round the eye white; forehead, crown, nape and directly round the ring blackish-ashy; a slightly paler coronal streak; lores, sides of head and neck dark grey, mottled with blackish; lower cheeks and chin pale grey; back to tail-coverts yellowish olive-green; wings brown, edged narrowly with olive-green and with a band of yellow formed by the tips of the greater coverts; tail brown, the three outer pairs of feathers almost wholly white on the inner webs; lower plumage and axillaries bright yellow.

Colours of soft parts. Iris dark brown; upper mandible dark brown, lower mandible yellow or horny-yellow; legs and feet pale yellowish brown.

Measurements. Total length about 115 mm.; wing 50 to 55 mm.; tail 40 to 42 mm.; tarsus 18 mm.; culmen 9 mm.

Distribution. Nepal to the extreme East of Assam, North and South of the Brahmaputra, Manipur, Yunnan.

Nidification. This Flycatcher-Warbler breeds during May and June between 4,000 and 8,000 feet both in Evergreen and in Pine forests, though it seems to prefer the former. The nest is typical of the genus, a green ball of moss, but in this species the lining is of moss-scraps and moss-roots worked into a sort of felt, sometimes an inch or more thick. It is nearly always placed on the ground, though a few are built against rocks and trees. The eggs, four in number, are white, more glossy than most and are rather broad ovals in shape. Forty eggs average 15·8 × 12·5 mm.: maxima **18·0 × 12·3** and 16·3 × **13·0** mm.; minima **15·0 × 11·2** mm.

Habits. Those of the genus. It is found principally between 3,500 and 8,000 feet and is very sedentary, moving very little with the seasons and not wandering into the Plains like most of the other Flycatcher-Warblers in Winter.

Nidification. The Black-browed Flycatcher-Warbler breeds in Assam from early April to the end of May, making a nest very similar to that of *Seicercus affinis*, but dispensing with the soft inner lining of vegetable-silk or cotton. It is nearly always placed on the ground and only exceptionally on dead trees and, even then, always quite close to the ground and carefully concealed. The eggs cannot be distinguished from those of the last bird but average a good deal larger. Forty eggs average 16·1 × 12·3 mm.: maxima 16·7 × 13·1 mm.; minima 15·9 × 11·8 mm.

In Assam it breeds from 4,500 to 7,000 feet, but in Sikkim Mr. Osmaston found it breeding in July at 6,500 feet, and Mr. H. Stevens thinks it breeds up to at least 9,000 feet.

Habits. Similar to those of the preceding species.

(890) Seicercus burkii tephrocephalus.

ANDERSON'S FLYCATCHER-WARBLER.

Culicipeta tephrocephalus Anderson, P. Z. S., 1871, p. 213 (Bhamo).
Cryptolopha tephrocephala. Blanf. & Oates, i, p. 423.

Vernacular names. None recorded.

Description. Very close in general appearance to *S. affinis* but with the yellow eye-ring of *S. b. burkii*; the underparts also are similar to those of *S. b. burkii*.

Colours of soft parts as in the last.

Measurements. Total length about 115 mm.; wing 51 to 58 mm.; tail 42 to 44 mm.; tarsus about 18 mm.; culmen about 11 mm.

Distribution. Hills of Burma from Chin Hills to Shan States, the Southern limits are not known.

Nidification. Capt. F. E. W. Venning found this bird breeding at Haka, Chin Hills, in May, and Col. H. H. Harington obtained nests and eggs in the Bhamo Hills in the same month. The nest differs from that of *S. b. burkii* in being outwardly composed principally of coarse grass; the lining is of moss and down, as it is in the nest of that bird and the sites selected are similar, but the ground is more often covered with dead grass and bracken than with moss.

It apparently breeds between 4,000 and 7,000 feet.

The eggs are undistinguishable from those of *S. b. burkii*.

Habits are those of the species.

Seicercus xanthoschistus.

Hodgson's description of this bird is from specimens from Nepal, whilst Brooks describes *Cryptolopha* (= *Seicercus*) *jerdoni* as the Eastern representative of *xanthoschistus*. This latter bird is, however, the true Eastern form, and Brooks compared his specimens with Kashmir birds instead of Nepal ones as he should

have done. His name *jerdoni* therefore becomes merely a synonym of *xanthoschistus*. The next name applied to the Western race is that of *Abrornis albosuperciliaris* of Adams, used in his "*List of the Birds of Kashmir*," P. Z. S. 1859, p. 182, and applied to this form by Jerdon in his 'Birds of India,' ii, p. 202, and sufficiently described therein. The Eastern form will therefore bear Hodgson's name *Seicercus xanthoschistus xanthoschistus*, whilst the Western form must be called *S. x. albosuperciliaris*.

Key to Subspecies.

A Darker everywhere; cheeks blackish brown ..... *S. x. xanthoschistus*, p. 489.
B. Paler everywhere; cheeks grey-brown *S. x. albosuperciliaris*, p. 490.

(891) Seicercus xanthoschistus xanthoschistus.

THE GREY-HEADED WARBLER.

Phyllopneuste xanthoschistos Hodgs., Gray, Cat. B. & M. Nepal and Tibet, p. 151 (1846) (Nepal).
Cryptolopha jerdoni. Blanf. & Oates, ii, p. 425.

Vernacular names. *Inshushia* (Kacha Naga).

Description. Forehead, crown, nape, mantle and back ashy-grey, the centre of the crown paler and the sides very distinctly darker, almost blackish brown; scapulars, rump and upper tail-coverts yellowish olive-green; tail brown edged with green and with the inner webs of the two outer tail-feathers white; a white supercilium from the nostrils to the nape; lores and behind the eye blackish brown; edges of the eyelids, above and below, white; sides of the head and neck grey; below from chin to vent bright yellow.

Colours of soft parts. Iris dark brown; bill above dark horny-brown, below yellow or horny-yellow; legs horny-yellow, yellowish-fleshy or, according to Oates, plumbeous, soles yellow, claws horny-brown.

Measurements. Total length about 100 mm.; wing 45 to 54 mm., generally under 53 mm.; tail 34 to 41 mm.; tarsus about 19 mm.; culmen 9 to 10 mm.

Distribution. Nepal, East to the extreme East of Assam, both North and South of the Brahmaputra and the Chin Hills, where it has been obtained in the higher ranges about Mount Victoria.

Nidification. This pretty little Warbler breeds in the Assam Hills in April, May and June, occasionally having a second brood in July–August. Over most of its range it breeds between 3,500 and 6,006 feet but in the Lakhimpur District it breeds at about 1,000 feet upwards. In this corner of Assam, doubtless due to the nearness of the snowy ranges on either side of the valley, the avifauna at 1,000 feet is much the same as it is elsewhere at 4,000 feet or even higher. The nest is a lovely little ball of vivid

(894) Seicercus castaneoceps castaneoceps.

THE CHESTNUT-HEADED FLYCATCHER-WARBLER.

Abrornis castaneoceps Gray, Cat. M. & B. Nepal, pp. 66, 152 (1846) (Nepal).
Cryptolopha castaneiceps. Blanf. & Oates, i, p. 427.

Vernacular names. None recorded.

Description. Forehead and crown bright chestnut; lateral band of black, commencing above the eye, where it is much suffused with chestnut and broadening on the nape; between these bands on the nape and edging it on either side, whitish; a ring round the eye white; next this ring blackish; lores and sides of head and neck slaty-grey; back and scapulars olive-green, greyish on upper back; rump and upper tail-coverts bright yellow; tail dark brown, edged with greenish and the two outer pairs of feathers largely white on the inner web; wings brown edged with greenish and the coverts tipped with yellow, forming two wing-bars; chin, throat and breast grey, fading to white on the centre of abdomen; flanks, sides of abdomen, vent and under tail-coverts bright yellow.

Colours of soft parts. Iris dark brown; bill above bright dark brown, below yellow; legs and feet pale horny-brown or yellowish brown; claws darker; "soles greenish yellow" (*Scully*).

Measurements. Total length about 100 mm.; wing 47 to 53 mm.; tail 36 to 40 mm.; tarsus about 17 mm.; culmen 8 mm.

Distribution. Nepal, Sikkim, Assam, Manipur, Chin and Kachin Hills, North and South Shan States.

Nidification. Quite typical of the genus. The nest is the usual domed affair of green moss placed on the ground, but the lining is always of the softest vegetable-cotton and very thick. They breed in April, May and June between 3,000 and 8,000 feet laying four white eggs, well glossed and with a stout texture. Fifty eggs average 14·6 × 11·6 mm.: maxima **16·0** × 12·0 and 15·4 × **12·2** mm.; minima **13·6** × 12·0 and 13·8 × **10·9** mm.

Habits. Those of the genus.

(895) Seicercus cantator.

TICKELL'S FLYCATCHER-WARBLER.

Motacilla cantator Tick., J. A. S. B., ii, p. 576 (1833) (Borabhum, Bengal).
Cryptolopha cantator. Blanf. & Oates, i, p. 427.
Cryptolopha fulviventris. Blanf. & Oates, i, p. 428.

Vernacular names. None recorded.

Description. A median coronal streak of olive-yellow, reaching to nape, on which it is almost pure yellow; forehead and broad lateral coronal bands brownish black; a line through the eye dark brown; lores, supercilium, ear-coverts, cheeks, chin, sides of neck,



SEICERCUS CASTANEOCEPS CASTANEOCEPS.
The Chestnut-headed Flycatcher-Warbler.
⅔ life size.

throat and upper breast bright yellow; upper plumage rather light olive-green; wings brown edged with green and greater coverts tipped pale yellow, forming a wing-bar; tail brown, the feathers edged green and all but the centre pair inwardly tipped with pale yellowish; lower breast and centre of the abdomen white, often with a tinge of pale lemon-yellow; flanks and sides of abdomen pale grey; vent and under tail-coverts bright pale yellow.

Colours of soft parts. Iris hazel to dark brown; upper mandible light horny-brown, lower mandible pale fleshy- or wax-yellow; legs and feet fleshy-yellow or pale horny-yellow.

Measurements. Total length about 100 mm.; wing 53 to 57 mm.; tail 37 to 40 mm.; tarsus about 17 mm.; culmen about 9 mm.

Distribution. Sikkim to Assam and Chin Hills, Manipur. The type was obtained in Bengal, in the district of Borabhum, where it is spoken of as common; it has also been obtained by Wardlaw Ramsay in the Karen Hills.

Godwin-Austen's type of *C. fulviventer* appears to be nothing but this bird, from which the carbolic acid has taken out all the yellow, except for traces on the wing-quills, chin and coronal streak.

Nidification. Exactly the same as that of the preceding bird in every way. The birds breed from quite early in April throughout May and rarely in June. Fifty eggs average 14·5×11·9 mm.: maxima 15·5×12·3 and 14·9×12·7 mm.; minima 13·1×10·8 mm.

Habits. Unlike the last bird this species is very common throughout the Plains of Assam and Bengal and even Behar in Winter. At this season it deserts the heavier evergreen forest and is found in thin deciduous forest, orchards and occasionally in compounds and gardens. It is a very lively little bird, not only spreading its tail like other birds of the genus but flicking it upwards like some of the species of *Abrornis* do.

Genus **ABRORNIS.**

Abrornis Hodgs., in Gray's Zool. Misc., p. 82 (1844).

Type, *Abrornis schisticeps* Oates, Fauna B. I., Aves, i, p. 429.

The genus *Abrornis* differs from *Seicercus* only in having ten tail-feathers instead of twelve. It is curious that this difference in structure is accompanied by a remarkable difference in the nidification also.

Key to Species.

A. Back and scapulars greenish or yellowish.
  a. Chin and throat white, with no black bases. *A. superciliaris*, p. 494.
  b. Chin and throat bright yellow..... *A. schisticeps*, p. 496.

c. Chin and throat white, with black bases to the feathers..... *A albogularis*, p. 498.
B. Back and scapulars ashy-grey..... *A. flavogularis*, p. 499.

Abrornis superciliaris.

Key to Subspecies.

A. Above yellowish green.
a. Crown dull yellowish green..... *A. s. superciliaris*, p. 494.
b. Whole crown brownish green ..... *A. s. salwinensis*, p. 495.
B. Above much darker olive-green ..... *A. s. schwaneri*, p. 495.

(896) Abrornis superciliaris superciliaris.

THE YELLOW-BELLIED FLYCATCHER-WARBLER.

Abrornis superciliaris Tickell, J. A. S. B., xxviii, p. 414 (1859) (Himalayas, now restricted to Sikkim); Blanf. & Oates, i, p. 429.

Vernacular names. None recorded.

Description. Lores and behind the eye dark brown; a broad white supercilium from the nostrils to the nape; forehead brownish grey changing to oily yellow-green on the crown and remainder of upper plumage; wing-coverts brown edged with the colour of the back; quills blackish edged narrowly with pale olive-green; tail brown, edged outwardly with olive-green and inwardly with cinnamon; ear-coverts and cheeks mottled dark and pale grey; chin, throat and upper breast silky-white; remainder of lower plumage bright yellow.

Colours of soft parts. Iris dark brown; bill dark horny-brown above and at the tip, yellowish plumbeous on the base of the lower mandible; feet fleshy-yellow.

Measurements. Total length about 110 mm.; wing 46 to 52 mm.; tail 42 to 43 mm.; tarsus about 18 mm.; culmen 11 to 12 mm.

Distribution. Sikkim to Eastern Assam, north of the Brahmaputra.

Nidification. Gammie took a nest and three eggs of this bird in Sikkim at a little under 2,000 feet elevation. The nest of bamboo-leaves and pine-roots was placed inside a bamboo resting on one of the nodes, above which someone had cut a hole in the bamboo. The eggs were pinky-white, densely freckled at the large end and less so elsewhere with reddish brown and purple. They were taken on the 15th June, and one egg measured 15·5 × 10·9 mm.

Habits. This little Flycatcher-Warbler is found between the foot-hills and about 4,000 feet elevation, wandering into the plains of Bengal and Assam in Winter. It keeps very much to thin forest, secondary growth and bamboo-jungle, and is very partial to the banks of tiny streams. It is a lively, active little bird,

with a sweet, though very shrill little song. It appears to catch its insect-food almost entirely on the wing.

(897) Abrornis superciliaris salwinensis.

THE BURMESE YELLOW-BELLIED FLYCATCHER-WARBLER.

Abrornis superciliaris salwinensis Stuart Baker, Bull. B. O. C., xliv, p. 62 (1924) (Salween).

Vernacular names. *Daotisha mini* (Cachari).

Description. Differs from *A. s. superciliaris* in having the whole crown brownish grey and the upper parts a trifle darker, more green, less yellow.

Colours of soft parts as in the preceding bird.

Measurements. Wing 44 to 51 mm.; tail 39 to 42 mm.; culmen about 11 mm.

Distribution. Hills of Assam, South of the Brahmaputra, all Burma to Yunnan, and south to the northern portions of Tenasserim; Northern Siam.

Nidification. This race of Yellow-bellied Flycatcher breeds from about 1,000 feet, or lower at Margherita, up to some 5,500 feet during April, May and early June. The nest is nearly always placed in a dead bamboo, very rarely in a hole in a small branch of a tree; it is made of any dry material such as bamboo-leaves, bamboo-fibre, other leaves and roots, over which is always placed a pad of felted green moss, from one to six inches deep. The eggs vary from three to five, and are of two types, one white, boldly spotted everywhere with reddish brown, the other pale pink, the whole surface covered with minute freckles of darker brick-pink, so closely that they appear to be unicoloured glossy pink eggs. Intermediate types occur only seldom but in the pink eggs a ring of darker tint at the larger end is not rare. Thirty eggs average 13·2 × 11·5 mm.: maxima **16·3** × 11·5 and 16·0 × **12·2** mm.; minima **14·5** × 11·5 and 15·0 × **11·1** mm.

Habits. This is a very common little bird in the Assam Hills, wandering well out into the plains in Winter and being found up to 6,000 feet in Summer. It is a fascinating little bird to watch, very confiding and never still except when uttering its pleasing little song. It catches its insect-food almost entirely on the wing, looking much like a butterfly as it flutters in the air.

(898) Abrornis superciliaris schwaneri.

THE BORNEAN YELLOW-BELLIED FLYCATCHER-WARBLER.

Abrornis schwaneri Blyth, ex Temm. MS., p. 169 (1870) (Banjermassing, Borneo).

Vernacular names. None recorded.

Description. Very much darker above than either of the two preceding races. Whole crown dark brownish olive, and the upper plumage dull olive-green rather than yellow-green.

Colours of soft parts. Iris dark brown; bill black, bluish at base of lower mandible; legs and feet greenish yellow.

Measurements. Wing 51 to 56 mm.; tail 37 to 44 mm.; tarsus about 19 mm.; culmen about 10 to 11 mm.

Distribution. Southern Peninsula, Burma and Siam, Malay States, Borneo and Sumatra.

Nidification. In March 1878 Col. T. C. Bingham took a nest of this Warbler in Tenasserim. It was built of fibres inside a bamboo which had been cut down but left standing against the clump; the entrance was merely the irregular hole made by the chance cut of the *dao* by some one in cutting the bamboo down. It contained three eggs, pinkish white with pinkish-claret spots, and measuring ·57 × ·42, ·59 × ·42 and ·59 × ·44 mm.

Habits. Similar to those of the preceding bird. During the breeding-season it keeps much to forest and bamboo-jungle but in Winter may be seen in any well-wooded country.

Abrornis schisticeps.

Key to Subspecies.

A. Yellow of throat extending to the breast. . *A. s. schisticeps*, p. 496.
B. Yellow not extending to the breast.
  a. Breast grey, contrasting with throat.... *A. s. ripponi*, p. 497.
  b. Breast white, not contrasting with throat *A. s. flavimentalis*, p. 497.

(899) Abrornis schisticeps schisticeps.

THE BLACK-FACED FLYCATCHER-WARBLER.

Culicipeta schisticeps Hodgs., Gray, Cat. M. & B. Nepal, p. 67 (1846) (Nepal).
Abrornis schisticeps. Blanf. & Oates, i, p. 430.

Vernacular names. None recorded.

Description. Lores, round the eye and a line across the forehead black; forehead above this black line and broad supercilium to the nape bright deep yellow; crown, nape, hind neck and upper back slaty grey-blue; upper plumage and visible wing-coverts olive-green, rump brighter and more yellow; wing-quills dark brown, edged with green; tail brown, the feathers edged with green, the two outermost pairs white on the inner webs; chin, throat, upper breast, flanks and under tail-coverts bright yellow, paling to white on the centre of the abdomen and vent.

Colours of soft parts. Iris dark brown; bill dark horny above, pale below; legs and feet pale yellowish brown.

Measurements. Total length about 100 to 105 mm.; wing

46 to 48 mm.; tail 40 to 42 mm.; tarsus about 17 mm.; culmen 9 to 10 mm.

The young bird is very pale, but not conspicuously brighter.

Distribution. Nepal, Sikkim and Assam, North of the Brahmaputra.

Nidification. Gammie obtained a nest of this species in Sikkim, at about 5,500 feet, on the 26th May. The nest, which consisted merely of a pad of dead bamboo-leaves, was placed in a natural hole, about five feet from the ground, in a small tree standing in an open space in forest. It contained five eggs, dull pinkish white in ground-colour profusely speckled and blotched with reddish. The five eggs varied in length between 14·2 and 14·5 mm., and in breadth between 10·4 and 10·7 mm.

Habits. Those of the genus but, perhaps, keeping more to forest or to thick secondary growth mixed with bamboo-jungle. Like the other birds of this genus it has a very sweet little song.

(900) Abrornis schisticeps ripponi.

SHARPE'S FLYCATCHER-WARBLER.

Cryptolopha ripponi Sharpe, Bull. B. O. C., xiii, p. 11 (1902) (Gyi-dzin-Schan, Yunnan).

Vernacular names. None recorded.

Description. Yellow of throat well-defined and not extending to the breast, which appears always to be more grey, sharply contrasting with the yellow throat; the remainder of the lower parts are white or greyish white, rarely suffused with a little yellow.

Colours of soft parts as in the preceding bird.

Measurements. Wing 50 to 51 mm.; tail 44 to 46 mm.; tarsus about 17 mm.; culmen 7 to 8 mm.

Distribution. Yunnan and Shan States.

Nidification and **Habits.** Nothing recorded.

(901) Abrornis schisticeps flavimentalis.

THE CHIN HILLS BLACK-FACED FLYCATCHER-WARBLER.

Abrornis schisticeps flavimentalis Stuart Baker, Bull. B. O. C., xliv, p. 63 (1924) (Mt. Victoria).

Vernacular names. None recorded.

Description. Similar to *A. s. schisticeps*, but with the yellow much paler and confined to the chin and throat, merely showing as a trace on the breast and flanks.

Colours of soft parts as in *A. s. schisticeps*.

Measurements. Wing 46 to 48 mm.; tail 40 to 41 mm.; tarsus about 17 mm.; culmen 7 to 8 mm.

Distribution. Hills of Assam, South of the Brahmaputra, Manipur and Chin Hills.

Nidification. The only nest I have seen of this Warbler was placed in a small bamboo, one of several which had been cut down to repair a bridge and then left nearly upright against the clump. The nest was made of roots and fibres resting on one of the nodes and above this was a well-matted pad of moss, upon which lay four eggs. The entrance was a small cut made in the bamboo about a foot above the nest, just big enough to permit the bird to enter. The eggs were exactly like those taken by Gammie of *A. s. schisticeps* and varied in size between 15·4 × 11·3 and 15·1 × 11·1 mm. They were taken on the 1st of May at about 3,000 feet elevation.

Habits. This Flycatcher-Warbler, though by no means shy, keeps much to open glades and river-sides in deep forest, or to bamboo-jungle with plentiful undergrowth. It is also a much more silent bird than most species of this genus. It thus escapes observation more than they do and probably appears to be more rare than it really is.

(902) Abrornis albogularis albogularis.

THE WHITE-THROATED FLYCATCHER-WARBLER.

Abrornis albogularis Moore, P. Z. S., 1854, p. 106 (Nepal); Blanf. & Oates, i, p. 430.

Vernacular names. *Daotisha mini* (Cachari).

Description. Forehead, lores, sides of the head and broad supercilia to the nape light chestnut; sides of the crown above the supercilia black, centre of the crown and nape pale rufous-brown; upper plumage and wing-coverts olive-green; rump yellowish white; wing-quills and tail-feathers brown, edged with green; chin and throat white, the bases of the feathers black and showing through; upper breast and flanks, axillaries, under wing-coverts and under tail-coverts yellow; rest of underparts pure white.

Colours of soft parts. Iris deep brown or black; bill tan-brown, rather darker above; legs and feet fleshy-tan.

Measurements. Total length under 100 mm.; wing 43 to 47 mm.; tail 36 to 40 mm.; tarsus about 16 mm.; culmen 7 to 8 mm.

Distribution. Nepal, Sikkim, the whole of Assam, Manipur and Chin Hills.

Nidification. In Sikkim this Warbler breeds in July but in the Hills of Assam most eggs are laid in April and early May.

They breed from the level of the foot-hills up to nearly 6,000 feet but most numerously between 2,000 and 4,000 feet. Like the other birds of this genus, they place their nests almost invariably in dead bamboos, the nests being merely pads of moss on the top of a few fibres, roots or leaves. As a rule, quite a small bamboo is selected, one more than three inches wide being exceptional, whilst the most popular site seems to be quite thin forest on the extreme edge of the denser kind. At other times little patches of thin scrub and bamboo-jungle are selected and, occasionally, even bamboo-clumps quite in the open. The eggs number three to five and show the same range of variation as the eggs of *A. superciliaris*. Thirty eggs average 14·4 × 11·5 mm.: maxima 15·2 × 12·0 mm.; minima 13·3 × 10·9 and 13·7 × 10·8 mm.

Habits. Much the same as those of the rest of the genus, though this species seems to prefer scrub-jungle and bamboos to forest, spending much of its time in comparatively open country. I have seen it high up in big trees but, normally, it keeps principally to the lower growths.

(903) Abrornis flavogularis.

THE YELLOW-THROATED FLYCATCHER-WARBLER.

Abrornis flavogularis Godw.-Austen, J. A. S. B., xlvi, pt. ii, p. 44 (1877) (Sadiya); Blanf. & Oates, i, p. 431.

Vernacular names. None recorded.

Description. Lores blackish; a supercilium from the forehead to the nape white; forehead to crown dark ashy-brown, changing to ashy-grey on remainder of upper plumage; wings dark brown, edged with ashy olive-green; tail brown, the two outer white on the inner webs and the next pair also edged with white; sides of head mottled grey and white; chin and upper throat yellow; remainder of lower plumage greyish white.

Colours of soft parts. Bill "dark above, orange below" (*Godw.-Austen*).

Measurements. Wing 48 mm.; tail 36 mm.; tarsus 19 mm.; culmen 9 mm.

Distribution. One specimen only known from Sadiya.

Nidification and **Habits.** Nothing recorded.

Genus TICKELLIA.

Tickellia Jerdon & Blyth, P. Z. S., 1861, p. 199.

Type, *T. hodgsoni* Moore.

This genus contains a single species only, similar to *Abrornis*, but with a much bigger, blunter bill. The hairs over the bill are also of extraordinary length, extending beyond the tip.

(904) Tickellia hodgsoni.

THE BROAD-BILLED FLYCATCHER-WARBLER.

Abrornis hodgsoni Moore, in Horsf. & M., Cat., i. p. 412 (1854) (Sikkim).
Tickellia hodgsoni. Blanf. & Oates, i, p. 432.

Vernacular names. None recorded.

Description. Lores and sides of the head dark ashy-grey; a faint short supercilium pale grey; forehead and crown chestnut; upper plumage and visible portions of wings olive-green, tinged with yellow on the rump; tail dark brown edged with olive-green, the two outermost tail-feathers white on the inner webs; chin, throat and upper breast grey; remainder of lower plumage bright yellow.

Colours of soft parts. Iris brown; bill horny-brown, paler and more yellow at the base; legs pale yellow or fleshy-horny.



Fig. 81.—Bill of *T. hodgsoni.*

Measurements. Total length about 100 mm.; wing 45 to 50 mm.; tail 39 to 44 mm.; tarsus about 19 mm.; culmen 11 to 12 mm.

Distribution. Sikkim.

Nidification. A nest taken by Mr. B. B. Osmaston on the 6th June at an elevation of 6,800 feet in Sikkim is said to have been "roughly egg-shaped with a hole 1½" in diameter near the top, and measures 6" in height by 3" in width. It is composed entirely of dry leaves, chiefly bamboo, with a lining of black rhizomorph and, lastly, inside the latter, a second lining of soft dry bamboo-leaf." The eggs, three in number, were "pale claret spotted, speckled and streaked, chiefly at the larger end, with darker claret markings." They measured ·63" × ·47" (=16·0 × 11·9 mm.). The nest was placed in a sapling, about 7 feet from the ground, in lofty forest.

Habits. This little Warbler is not migratory, being found throughout the year between 6,000 and 9,000 feet. Its note is a "single long-drawn, very shrill whistle, followed, after an interval of ten seconds or so, by two notes, the second of which is the lower of the two." It is a frequenter of deep evergreen forest and very little is known of its habits.

Genus SCOTOCERCA.

Scotocerca Sundev., Meth. Av. Tent., p. 7 (1872).

Type, *S. inquieta*, Cretz.

The genus *Scotocerca* has two moults, the Spring moult being only a partial one. In general appearance the birds are very like small specimens of the genus *Suya* but the latter has a very complete Spring moult and has no long hairs overhanging the nostrils, a conspicuous feature in *Scotocerca*. The tail is slightly graduated and a little longer than the wing; the tarsi are long and, for a Warbler, rather strong.

Scotocerca inquieta.

Malurus inquietus Cretzschm., in Rüpp., Atlas Vög., p. 55, pl. 36, fig. 6 (1826).

Type-locality: Arabia.

(905) Scotocerca inquieta striata.

THE STREAKED SCRUB-WARBLER.

Melizophilus striatus Brooks, Ibis, 1872, p. 180 (Punjab, India).
Scotocerca inquieta. Blanf. & Oates, i, p. 432.

Vernacular names. None recorded.

Description. A narrow supercilium from the nostril to the nape, ear-coverts, cheeks and lower part of lores fulvous-pink; a narrow line through the eye blackish brown; upper plumage and exposed parts of wings pale greyish brown, sometimes, especially on the wings, tinged with fulvous; the crown, nape and hind neck streaked with dark brown; closed parts of wings dark brown; tail dark brown, almost black at the tip and paler brown at the base, two or three outermost pairs of feathers with white tips; below greyish white, the sides of the neck, breast and flanks suffused in varying degree with fulvous; the chin and breast are streaked with dark brown; under tail-coverts darker brown.

Colours of soft parts. Iris bright hazel; bill dark horny-brown above, pale yellowish-horny below; legs and feet pale fleshy-yellow.

Measurements. Wing 49 to 52 mm.; tail 43 to 50 mm.; tarsus about 18 mm.; culmen 9 to 10 mm.

Distribution. South and East Persia, Baluchistan, Afghanistan and North-West India, to the Indus.

Nidification. This little Warbler breeds freely throughout the North-West Frontier from the plains up to about 4,000 feet, affecting stony bare hill-sides and rocky plains, where it breeds in the stunted thorny bushes quite close to the ground. The nest is domed and is made of grass-stems lined with grass-seed down and sometimes, *fide* Barnes, with feathers. The eggs number

four to six and are white or pinky white, freckled with bright reddish, dense in a ring or cap at the larger end and generally sparse elsewhere. They measure about 16·0×12·0 mm. The breeding-season is during February and March.

Habits. An inhabitant of the barest, bleakest hills and plains, so long as they afford a few thorny bushes and a little grass as cover. They are restless active little birds, ever on the move and flitting from bush to bush or running like mice from one scrap of cover to another. The male is said to have a sweet little song. They are resident wherever found.

Genus **NEORNIS**.

Neornis Blyth, J. A. S. B., xiv, p. 590 (1845).

Type, *N. flavolivaceus* Blyth.

The genus *Neornis*, as restricted by Oates, contains but one species, closely resembling *Horornis* in structure but nearer *Acanthopneuste* in coloration. From the latter it may be distinguished by its tail of only ten tail-feathers and from the former by the supplementary hairs which overhang the nostrils.

Neornis flavolivaceus.

Key to Subspecies.

A. Above paler and more green, below more yellow ..... *N. f. flavolivaceus*, p. 502.
B. Above darker and more brown, below less yellow ..... *N. f. intricatus*, p. 503.

(906) Neornis flavolivaceus flavolivaceus.

THE ABERRANT WARBLER.

Neornis flavolivacea Blyth, J. A. S. B., xiv, p. 590 (1845) (Nepal); Blanf. & Oates, i, p. 433 (part.).

Vernacular names. None recorded.

Description. A narrow supercilium from the nostrils to the nape yellow; lores and a line through the eye brown; upper plumage and exposed parts of the wings and tail dull olive-green; concealed parts of wings and tail brown; sides of the head mottled yellow and brown; lower plumage fulvous-yellow, darker and suffused with brown on the sides of the breast and flanks; axillaries and under wing-coverts pale lemon-yellow.

Colours of soft parts. Iris hazel; bill above horny-brown, below paler yellowish brown; legs and feet light yellowish brown.

Measurements. Total length about 105 mm.; wing 53 to 56 mm.; tail 48 to 56 mm.; tarsus about 22 mm.; culmen about 10 to 11 mm.

Young birds are much brighter and more yellow below than adults.

Distribution. Sutlej Valley to Nepal, Sikkim, Bhutan, Western Assam, North of the Brahmaputra, Garhwal and Kumaon.

Nidification. Mr. S. L. Whymper found this bird breeding in Kumaon at 10,000 feet, and Mr. B. B. Osmaston took nests in the Tons Valley at about 11,000 feet. The nests are described as being domed, made outwardly of dry grass with a lining first of dry leaves and then of feathers. They are placed in tufts of grass on hill-sides.

The eggs are rather long ovals, pale to deep terra-cotta in colour and they measure from 17·0×12·4 mm. to 18·5×13·1 mm. Mr. Whymper took his nests in August and Mr. Osmaston his in June.

Habits. Practically nothing on record. Stoliczka found this Warbler as low as 6,000 feet in the Sutlej Valley but farther west it seems never to be found much under 8,000 feet even in Winter. It is a resident bird but moves vertically to some extent with the seasons.

(907) Neornis flavolivaceus intricatus.

THE SHAN ABERRANT WARBLER.

Neornis flavolivaceus intricatus Hartert, Vög. Pal., i, p. 533 (1909) (Tai-pai-Schan).

Vernacular names. None recorded.

Description. Like *N. f. flavolivaceus* but darker above, less green and more brown; below much greyer with practically no yellow.

Colours of soft parts and **Measurements** as in the preceding bird. Wing 49 to 55 mm.

Distribution. Hills South of the Brahmaputra, Chin Hills to Shan States; there is one specimen in the British Museum collection from Thayetmyo in South Burma. Harington obtained it in the Kachin Hills.

Nidification. Col. H. H. Harington and Mr. F. Grant obtained the nests of the Shan Aberrant Warbler in the Bhamo Hills in May and June. Nests and eggs were described as like those of the preceding bird but the latter are all faintly marked at the larger end with a ring of deeper terra-cotta or chocolate composed of tiny confluent specks. They vary in size from 18·0×12·0 and 16·6×13·0 mm. to 16·1×11·8 mm.

Habits. Frequents thick scrub-cover or long grass like the preceding bird but is found both in Summer and Winter at lower elevations between 4,500 and 7,000 feet, apparently moving but little, even vertically, with the seasons. The little I saw of it in Assam showed it to be rather a skulker in among Daphne bushes in Pine-forest but I believe I also saw it in dense Rhododendron and Oak forest at about 6,000 feet. It has a loud shrill call, not unlike an extra loud note of the Willow-Warbler.

Mr. Osmaston describes its notes as a series of four long-drawn whistles, each higher than the last, followed by a quick series of up and down notes. It inhabits both forest and the thick growth of bamboo which is found above 9,000 feet in certain places.

(910) Horornis fortipes fortipes.

THE STRONG-FOOTED BUSH-WARBLER.

Horornis fortipes Hodgs., P. Z. S., 1845, p. 31 (Darjeeling); Blanf. & Oates, i, p. 435.

Vernacular names. *Daotisha gashim* (Cachari).

Description. Whole upper plumage and exposed parts of wings and tail dark rufous olive-brown, the wings and tail edged rather brighter and paler; a narrow supercilium to the nape buff; lores and a line through the eye brown; sides of the head and lower plumage buffish brown, paler on the chin and throat, and almost white on the centre of the abdomen; under wing-coverts white tinged with yellow.



Fig. 82.—Head and wing of *H. f. fortipes.*

Colours of soft parts. Iris dark brown; bill horny-brown, paler below; legs pale fleshy-brown to brown.

Measurements. Wing 50 to 57 mm.; tail 41 to 51 mm.; tarsus 21 to 22 mm.; culmen about 10 to 11 mm.

Young birds are brighter, more yellow-brown below.

Distribution. Garhwal, Nepal, Sikkim, Bhutan Duars, Assam, Manipur, Chin and Kachin Hills, Shan States and hills of Burma South to Karenni. There are also specimens in the British Museum from "N.W. India" and from Kashmir.

Nidification. The Strong-footed Bush-Warbler breeds in May and early June, sometimes having a second brood in July, between 3,000 and 7,000 feet. It makes a nest of old scraps of grass-blades and grass-stems very thickly lined with soft body-feathers of small birds. As a rule the nest is shaped like a very deep purse, the top edges somewhat drawn in, at other times it is domed or semi-domed and, occasionally, it is quite round and completely domed. It is usually placed low down in a small bush or tangle of raspberry and blackberry vines in either Pine or Evergreen forest. A Daphne bush is a very favourite site. The eggs number four or five and are in colour a deep rich chocolate, rather glossy and with a close but fragile texture.

Forty eggs average 17·3 × 13·4 mm.: maxima 18·0 × 13·9 mm.; minima 16·8 × 12·9 mm.

Habits. A very shy skulking little bird, keeping close to bushes, brambles and bracken but every now and then darting out like a Flycatcher at some passing insect. Most of its prey, however, it seeks among the leaves and brambles of the undergrowth and it is very active on its feet. In the breeding-season the cock-bird occasionally leaves its retreats and sings from the top of a low bush or one of the under branches of a small tree. Its ordinary call-note is a loud shrill treble note, each note on an ascending scale. It is a very poor flier for a Warbler and very loth to take wing when disturbed, generally flying for a few yards only and then scuttling away on its legs into the undergrowth.

(911) Horornis albiventris.

THE WHITE-BELLIED BUSH-WARBLER.

Neornis albiventer Godw.-Austen, J. A. S. B., xlv, pt. 2, p. 199 (1876) (Kashmir).
Horornis albiventris. Blanf. & Oates, i, p. 436.

Vernacular names. None recorded.

Description. "The whole upper plumage uniform umber-brown tinged with rufous, as are also the visible portions of the wings and tail; a short supercilium and the feathers round the eye grey; ear-coverts umber-brown; chin dull brown, each feather tipped with brown; throat purer white, with a subterminal dusky speck on each feather; middle of the abdomen whitish; remainder of the lower plumage, axillaries and under wing-coverts rich ochraceous brown."

Colours of soft parts. "Bill horny-brown above, pale beneath."

Measurements. "Length nearly 5; tail 2·2; wing 2·1; tarsus ·85; middle toe and claw ·8 inch."

Distribution. "This well-marked form occurs in the Manipur Valley, where the type-specimen was procured at Hengmai by Mr. W. Robert" (Oates, Avifauna, i, p. 436).

I cannot find this specimen anywhere in the British Museum collection and therefore quote Oates in full.

(912) Horornis pallidus pallidus.

THE PALE BUSH-WARBLER.

Horeites pallidus Brooks, J. A. S. B., xli, p. 78 (1872) (Kashmir).
Horornis pallidus. Blanf. & Oates, i, p. 436.

Vernacular names. None recorded.

Description. Upper plumage olive-brown, the wing- and tail-feathers edged with brighter, more rufous-brown; a supercilium

Genus HORORNIS.

Horornis Hodgs., P. Z. S., 1845, p. 31.

Type, *H. fortipes* (Hodgs.) Blyth.

The genus *Horornis* contains seven species of Indian birds of very dull coloration and very like one another.

Horornis has a bill about half as long as the head; the rictal bristles are strong and there are some supplementary hairs in front of them. These hairs, however, do not extend over the nostrils, and consist merely of the lengthened shafts of the frontal feathers. The wing is very short and rounded, the first primary being very large, the second, third and fourth graduated and the fourth falling just short of the fifth; the tail is about equal to the wing in length and slightly graduated; the tarsus is long and powerful and the hind toe and claw exceptionally so.

Key to Species.

A. Upper plumage entirely of one colour.
  a. Upper plumage tinged with rufous.
    a'. Under wing-coverts and axillaries yellowish.
      a''. Lower plumage yellowish ..... *H. acanthizoides*, p. 504.
      b''. Lower plumage buffish brown .. *H. fortipes*, p. 506.
    b'. Under wing-coverts and axillaries ochraceous brown ..... *H. albiventris*, p. 507.
  b. Upper plumage olive-brown, not rufous.
    c'. Under tail-coverts and flanks fulvous. *H. pallidus*, p. 507.
    d'. Under tail-coverts and flanks white suffused with brown ..... *H. pallidipes*, p. 508.
B. Crown differently coloured to back.
  c. Crown of head bright rufous-brown .. *H. major*, p. 510.
  d. Crown of head merely tinged with rufous ..... *H. cantans*, p. 510.

Horornis acanthizoides.

Key to Subspecies.

A. Above tinged with olive ..... *H. a. acanthizoides*, p. 504.
B. Above with no olive tinge..... *H. a. brunnescens*, p. 505.

(908) Horornis acanthizoides acanthizoides.

VERREAUX'S BUSH-WARBLER.

Abrornis acanthizoides Verr., Nouv. Arch. Mus. Paris, vi, Bull., p. 37 (1871) (Szechuan).

Vernacular names. None recorded.

Description. Upper plumage rufous-brown, tinged with olive; the edges of the wings and tail a brighter rufous; a broad supercilium buffy-yellow; lores and behind the eye dark brown; cheeks and ear-coverts mottled brown and yellowish; chin, throat and breast greyish buff suffused with yellow; flanks brownish buff, turning to yellow on the abdomen, vent and under tail-coverts; axillaries and under wing-coverts yellowish.

Colours of soft parts. Iris brown; bill horny-brown, the lower mandible fleshy-brown, tipped darker; legs and feet fleshy or yellowish brown.

Measurements. Total length about 100 mm.; wing 52 to 55 mm., ♂; 47 to 49 mm., ♀; tail 40 to 49 mm.; tarsus 21 to 22 mm.; culmen about 9 mm.

Young birds are much more yellow below.

Distribution. Tsin-ling Mountains, Szechuan, Fokhien, Shan States.

Nidification. La Touche found this Bush-Warbler breeding in Fokhien.

Habits. Similar to those of the next race.

(909) Horornis acanthizoides brunnescens.

HUME'S BUSH-WARBLER.

Horornis brunnescens Hume, Ibis, 1872, p. 109 (Darjeeling); Blanf. & Oates, i, p. 435.

Vernacular names. None recorded.

Description. Differs from *H. a. acanthizoides* only in being more rufous above with no olive tinge, and also in being less richly coloured below.

Colours of soft parts and **Measurements** as in the preceding race. Wing 50 to 54 mm.

Distribution. Nepal and Sikkim to Eastern Assam, both North and South of the Brahmaputra, Manipur and Lushai Hills.

Nidification. Mr. B. B. Osmaston describes eggs, supposed to be of this bird, as dark chestnut. These may be eggs of *Neornis*. Eggs taken by Mr. W. P. Masson and sent to me with the nest are, as one would have expected, just like others of the genus—chocolate eggs sometimes with darker marks showing faintly at the larger end. These were taken in June on the Singalila ridge above Darjeeling, at about 9,000 feet, above the nesting-area of *H. fortipes* and are probably correct. Eggs taken by Mr. H. Stevens agree with these. They measure between 15·8 × 12·9 and 18·2 × 13·5 mm.

The nests are described as very deep cups, practically domed, made of rather coarse grass-blades and densely lined with feathers. All were placed low down in small thick bushes in forest and were taken in June.

Habits. This is a bird of high elevations, being found between 7,000 and 11,000 feet in Summer, wandering down to 4,000 or 5,000 feet in Winter. Possibly it is only a Winter visitor to the South of the Brahmaputra but may breed on the higher ranges.

pale buffy-yellow, almost white; lores and a line through the eye dark brown; sides of the head mottled grey and pale brown; lower plumage dull greyish, the abdomen paler and tinged with yellow; the flanks and under tail-coverts fulvous-brown; axillaries and under wing-coverts pale yellowish white.

Colours of soft parts. Iris hazel to dark brown; bill horny-brown above, below fleshy-horny tipped darker; legs and feet pale fleshy or yellowish horny.

Measurements. Wing 55 to 58 mm.; tail 46 to 51 mm.; tarsus about 22 mm.; culmen about 9 to 10 mm.

Distribution. Throughout the N.W. Himalayas as far East as Garhwal. Hume's record of this bird from Shillong is probably due to *H. pallidipes* having been mistaken for it. In several years' stay in the Khasia Hills I never came across it, whereas *H. pallidipes* was not rare.

Nidification. The Pale Bush-Warbler breeds throughout the North-West Himalayas between 7,000 and 10,000 feet, possibly sometimes down as low as 5,000 feet, during May and June. The nest is domed and round in shape, very untidy and large for the size of the bird. It is made outwardly of coarse grasses, inwardly of finer grasses with a dense lining of feathers, and is invariably placed low down in thick bushes. The eggs are nearly always four in number and are, like those of other species of this genus, a deep chocolate in colour, sometimes rather paler with deeper mottling at the larger end. Twenty-three eggs average 17·3 × 13·1 mm.

Habits. In Summer found between 5,000 and 10,000 feet, in Winter it wanders down to some 3,000 feet. It keeps closely to dense cover and, although it is an active little bird, constantly on the move, it is difficult to watch. The notes consist of four or five very loud clear whistles rapidly repeated and very like in character those of *H. fortipes*. Davidson records hearing this bird at 3,000 feet in the Jhelum Valley; possibly this may have been *H. fortipes* but so accurate a field-naturalist is hardly likely to have been mistaken.

Horornis pallidipes.

Key to Subspecies.

A. Less richly coloured above and below .... *H. p. pallidipes*, p. 508.
B. More richly coloured above and below .... *H. p. osmastoni*, p. 509.

(913) Horornis pallidipes pallidipes.

BLANFORD'S BUSH-WARBLER.

Phylloscopus pallidipes Blanf., J. A. S. B., xli, 2, p. 162 (1872) (Sikkim).
Horornis pallidipes. Blanf. & Oates, i, p. 437 (part.).

Vernacular names. *Daotisha gashim* (Cachari).

Description. Whole upper plumage olive-brown; the feathers of the wing edged with slightly more rufous-brown; a pale buff supercilium from the nostrils to the nape; lores and a line behind the eye dark brown; sides of the head and ear-coverts fulvous; lower plumage dull white, suffused with brown on the sides of the neck, breast and flanks; under tail-coverts brownish white; under wing-coverts and axillaries white.

Colours of soft parts. Iris brown; bill pale horny, darker on the culmen; legs and feet yellowish white or fleshy-white.

Measurements. Total length about 115 mm.; wing 47 to 54 mm.; tail 40 to 49 mm.; tarsus about 20 mm.; culmen about 10 to 11 mm.

Distribution. Sikkim to Eastern Assam, North and South of the Brahmaputra; Manipur, Chin and Kachin Hills and Mountains of Burma as far South as Tounghoo. There is also a specimen from China in the British Museum collection, labelled "Macou, S. China."

Nidification. This bird breeds throughout its range between 4,000 and 7,000 feet during May and June and Mr. H. Stevens took its nest in the Rangbong Valley, Sikkim, at about 9,000 feet. The nest is like that of *H. pallidus*, but rather neater and smaller and sometimes deep cup-shaped rather than domed. The eggs number three or four and vary from purplish brick-colour with deeper markings in a cap or ring at the larger end to uniform deep purplish chocolate. Forty eggs average 17·1 × 13·1 mm.: maxima **18·2** × 13·1 and 17·3 × **14·0** mm.; minima **16·0** × **12·4** mm.

Habits. Those of the genus. In the Assam Hills I never came across this Bush-Warbler in the very hot humid valleys at a little over 3,000 feet, sometimes frequented by *H. fortipes* and it seemed almost entirely restricted to the forests near the peaks, which were not quite so dense underneath and were not so hot. At the same time in the intermediate areas both birds might sometimes be found quite close together.

(914) Horornis pallidipes osmastoni.

OSMASTON'S BUSH-WARBLER.

Horeites pallidipes osmastoni Hartert, Bull. B. O. C., xxi, p. 107 (1908) (Andamans).

Vernacular names. None recorded.

Description. Differs from Blanford's Bush-Warbler in being a darker, richer brown above, more rufous, less olive; the flanks and sides of the breast are washed with richer, more ochre brown, and the centre of the abdomen is a purer white.

Colours of soft parts as in the last bird.

Measurements. Wing 51 to 53 mm.; tail 36 to 37 mm.; tarsus about 21 mm.; culmen 12 mm.

outskirts of forest and is a confirmed skulker, though the male during the breeding-season sings constantly from the topmost twigs of bushes.

Genus HOREITES.

Horeites Hodgs., P. Z. S., 1845, p. 30.

Type, *H. brunnifrons* Hodgs.

The genus *Horeites* differs from *Horornis* in only one structural character, having no supplementary bristles, the feathers of the forehead being smooth; the rictal bristles, though present, are short and insignificant; the tail is graduated to a greater extent than in *Horornis*. As restricted it contains but the one species, *H. brunnifrons*, which is confined to the limits of this work.

Horeites brunnifrons.

Key to Subspecies.

A. Above rufous olive-brown, head chestnut-brown ..... *H. b. brunnifrons*, p. 512.
B. Above a trifle paler and brighter, crown distinctly lighter chestnut ..... *H. b. whistleri*, p. 513.
C. Above much darker, more olive, less rufous ..... *H. b. umbraticus*, p. 513.

(917) Horeites brunnifrons brunnifrons.

THE RUFOUS-CAPPED BUSH-WARBLER.

Orthotomus brunnifrons Hodgs., P. Z. S., 1845, p. 29 (Nepal).
Horeites brunneifrons. Blanf. & Oates, i, p. 440.

Vernacular names. *Lik-lik-pho* (Lepcha).

Description. Forehead, crown and nape chestnut-brown, shading into rufous olive-brown on the upper plumage and exposed wings and tail; supercilium pale buff; lores and a line behind the eye blackish; sides of the head and ear-coverts ashy-brown; chin, throat and breast grey, almost white in the centre; flanks darker grey, posteriorly shading into ochraceous on the vent, thighs and under tail-coverts; middle of the abdomen white; under wing-coverts and axillaries mottled brown and white.

Colours of soft parts. Iris hazel; bill above blackish, below fleshy-yellow; legs and feet fleshy-white, darker on the joints and toes.

Measurements. Total length about 115 mm.; wing 47 to 51 mm.; tail 37 to 46 mm.; tarsus about 20 mm.; culmen 9 to 10 mm.

Young birds have but little chestnut on the head and the underparts are very ochraceous.

Distribution. Nepal, Sikkim, Assam to the Chin Hills.

Nidification. The Rufous-capped Bush-Warbler breeds in Sikkim and South Tibet at elevations between 9,000 feet and 13,000 feet. Osmaston found it breeding near Darjeeling, Stevens took several nests on the Singalila Ridge and I have had nests and birds sent me from Northern Chambi. The breeding-season seems to be May, and the nest is very like that of *Horornis*, domed, oval in shape, made of grass, moss and lichen and lined with fine grass and feathers. It is placed on low bushes in forest or in scrub-jungle. The eggs number three to five and are bright terra-cotta, generally with darker markings forming a cap at the larger end. Twenty eggs average 17·8 × 12·9 mm.: maxima **18·0** × 12·8 and 17·0 × **13·3** mm.; minima **16·4** × 12·5 and 18·0 × **12·0** mm.

Habits. Mr. Osmaston says:—"It frequents the low scrub consisting of dwarf bamboo (grazed down), berberis, etc., in the more open portions of the Silver Fir and Rhododendron forest. It is a busy noisy little bird with a strange unmistakable call which it constantly repeats, consisting of a few ordinary chirping notes followed by a curious grating mouse-like sound, twice repeated and of a ventriloquistic character." It is as great a skulker as the genus *Horornis* and extremely active on its feet. In Winter it extends to the foot of the hills and the adjacent plains. Mr. H. Stevens found it common in the plains of Lakhimpur, North of the Brahmaputra, in January and December.

(918) Horeites brunnifrons whistleri.

THE SIMLA RUFOUS-CAPPED BUSH-WARBLER.

Horeites brunnifrons whistleri Ticehurst, Bull. B. O. C., xliv, p. 28 (1823) (Simla).

Vernacular names. None recorded.

Description. Similar to *H. b. brunnifrons* but paler and brighter above, especially on the crown; rather less rufous and more olive. In the plumage below I can seen no difference.

Colours of soft parts and **Measurements.** Wing 44 to 46 mm.; tail 37 to 39 mm.; tarsus about 19 mm.; culmen 9 to 10 mm.

Distribution. North-west Himalayas, from Pir Panjal to Garhwal.

Nidification. Not known.

Habits. Similar to those of the preceding form.

(919) Horeites brunnifrons umbraticus.

THE YUNNAN RUFOUS-CAPPED BUSH-WARBLER.

Horeites brunnifrons umbraticus Stuart Baker. Bull. B. O. C., xliv, p. 63 (1924) (Saweli-Salween Divide, Yunnan).

Vernacular names. None recorded.

Description. Similar to *H. b. brunnifrons* but very much darker above and decidedly less rufous on the back.

Colours of soft parts as in the other races.

Measurements. Wing 47 to 49 mm.; tail 24 to 40 mm.; tarsus about 19 mm.; culmen 9 to 10 mm.

Distribution. Yunnan. Colonel H. H. Harington obtained a form of *Horeites* breeding in the Shan States, which will assuredly be found to be of this race.

Nidification and **Habits.** Nothing recorded.

Genus **CETTIA.**

Cettia Bonaparte, Comp. List B. of Eur. & N. Am., p. 11 (1838).

Type, *Cettia cetti* Marm.

The genus *Cettia* differs from *Horeites* in having the tail less graduated. In this genus the bill is about half the length of the head, slender and pointed; the frontal feathers are short and smooth and there are no supplementary hairs or bristles in front of the rictus; the wing is short and rounded and the tarsi long and powerful.

Cettia cetti.

Sylvia cetti Marm., Mem. Acc. Torino, xxx, p. 254 (1820).

Type-locality: Provence.

(920) Cettia cetti cettioides.

THE EASTERN BUSH-WARBLER.

Cettia cettioides Hume, S. F., i, p. 194 (1873) (Sind).
Cettia orientalis. Blanf. & Oates, i, p. 441.

Vernacular names. None recorded.

Description. Upper plumage, wings and tail light rufous olive-brown, varying considerably in the amount of the rufous tinge; lores dusky, a short supercilium and round the eye fulvous-white; centre of chin, throat, breast and abdomen almost white; sides, flanks, vent and under tail-coverts greyish brown; axillaries and under wing-coverts greyish white, the centres darker and showing through.

Colours of soft parts. Iris brown; bill horny-brown above and blackish at the tip, paler and yellowish below; legs and feet horny-brown.

Measurements. Total length about 150 mm.; wing 64 to 73 mm.; tail 52 to 65 mm.; tarsus 25 to 26 mm.; culmen 11 to 12 mm. The Indian bird differs from *Cettia cetti cetti* in being a good deal bigger and much paler. Persian birds, generally accepted as being of this race, seem to be smaller and darker rufous above.

Distribution. Afghanistan, Baluchistan, Sind and North-West India, West of the Indus. Breeding in Turkestan and Kirghis Steppes to Eastern Persia.

Nidification. Very little recorded. The nest is a deep cup made of grasses and leaves of rushes, lined with finer grasses and placed in a thick bush close to the ground. The eggs are bright terra-cotta or brick-red. Four eggs measured by Jourdain average 20 × 14·5 mm.; four in my own collection average about 19·0 × 14·2 mm. Both nests were taken in May.

Habits. A frequenter of reeds and bushes in swampy land and keeping very closely to thick cover. Ticehurst obtained it in rushes in the Manchar Lake in Sind and says that he found it less of a skulker than *Locustella straminea* which inhabited the same rushy margin of the lake.

Genus **UROPHLEXIS.**

Urophlexis Stejneger, Proc. U.S. Nat. Mus., xv, p. 341 (1892).

Type, *U. squameiceps* Swinhoe.

The genus *Urophlexis* contains one Warbler, a Winter visitor to India, which is very close to the genera *Horeites* and *Cettia*, but is distinguishable at once by its very short tail, which hardly exceeds half the wing in length. The tail is well graduated, the tarsi and feet strong but the hind toe and claw not conspicuously so.

(921) Urophlexis squameiceps.

SWINHOE'S REED-WARBLER.

Tribura squameiceps Swinhoe, P. Z. S., 1863, p. 292 (Canton).
Urosphena squamiceps. Blanf. & Oates, i, p. 442.

Vernacular names. None recorded.

Description. The whole upper plumage, wings and tail rich hair-brown; the feathers of the crown rounded and with obsolete dark edges, giving a squamated appearance; a broad buffy-white supercilium from the nostrils to the nape; lores and a line through the eye deep chocolate-black; ear-coverts and cheeks mixed white, buff and dark brown; whole lower plumage pale buff, almost white on the chin, throat and centre of abdomen; under wing-coverts and axillaries brown and buff.

Colours of soft parts. Iris dark brown; bill above and at the tip dark horny-brown; base of lower mandible fleshy-yellow; legs and feet fleshy-white.

Measurements. Total length about 85 mm.; wing 52 to 56 mm.; tail 25 to 30 mm.; tarsus about 19 to 20 mm.; culmen about 10 to 11 mm.

Distribution. Summer—Eastern Siberia to Japan; Winter—China, Formosa, Hainan, Indo-Chinese countries to Burma.

Nidification. Nests taken by Alan Owston in Japan were deep cups or egg-shaped, made of grass-blades and strips of rushes, etc., placed low down in bushes in scrub-jungle. The eggs, five or six in number, are pinkish white to light pale pink, mottled or blotched all over with darker pinkish red or reddish brown, with secondary markings, hardly showing, of lavender or purple-grey. They vary in size from 15·4×13·0 to 17·3×14·0 mm. They breed on Mt. Fuji in May and June.

Habits. Mr. J. P. Cook found this bird common in the Eastern Pegu Yomas and so little is known about its habits that I quote his remarks in full:—"They frequent the edges of densely-forested streams, but are more partial to those where '*kaing*' grass grows. They feed mostly on the ground creeping about among the leaves in the thickest of scrub, but occasionally coming out into the sandy creeks, hunting for insects among the drift-wood. I ascertained that one bird I shot had been feeding on very small black beetles obtained in the sand. I found the birds singly and they are very hard to discover until they make their presence known by their note, a soft low 'chip chip.' They are by no means shy birds." (Bombay Nat. Hist. Soc. Journal, xxi, p. 1086, 1912.)

Genus **PHYLLERGATES.**

Phyllergates Sharpe, Cat. B. M., vii, p. 229.

Type, *P. cucullatus*, Temm., Java.

The genus *Phyllergates* contains two species of Warbler which extend from the Eastern Himalayas through Burma and the Indo-Chinese countries to Java, Sumatra, Borneo and the Philippines, being represented by subspecies varying in their different geographical areas.

Oates has shown that this Warbler cannot be placed with the Tailor-birds, *Orthotomus* or *Sutorius*, as it has only ten tail-feathers, whereas the Tailor-birds have twelve. In coloration *Phyllergates* bears an extraordinary resemblance to *Tickellia* but has a perfectly different bill.

In this genus the wing is rounded, the first primary large and the fifth longest; the tail is slightly graduated; the bill is broad, blunt and almost as long as the head; there are three rictal bristles, which are long and stout.

(922) **Phyllergates coronatus coronatus.**

THE GOLDEN-HEADED WARBLER.

Orthotomus coronatus Jerd. & Blyth, P. Z. S., 1861, p. 200 (Darjeeling).
Phyllergates coronatus. Blanf. & Oates, *i*, p. 439.

Vernacular names. *Inhanrui* (Kacha Naga).

Description. Forehead and crown chestnut; sides of the head, neck and nape dark ashy-grey; upper plumage olive-green, yellower on the rump and upper tail-coverts; wing-coverts olive-green; quills brown, edged with yellowish green; tail brown, the feathers narrowly edged with olive-green and white on the inner webs of the two outermost pairs; a short supercilium yellow, whiter behind the eye; lores, a line behind the eye and upper ear-coverts dark brown; lower part of ear-coverts and cheeks silvery-white; chin, throat and breast pale clear ashy-white; remainder of lower plumage bright pale yellow.

Colours of soft parts. Iris tan-brown to brown; bill dark blackish-horny above, fleshy-horny below; legs and feet fleshy or pale yellowish.

Measurements. Total length 100 mm.; wing 43 to 47 mm.; tail 34 to 41 mm.; tarsus about 20 mm.; culmen 13 to 15 mm.

Distribution. Sikkim, Assam, Manipur, Burma South to Tenasserim.



Fig. 83.—Bill of *P. c. coronatus.*

Nidification. Nests and eggs brought to me by Nagas, together with parent birds said to have been snared on the nest, were just like those of *Orthotomus*. They differed, however, in some respects; they all had moss used in their construction, a very rare material in the nests of *Orthotomus* and, in all, the leaves of the weeds in which they were built formed the back and part sides only of the nest instead of entirely encircling them, as is usual in the nests of the Tailor-bird. Another distinguishing feature was the presence of a thick lining of cotton silk. The eggs are like very poorly coloured, washed-out looking specimens of Tailor-birds' eggs—a white ground, faintly blotched with dirty pale reddish-brown.

I am not satisfied that either nests or eggs are above suspicion.

Habits. This Warbler obtains its food both by hunting through bushes and grass, very deftly and quickly climbing and moving about and, also, by making little incursions into the air after insects. It is found both in open grass, scrub-jungle and also in heavy evergreen forest. It has a shrill loud call but I have not heard it sing.

Genus SUYA.

Suya Hodgs., As. Res. xix, p. 183 (1836).

Type, *Suya crinigera* Hodgs.

The genus *Suya* comprises three Indian species, with greatly developed tails, which are nearly, or fully, twice the length of the wing. The Spring moult is complete and is accompanied by a change in colour and sometimes by a difference in the length of the tail. They have two strong rictal bristles on either side of the bill but no supplementary hairs. The tail is greatly graduated, the outermost feather either reaching to, or falling short of, the middle of the central feathers.

Key to Species.

A. Chin and throat white or fulvous-white.	
a. Upper plumage boldly streaked.	
a'. Sides of chin and throat not mottled or barred	*S. crinigera*, æstiv., p. 518.
b'. Sides of chin and throat mottled or barred with black	*S. crinigera*, hiem., p. 519.
b. Upper plumage very faintly streaked.	
c'. Crown and back of one colour....	*S. atrogularis*, hiem., p. 523.
d'. Crown darker than back	*S. superciliaris*, p. 524.
B. Chin and throat deep black.....	*S. atrogularis*, æstiv., p. 523.

Suya crinigera.

Key to Subspecies.

A. Above brown with a strong fulvous tinge	*S. c. crinigera*, p. 518.
B. Above more grey, less brown and with very little fulvous	*S. c. striatula*, p. 520.
C. Much darker brown above.	
a. Head boldly streaked, even in breeding-plumage	*S. c. assamica*, p. 520.
b. Head almost wholly blackish in breeding-plumage	*S. c. yunnanensis*, p. 521.
D. Above dull brown, less streaked than in other races	*S. c. cooki*, p. 522.

(923) Suya crinigera crinigera.

THE BROWN HILL-WARBLER.

Suya crinigera Hodgs., As. Res., xix, p. 183 (1836) (Nepal); Blanf. & Oates, i, p. 444.

Vernacular names. *Suya* (Nepal); *Dang-prim-pho* (Lepcha); *Shik-shillik* (Bhut.); *Daotisha-dédao* (Cachari).

Description.—Summer. Upper plumage dark brown, each feather edged with olive-fulvous, making the whole of these parts striated; rump and upper tail-coverts without dark centres; tail rufous-brown, obsoletely cross-rayed, tipped whitish and sub-tipped with a blackish patch; wing-quills and greater coverts edged with rufous; lores blackish; round the eye and upper cheeks and ear-coverts dark brown; lower cheeks and ear-coverts paler rufous-brown; the whole lower plumage pale fulvous or fulvous-white, the bases of the feathers showing up black on the breast; under wing-coverts and axillaries pinkish rufous, and a broad patch of the same colour on the under aspect of the closed wing, made by the broad rufous edges of the quills.

In Winter the upper plumage is more fulvous-brown, streaked with black; the lores and round the eye are fulvous; the sides of the chin, throat and breast are irregularly barred or mottled with black.

Colours of soft parts. Iris yellow-white to orange; bill black in Summer, dark horny-brown, fleshy below in Winter; legs and feet fleshy-pink or yellowish flesh-colour.



Fig. 84.—Bill of *S. c. crinigera*.

Measurements. Wing 46 to 62 mm., mostly between 55 and 59 mm.; tail 80 to 116 mm., about 25 mm. longer in Winter than in Summer; tarsus about 22 mm.; culmen about 11 to 12 mm.

Young. Above fulvous-brown to tawny-brown, the head strongly, the upper back faintly, streaked with darker brown; the whole lower parts fulvous, more rufous on flanks and thighs, whiter tinged with yellow on the centre of the breast and abdomen.

Distribution. From the North-West Frontier, North of Baluchistan, through Kashmir, Murree Hills, Garhwal, Nepal and Sikkim to the Hills of North-West Assam.

Nidification. The Brown Hill-Warbler breeds between 3,000 and 7,000 feet elevation throughout the Himalayas, but is much more abundant in the East than in the West. During May, June, July, it constructs an oval domed nest of fine grasses and shreds of grass-blades, placing it in coarse grass, to the stems of which it is attached, in weeds, or, very rarely, in a low bush. Unlike the eggs of *S. c. assamica*, which vary greatly in colour and description, the eggs of this bird seem to vary in ground-colour only from white to pale pink; the markings consist of

small reddish blotches, sometimes scattered over the whole surface, sometimes only in a ring or cap at the broader end and ranging from pale chestnut-red to deep brownish red. Fifty eggs average 17·3×12·7 mm.: maxima 19·0×12·6 and 17·3×13·4 mm.; minima 15·9×12·2 mm.

Habits. Keeps almost entirely to grass and scrub-jungle, though it may be found in among the bushes and bracken at the edge of evergreen forest or even in small open spaces inside both Evergreen and Pine forests. It is an active little bird on its legs, clambering with great quickness in and out of the grass-stems and reeds but its flight is very weak and ill-sustained and, like the birds of the genera *Orthotomus* and *Franklinia*, it always looks as if it was going to tumble down when it tries a flight of any distance.

(924) Suya crinigera striatula.

THE SIND HILL-WARBLER.

Blanfordius striatulus Hume, S. F., ii, p. 300 (1873) (Karachi, Sind).

Vernacular names. None recorded.

Description. Similar to *S. c. crinigera*, but very much paler above both in Summer and Winter plumage; there is much less fulvous or rufous and more grey in the coloration generally.

Colours of soft parts as in the preceding bird.

Measurements. Wing 50 to 59 mm.; tail 80 to 110 mm.; tarsus 22 mm.; culmen 11 to 12 mm.

Distribution. Sind, Baluchistan, Salt Range, N.W. Frontier Province.

Nidification. Not recorded.

Habits. Apparently a bird of the plains and the hills alike up to some 3,000 feet. Ticehurst remarks that it is a very local bird.

(925) Suya crinigera assamica.

THE ASSAM BROWN HILL-WARBLER.

Suya crinigera assamica Stuart Baker, Bull. B. O. C., xliv, May 1924.

Vernacular names. *Daotisha dédao* (Cachari).

Description. Very much darker than either of the preceding races but differing from *S. c. yunnanensis* in having the head strongly striated in Summer, not almost unicoloured blackish. It is also less dark generally than this latter bird.

Colours of soft parts as in the other races.

Measurements. Wing 53 to 63 mm.; tail 85 to 104 mm.; tarsus about 22 mm.; culmen 12 to 13 mm.



SAYA CRINIGERA ASSAMICA.
The Assam Brown Hill-Warbler.
2/3 life size.

Distribution. Assam, South and East of the Brahmaputra; Chin Hills. How far East this bird extends is not known; Rippon obtained it at Myingyan.

Nidification. The Assam Brown Hill-Warbler breeds in great numbers in the Khasia Hills between 2,000 and 6,000 feet, and in the Cachar and Naga Hills between 4,500 and 6,000 feet. The principal breeding-months are April, May and June but numerous nests may be found a month earlier and later, right on into August and September, many birds having two or even three broods. The nest is an oval-shaped affair, made of fine grasses and a few grass-stems, without lining or with a few additional grass-stems. It is placed low down, between three feet and a few inches from the ground, in grass, weeds, bracken or, rarely, in a low bush and is firmly fixed to the supporting stems. The site selected is one in open spaces in forest, grass-covered hills at the edge of forest, or in the wide rolling expanses of grass-covered plateaux. The eggs generally number four, but vary from three to seven; in colour the ground varies from pure white to deep pink, pale greenish or greenish blue or pale salmon. The markings vary greatly. In colour they range from pale reddish to deep blood-red, red-brown or almost black. In distribution they vary just as widely; many eggs are covered all over with dense specks, blotches or freckles; others, a very common type, have infinitely small stipplings, which at the larger end coalesce into a deep ring or cap; others, again, have numerous markings at the larger end though the smaller end is sparsely marked. Intermediate forms between all these types are common. Two hundred eggs average 16·7 × 12·8 mm.: maxima **18·3** × 13·3 and 18·0 × **14·1** mm.; minima **15·6** × **11·9** mm.

Habits. Similar to those of *Suya c. crinigera*. In Summer it may be found in suitable localities in the Hills anywhere above 2,500 feet, but is not really common below 3,500 or 4,000 feet except in Winter. In extreme Eastern Assam, Dr. Coltart and I found it not uncommon at a much lower level, but here the nearness of the surrounding snow-line gives a much lower elevation to both the Flora and Fauna.

(926) Suya crinigera yunnanensis.

THE YUNNAN BROWN HILL-WARBLER.

Suya crinigera yunnanensis Harington, Bull. B.O.C., xxxi, p. 110 (1913) (Momien, Yunnan).

Vernacular names. None recorded.

Description. A very dark bird, the head almost unicoloured blackish in the breeding-season.

The Winter plumage is still unknown.

Colours of soft parts as in the other races.

Measurements. Wing 52 to 57 mm.; culmen about 11 mm.

Distribution. Yunnan and Shan States; in the latter Harington found this bird breeding freely, but its distribution West is not yet known. *Suya crinigera yunnanensis* Bangs & Phillips, Bull. Mus. Comp. Zool., lviii, 1914, is merely a synonym of this race. La Touche has described two new forms from Yunnan, *S. c. bangsi* and *S. c. parvirostris* (Bull. B. O. C., xliv, 1923, p. 412); the former seems hardly distinguishable from *yunnanensis*, whilst the latter is a small-billed bird breeding in a strongly striated upper plumage.

Nidification and **Habits.** Apparently similar to those of other birds of this genus.

(927) Suya crinigera cooki.

HARINGTON'S BROWN HILL-WARBLER.

Suya crinigera cooki Harington, Bull. B.O.C., xxxi, p. 109 (1913) (Thayetmyo).

Vernacular names. None recorded.

Description. Differs from *S. c. crinigera* in having the black bases to the feathers of the breast entirely concealed in Summer; the striations on the upper plumage are much less developed or entirely absent; the colour of these parts is much more grey-brown and there is practically no rufous tinge; below the colour is paler and less rufous.

Colours of soft parts as in *S. c. crinigera*.

Measurements. Wing 53 to 60 mm.; tail 71 to 83 mm.; tarsus about 22 mm.; culmen 11 to 12 mm.; the difference between the Summer and Winter tail in length is but slight.

In Winter the plumage is darker and the striations more apparent and the fulvous below a little darker.

Young are paler and slightly more fulvous and very much more yellow below.

Distribution. North and South Shan States, Hills of Karenni and Central Burma, West to Thayetmyo; Yunnan and Annam. Two specimens from Annam are very dark in comparison and much more rufous—in fact, very close to my *assamica*.

Nidification. Similar to that of the other races of this species.

Habits. Those of the genus.

Suya atrogularis.

Key to Subspecies.

A. Upper plumage dark olive-brown ..... *S. a. atrogularis*, p. 523.
B. Upper plumage bright ferruginous-brown. *S. a. khasiana*, p. 524.

(928) Suya atrogularis atrogularis.

THE BLACK-THROATED HILL-WARBLER.

Suya atrogularis Moore, P.Z.S., 1854, p. 77 (Darjiling).
Suya atrigularis. Blanf. & Oates, i, p. 445.

Vernacular names. None recorded.

Description.—Summer. Whole upper plumage dark olive-brown, the head and nape still darker and greyer with the dark centres showing very faintly; wings and tail rufous-brown edged paler and the latter with faint pale tips; cheeks and ear-coverts fulvous and brown, with a white line running from the base of the lower mandible to the back of the ear-coverts; chin, throat and upper breast black; feathers of the lower breast and extreme upper abdomen white with black margins and centres; remainder of lower plumage fulvous, deeper and more ochraceous in tint on the flanks, thighs and under tail-coverts; axillaries, under wing-coverts and primary-patch fulvous-white or pinkish-fulvous.

Colours of soft parts. Similar to the same in *S. c. crinigera*. The bill is, as in that bird, wholly black in Summer, pale horny-brown in Winter.

Measurements. Wing 47 to 50 mm.; tail 100 to 109 mm.; tarsus about 22 mm.; culmen about 11 mm.

In Winter the whole upper plumage is much paler and the faint central streaks are a little more definite; below the black of the throat and breast is replaced by fulvous-white streaked with black; there is a distinct whitish supercilium and the lores and a band behind the eye are dark brown.

Distribution. Sikkim only.

Nidification. Very similar to that of *Suya crinigera crinigera*, but the nest is more often placed in low bushes rather than in grass. The eggs, also, are like those of that species but whereas in that bird, whatever the race, the reddish egg is more common than the greenish, in this species the latter is the dominant type. Eighty eggs average 17·0 × 12·8 mm.: maxima **18·3 × 12·9**; and 17·7 × **13·5** mm.; minima **14·4** × 12·5 and 16·1 × **12·1** mm. It is curious that this bird, which is so much smaller than *S. c. crinigera* and its races, should have an egg which is as big or bigger than that of that bird. This Warbler lays principally in May and June, both Mr. H. Stevens and Mr. W. P. Masson having taken numerous nests round Darjeeling and in Native Sikkim, during those months, between 6,000 and 9,000 feet.

Habits. Similar to those of the preceding species but it is found at higher elevations. It is common on the Singalila ridge above Darjeeling at 9,000 feet wherever open grass-land and scrub-jungle is to be found.

(929) Suya atrogularis khasiana.

AUSTEN'S HILL-WARBLER.

Suya khasiana Godwin-Austen, A. M. N. H., (4) xviii, p. 412 (1876) (Shillong); Blanf. & Oates, i, p. 446.

Vernacular names. *Duotisha dédao* (Cachari).

Description. Differs from *S. a. atrogularis* in having the whole of the upper parts light ferruginous-brown, brighter on the fore-head: the moustachial white streak is generally broader.

Colours of soft parts as in *S. a. atrogularis*.

Measurements. Wing 49 to 53 mm.; tail 99 to 117 mm.; tarsus about 22 mm; culmen 11 to 12 mm.

Distribution. Assam, South and East of the Brahmaputra; Chin Hills.

Nidification. Austen's Hill-Warbler breeds in the Khasia Hills in even greater numbers than the Brown Hill-Warbler, and the nests and eggs of the two birds cannot be distinguished from one another. This bird, however, is more numerous above 4,000 feet than is *S. c. assamica* and less numerous below that height. The eggs, like those of *S. a. atrogularis*, are more often of the greenish type and the almost unicoloured pink type with a deep ring round the larger end is the least common type. Both of these birds are very frequently cuckolded by *Cuculus canorus bakeri* and by *Caccomantis merulinus*. The eggs of the latter agree very well with those of the foster-parent but the eggs of *Cuculus* are at least four times their bulk. The young bird when hatched soon outgrows the nest, which expands like a trellis-work round it until, finally, it bursts and the young Cuckoo is generally thrown on to the ground, where it is fed and looked after by the foster-parents.

Habits. Those of the genus. On the whole, both races of *S. atrogularis* affect rather thicker cover than do the races of *S. crinigera*, though neither will ever be found inside dense forest.

(930) Suya superciliaris superciliaris.

ANDERSON'S HILL-WARBLER.

Suya superciliaris Anderson, P. Z. S., 1871, p. 212 (Momein, Chinese Frontier); Blanf. & Oates, i, p. 447.

Vernacular names. None recorded.

Description. Above fulvous-brown, the crown and nape darker; the tail with paler tips and terminal margins; wing-quills brown, edged with rather rufous fulvous-brown; lores and feathers round the eye dark slaty-brown, a narrow white supercilium from the nostrils to the back of the ear-coverts; ear-coverts ashy-grey and fulvous; chin and throat white tinged with fulvous; breast more

grey with tiny black edges or streaks to the feathers; centre of abdomen white or fulvous-white; flanks, sides of the abdomen, vent and under tail-coverts rich fulvous-ochre.

There appears to be no difference in the Summer and Winter plumage.

Colours of soft parts. Iris tan; bill dark horny-brown above, fleshy-horny below: apparently not becoming black in the breeding-season; legs and feet fleshy-tan.

Measurements. Wing 48 to 52 mm.; tail 94 to 112 mm.; tarsus about 22 mm.; culmen 11 to 12 mm.

Young have the breast tinged with brighter yellow.

Distribution. Kachin and Eastern Chin Hills, Karenni and Hills of Central Burma to Tenasserim, Shan States, Yunnan and China to Fokhien. Four specimens from Annam have the breasts and throats with no fulvous tint and the black streaks obsolete, whilst the vent and flanks are distinctly browner. More material may render it necessary to separate them from typical *superciliaris*.

Nidification. Nest and eggs taken by Mr. P. C. Cook and others in the Kachin Hills are described as being similar to those of other species of this genus. Col. Harington, however, found that they sometimes made an untidy ball-shaped nest of grass very like a miniature nest of a Munia. The eggs go through the same range of variation as do those of *Suya atrogularis* but, taking a large series, they are certainly a much duller colour on the whole. Fifty eggs average 16·7 × 12·7 mm.: maxima **18·4 × 13·6** mm.; minima **15·8** × 12·3 and 18·0 × **11·9** mm.

They breed from March to June, between 4,000 and 8,000 feet, generally in low grass or bushes, occasionally in ferns or brambles.

Habits. Those of the genus.

Genus PRINIA.

Prinia Horsf., Trans. Linn. Soc., xiii, p. 164 (1820).

Type, *Prinia familiaris* Horsf., Java.

The genus *Prinia* contains many species of Warblers, five of which occur within our limits. In appearance they merely differ from the birds of the genus *Franklinia* in having only ten tail-feathers instead of twelve.

They have a complete Spring moult, accompanied in some instances with so great a change of colour and in the structure of the tail that no little confusion has arisen as to the actual number of species in existence. Most of the species again are found over a very wide area and many geographical races occur.

Key to Species.

A. Upper plumage streaked ..... *P. gracilis*, p. 526.
B. Upper plumage not streaked.
a. Abdomen yellow ..... *P. flaviventris*, p. 528.

b. Abdomen fulvous or buff.
a'. Bill black.
a''. Upper plumage ashy ..... *P. socialis*, æstiv., p. 530.
b''. Upper plumage rufous-brown .... *P. socialis*, hyem., p. 530.
c.'' Upper plumage earthy-brown.
*a*³. Outer tail-feathers white ..... *P. sylvatica*, æst., p. 532.
*b*³. Outer tail-feathers pale brown . *P. inornata*, æst., p. 534.
b'. Bill brown, lower mandible fleshy-brown.
d''. Upper plumage warm rufous-brown ..... *P. sylvatica*, hyem., p. 532.
e''. Upper plumage earthy-brown, tinged greenish ..... *P. inornata*, hyem., p. 534.

Prinia gracilis.

Sylvia gracilis Lichten., Verz. Doubl. Berlin, p. 34 (1823) (Nubia).

Key to Subspecies.

A. Paler above, purer fulvous below ..... *P. g. lepida*, p. 526.
B. Darker above, fulvous below tinged with brown ..... *P. g. stevensi*, p. 527.

(931) Prinia gracilis lepida.

THE INDIAN STREAKED WREN-WARBLER.

Prinia lepida Blyth, J. A. S. B., xiii, p. 376 (1844) (Indus Valley); Blanf. & Oates, i, p. 448.

Vernacular names. *Khur-phootki* (Hind.); *Door* (Sind.).

Description. Upper plumage, wings and tail fulvous-brown; the tail cross-rayed with brown, tipped with white and subtipped dusky; the rest of the plumage with the feathers centred dark brown in streaks; lores and round the eye fulvous-white; ear-coverts pale fulvous mottled with brown; whole lower plumage pale fulvous.

Colours of soft parts. Iris yellow to tan-brown; bill black in Summer, horny-brown above, fleshy-brown below in Winter; legs and feet pale fleshy.

Measurements. Total length about 135 mm.; wing 42 to 47 mm.; tail 54 to 71 mm.; tarsus about 17 mm.; culmen 8 to 9 mm. The tail is about 10 mm. shorter in Summer than in Winter.

Distribution. Baluchistan, Afghanistan, Sind, Punjab, Rajputana and N.W. Frontier Province.

Nidification. The Indian Streaked Wren-Warbler makes a long, oval domed nest of fine grasses and shreds of grass-blades, sometimes lining it scantily with finer shreds and a little seed-down sometimes making a thick pad of the latter. It is usually placed in tufts of coarse dry grass within one foot to three feet from the ground; occasionally it is placed in small thorny bushes. The nest is built entirely by the female, the male perching on the top of some high grass near the nest and singing loudly whilst she works. They seem to have two breeding-seasons, for Zarudny took eggs in Baluchistan in March and again in late June. In Lahore, Dodsworth found eggs in March and April, whilst General Betham states that around that town nests were most numerous in July and August. Lindsey-Smith and Pitman took nests at Multan and Dehra Ismail Khan in April and early May. The eggs number four or five. The ground-colour varies from almost white to a distinctly warm greenish blue or, less often, cream. In most eggs the whole surface is profusely covered with pale reddish blotches or freckles but in some the markings are more numerous at the larger end, forming a ring or cap and are sparse elsewhere. One hundred eggs average 13·8 × 10·7 mm.: maxima **15·1 × 11·4** and 14·1 × **11·8** mm.; minima **11·9 × 9·9** mm.

Habits. This Warbler keeps entirely to cover, composed either of grass or scrub, though it may also be seen frequenting and hunting for insects in the babool and acacia trees dotted about in among the lower cover. Ticehurst draws attention to the snapping noise made by this bird with its bill, in addition to its constant twitter. This snapping noise seems to be made by all Prinias and, curiously enough, by the birds of the genus *Franklinia* also.

(932) Prinia gracilis stevensi.

THE ASSAM STREAKED WREN-WARBLER.

Prinia gracilis stevensi Hartert, Bull. B. O. C., xliii, p. 132 (1923) (N. Lakhimpur).

Vernacular names. None recorded.

Description. Much darker above, more olive and less fulvous than *P. g. lepida*, below tinged with brown rather than fulvous.

Colours of soft parts as in the preceding bird.

Measurements. Wing 40 to 43 mm.; tail 48 to 62 mm.; tarsus 17 mm.; culmen about 9 mm.

Distribution. Assam and Eastern Bengal; the Ganges delta.

Nidification. Very similar to that of *P. g. lepida* but seems to breed always in very dense grass in river-beds. Mr. H. Stevens, the discoverer of this bird, took several nests with eggs during April. These latter are small, rather dull-coloured editions of those of the Indian Streaked Wren-Warbler. They vary in size between 11·9 × 9·3 and 14·0 × 11·0 mm.

Habits. Similar to those of the last bird but frequenting much heavier denser grass and apparently not frequenting bushes at all.

Prinia flaviventris.

Key to Subspecies.

A. Darker, both above and below ..... *P. f. flaviventris*, p. 528.
B. Paler, both above and below ..... *P. f. sindiana*, p. 529.

(933) Prinia flaviventris flaviventris.

THE YELLOW-BELLIED WREN-WARBLER.

Orthotomus flaviventris Deless., Rev. Zool., 1840, p. 101 (Bhutan).
Prinia flaviventris. Blanf. & Oates, i, p. 449.

Vernacular names. *Daotisha gurmu* (Cachari).

Description. Forehead and crown dark ashy, shading into ashy-green on the nape and olive-green on the upper plumage and closed wings; tail olive-green, obsoletely cross-rayed, tipped paler and sometimes faintly subtipped darker; lores dusky brown; a white eyebrow, not always present; a ring round the eye yellowish white; chin, throat and breast white, suffused with fulvous in varying degree; sides of the head and throat ashy; remainder of lower plumage bright yellow.

Colours of soft parts. Iris tan-brown; bill black in Summer, horny-brown in Winter, paler below; legs and feet fleshy-orange.

Measurements. Wing 42 to 49 mm.; tail 56 to 70 mm.; tarsus about 21 mm.; culmen about 10 to 11 mm.; Southern Burmese birds have larger bills measuring 11 to 12 mm.

In Winter the tail is longer, but the white eyebrow said by Oates to be a Winter character appears to be an individual one, some birds having it in both Summer and Winter whilst other birds have no signs of it.

Distribution. The Nepal Terai, Himalayas to East and South Assam; Eastern Bengal, Burma and Malay States to Singapore and West Sumatra.

Nidification. The Yellow-bellied Wren-Warbler breeds over all its range after the rains break from the end of June to September; in Assam, however, where there is more rain earlier in the year, they commence breeding in early May. They breed at all elevations up to 3,000 feet and even up to 3,500 feet on rare occasions, but generally below 2,500 feet. The nest is made of shreds of grass-blades and is egg-shaped with a comparatively large entrance near the top; there is no lining as a rule, though sometimes finer grass-stems are used for this purpose. It is placed in grass, among weeds or, less often, in a low bush and is well fixed to the supporting grass-stems or stalks. Occasionally the nest is quite pendent but, more usually, one or more of the stalks are wound into the base and sides as well. The eggs number four and in colour are a brilliant glossy brick-red, normally unicoloured, but, exceptionally, with a darker ring or cap at the larger end. Forty eggs average 15·2 × 11·8 mm.: maxima 16·4 × 11·9 and 14·5 × 12·5 mm.; minima 14·2 × 11·6 and 16·1 × 11·0 mm.

Habits. This pretty little Warbler keeps almost entirely to grass-land, low bush and scrub-jungle or to reeds and elephant-grass in swamps and marshy places. Sometimes it may be found in thin secondary growth in deserted cultivation but never, I think, in heavy jungle or forest. It takes its insect diet from the leaves and grasses and also from the ground, where it is very active. On the wing it is very feeble and has the same top-heavy flight of most of the long-tailed Prinias. As a rule, it shuns observation, but in the breeding-season the male sings a cheery, but weak, little song, perched high up on some tall grass or bush top. It makes the same curious clicking noise as it moves about as do other species of this genus, possibly with its bill, more probably with its wings meeting over its back.

(934) Prinia flaviventris sindiana.

TICEHURST'S WREN-WARBLER.

Prinia flaviventris sindiana Ticehurst, Bull. B. O. C., xl, p. 157 (1920) (Sukkur, Sind).

Vernacular names. None recorded.

Description. "Similar to *P. f. flaviventris* but paler; less intense ("saturated") olive-green above, especially on the rump; rather paler yellow on belly, flanks and vent."

Colours of soft parts as in the preceding bird.

Measurements. Wing 43 to 45 mm.; culmen 9·5 to 10 mm.; tail 48 to 64 mm.

Distribution. Sind and Bannu in North-West Frontier Province.

Nidification. Mr. T. R. Bell found this bird breeding in Sind in April, placing its nest in clumps of "*khan*" grass or in the thicker boughs of tamarisk three to five feet from the ground. The nest is a very deep purse made of fine roots, grass and vegetable-down, and lined with fine grasses. The eggs are not described but are, presumably, not distinguishable from those of the preceding race. Doig gives the nesting-season as March, June and September.

Habits. According to Ticehurst, this is a very local Warbler, and is essentially a bird of Tamarisk and grass jungle. He syllabifies the note as "*tweeddle-li-li.*"

Prinia socialis.

Key to Subspecies.

A. Below rather pale rufescent buff ..... *P. s. socialis*, p. 530.
B. Below more richly coloured and more rufous on flanks and thighs ..... *P. s. stewarti*, p. 531.

(935) Prinia socialis socialis.

THE ASHY WREN-WARBLER.

Prinia socialis Sykes, P. Z. S., 1832, p. 89 (Deccan); Blanf. & Oates, i, p. 450 (part.).

Vernacular names. *Phutki, Kala phutki* (Hin.); *Pit-pitta* (Hin. in S. India).

Description.—Summer. Upper plumage dark slaty-ashy, rather paler on lower back and rump; wings dark rufous, the concealed parts dark brown; tail rufous, tipped with white or pale buff and with a broad subterminal dark band; a narrow supercilium buff, often absent; lores and round the eye almost black; whole lower plumage rufescent buff, paler on the centre of the abdomen, darker on the thighs and under tail-coverts; axillaries, under wing-coverts and an oblique patch across under surface of quills rufous.

Colours of soft parts. Iris tan or yellow; bill black always; legs and feet fleshy-brown or pale horny.

Measurements. Wing 47 to 52 mm.; tail 50 to 61 mm. in Summer, 68 to 73 mm. in Winter; tarsus about 20 to 21 mm.; culmen 10 to 11 mm.

In Winter the upper parts are much more suffused with rufous; the crown alone remaining pale ashy, but, judging from the very long series of Winter birds in the British Museum collection, old birds do not always become rufous at this season; the buff supercilium does not appear to be a seasonal character.

Young birds are like the adult in Winter, though more yellow below.

Distribution. Ceylon and South India, South of a line running from Surat, Khandesh and Nagpore and thence South-East to the mouths of the Godavari.

Nidification. The Ashy Wren-Warbler breeds from March to September, nearly always having at least two broods. The nest varies very greatly in construction. In many cases it is like a very roughly made, large and unlined nest of the Tailor-bird. Two or more leaves are sewn together with roots and grasses, the actual stitches being made with silk from cocoons or spiders' egg-bags or with spiders' webs only. The lining in these generally consists of a base of fine roots covered with a matting of grass-seed down. A second type of nest is very like that already described as made by *Prinia flaviventris*, whilst yet a third type is a rudely built and flimsy ball of grass, supported by grass and weeds, sometimes fairly well attached to the supports, sometimes hardly fastened to them at all. The eggs are either three or four in number and are like those of *P. flaviventris*, but often an average deeper in colour. Thirty eggs average 16·1 × 12·1 mm.: maxima 17·0 × 12·1 mm. and 16·2 × 12·3 mm.: minima 15·4 × 11·9 and 16·2 × 11·8 mm.

Habits. This Warbler is found from the level of the Plains up to 7,000 feet in the Nilgiris and other hill-ranges in South India. It may be found in gardens, round about villages in cultivation and scattered bush and grass cover, being particularly fond of sugar-cane fields where it often breeds. In its habits generally it is much the same as *Prinia flaviventris*.

(936) Prinia socialis stewarti.

STEWART'S ASHY WREN-WARBLER.

Prinia stewarti Blyth, J. A. S. B., xvi, p. 455 (1847) (Agra).
Prinia socialis. Blanf. & Oates, i, p. 450 (part.).

Vernacular names. *Phutki, Kala-phutki* (Hin.).

Description. I can see no difference in the two forms, except that the lower plumage of Northern birds is decidedly more rich and rufous than it is in Southern birds.

Colours of soft parts as in *P. s. socialis*.

Measurements. Wing 45 to 52 mm.; tail 43 to 75 mm.

Distribution. The whole of Northern India East of the Chenab to Eastern Assam. South to Surat, Khandesh and Nagpore and thence South to the mouth of the Godavari. Over a very wide area, both North and South of this imaginary line, the race is quite indeterminate in the majority of specimens, though in the extremes of their habitats the differences are well marked.

Nidification. In no way different from that of the last bird, but it lays from four to six eggs, often five. It is essentially a bird of gardens, cultivation and villages, though in Assam it is also found in grass-lands and in thin secondary jungle. Sixty eggs average 15·1 × 12·2 mm.; maxima 16·1 × 12·0 and 15·2 × 13·1 mm.: minima 14·1 × 10·9 mm.

They breed as soon as the Rains break in June to the end of August, but in Assam, like the preceding Warbler, they commence to breed in May or even in April. They breed up to 4,000 feet, but, more commonly, under 2,000 feet.

Habits. The same as those of *P. s. socialis*.

Prinia sylvatica.

Key to Subspecies.

A. Above dull earthy-brown, tinged with rufous. *P. s. sylvatica*, p. 532.
B. Above darker, richer brown ..... *P. s. valida*, p. 533.
C. Above much paler, more grey, less brown .. *P. s. rufescens*, p. 533.

(937) Prinia sylvatica sylvatica.

THE JUNGLE WREN-WARBLER.

Prinia sylvatica Jerdon, Madr. Jour. L. S., xi, p. 4 (1840) (Seegor, Nilgiris); Blanf. & Oates, i, p. 451 (part.).

Vernacular names. *Kenda-lotakun-jitta* (Tel.); *Tot-rungi* (Hin. in Cen. India).

Description.—Summer. Above dull earthy-brown, tinged with rufous, more especially on the rump; wing-feathers dark brown, edged with pale dull rufous-brown; tail brown, all but the central pair tipped white and with a blackish subterminal patch; the outermost pair almost wholly white on the inner web, intermediate pairs grading; all the feathers faintly cross-rayed; lores, a short supercilium and round the eye pale fulvous; ear-coverts and cheeks grey and buff; whole lower plumage very pale buff; axillaries, under wing-coverts and oblique patch on inner webs of quills pinkisk buff.

Colours of soft parts. Iris hazel; bill in Summer pure black, in Winter horny-brown, paler at the base; legs and feet fleshy-brown to pale fleshy.

Measurements. Wing 55 to 66 mm.; tail 60 to 75 mm.; tarsus about 20 to 21 mm.; culmen about 12 mm.

In Winter the plumage is a warmer rufous-brown and the lower plumage more ochraceous; the cheeks and ear-coverts more brown.

Distribution. The whole of India with the exception of Mount Aboo and an unknown extent of area surrounding it. To the North-west as far as the lower Simla Hills and thence to Cutch; to the East to Assam, Manipur and Lushai Hills.

Nidification. The Jungle Wren-Warbler breeds from June to September, making a deep cup-shaped or domed nest of grasses. The grass used consists principally of green strips torn from the blades but this is mixed with cobwebs, seed-down and other materials. The favourite site is a low thick bush or a tussock of coarse grass in ravines running through grass-lands but they also build in scrub and grass round about villages and adjoining cultivation. The eggs number three to five and the ground-colour varies from almost white to dull pinkish or dull blue-green. The markings consist of minute freckles of reddish, generally sparse over two-thirds of the surface but often coalescing to form a ring or cap at the larger end. In shape they are long oval, obtuse at the smaller end. Fifty eggs average 17·8 × 12·9 mm.: **maxima** **18·3 × 14·0** mm.; **minima** **15·8 × 12·0** mm.

Habits. Generally, the habits of this Warbler are typical of the genus but it is, as its name implies, a bird of the uncultivated country rather than of gardens and villages. It does not appear to ascend the hills above 2,000 feet.

(938) Prinia sylvatica valida.

THE CEYLON JUNGLE WREN-WARBLER.

Drymoica valida Blyth, J. A. S. B., xx, p. 180 (1851) (Ceylon).
Prinia sylvatica. Blanf. & Oates, i, p. 451 (part.).

Vernacular names. None recorded.

Description. Differs from *P. s. sylvatica* in being very much darker above.

Colours of soft parts as in *P. s. sylvatica.*

Measurements. Wing 58 to 63 mm.; tail 58 to 72 mm.; tarsus 22 to 23 mm.; culmen 12 to 13 mm.; both culmen and tarsus appear to be stouter and stronger, as well as longer, than in the last bird.

Distribution. Ceylon only.

Nidification. Similar to that of *P. s. sylvatica.* The eggs measure about 18·1 × 12·9 mm.

Habits. Those of the Common Jungle Wren-Warbler.

(939) Prinia sylvatica rufescens.

THE ABOO JUNGLE WREN-WARBLER.

Drymœpus rufescens Hume, Ibis, 1872, p. 110 (Mt. Aboo).
Prinia sylvatica. Blanf. & Oates, i, p. 451 (part.).

Vernacular names. *Tot-rungi* (Hin.).

Description. In Summer more grey, less brown than *P. s. sylvatica* and much paler than *P. s. valida.*

Colours of soft parts as in the other races.

Measurements. Wing 63 to 64 (one 56) mm.; tail 60 to 75 mm.: tarsus about 22 mm.; culmen about 11 to 12 mm.

Distribution. Mt. Aboo.

Nidification. Unknown.

Habits. Those of the species. This pale grey form is apparently found in almost desert country and on rocky bare hills with a very scanty vegetation consisting of stunted grass and low bushes.

Prinia inornata.

Key to Subspecies.

A. Paler below, more fulvous, not rufous.
  a. General tone of upper plumage pale earthy-brown ..... *P. i. inornata*, p. 534.
  b. Above decidedly richer and browner ..... *P. i. jerdoni*, p. 535.
  c. Above dark earthy-brown, tinged grey .... *P. i. burmanica*, [p. 536.
B. Darker below, fulvous strongly tinged with rufous on flanks, thighs and vent ..... *P. i. blanfordi*, p. 537.

Prinia inornati herberti is almost sure to be found in the low-lying swampy portions of Eastern Tenasserim. It is a much deeper-coloured bird than any of the above races and has no fulvous or rufous tinge on the upper plumage.

The eggs of this species form one of the most curious instances of variation according to the geographical distribution of the sub-species that I know of. The eggs of *P. i. jerdoni* from Ceylon and South India are a brilliant blue, spotted and streaked with deep red, purplish black or black. In Northern India the eggs laid are decidedly a less brilliant blue and the markings are less deep-coloured, more often reddish brown than nearly black. In Oudh, we have these normal blue eggs over the greater part of the Province but in one small area round about Gonda the birds generally lay white eggs with bold blood-red and blackish spots and blotches. In Assam and Burma, *P. i. burmanica* lays a duller blue egg, often tinted with pink, whilst in the South of Burma *P. i. blanfordi* lays a dull pinkish egg with reddish blotches and scrawls. Finally, in Siam, *P. i. herberti* lays the most beautiful pink eggs with great blotches and lines of blood-red, purplish red or almost black. The gradation from brilliant blue to the other extreme of brilliant pink is perfect but the cause for the variation is still obscure.

In each area an occasional aberrant clutch of eggs may be found similar to the common type in one of the other areas.

(940) Prinia inornata inornata.

THE INDIAN WREN-WARBLER.

Prinia inornata Sykes, P. Z. S., 1832, p. 89 (Deccan); Blanf. & Oates, i, p. 452.

Vernacular names. *Lota-kun-jitta* (Tel.); *Niongpho* (Lepcha).

Description.—Summer. Whole upper plumage and visible parts of wings pale earthy-brown with darker centres to the feathers; the wing-quills edged a little more rufescent; tail pale earthy-brown, faintly cross-rayed, edged with rufous and the inner webs much paler than the outer, generally with an ill-defined dark subterminal bar; a short supercilium and feathers round the eye fulvous-white; lores dark brown; ear-coverts and upper cheeks pale brown; whole lower plumage pale pinkish-fulvous, darker on the thighs, vent and under tail-coverts; axillaries and under wing-coverts fulvous.

Colours of soft parts. Iris yellowish brown to bright yellow; bill black in Summer, brown, with a paler fleshy base, in Winter; legs and feet fleshy-white to light yellowish brown.

Measurements. Wing 51 to 53 mm.; tail 50 to 65 mm.; tarsus about 22 mm.; culmen 10 to 11 mm.

In Winter the upper plumage is more fulvous-brown, the darker centres only showing on the crown.

Distribution. The whole of India, North of the Nilgiris and Northern Travancore; East to Upper Assam, North of the Brahmaputra.

Nidification. The Indian Wren-Warbler commences to breed in June as soon as the Rains break and continues until August and September. In Oudh most eggs are laid in July and these two latter months; in East Bengal and North Assam, however, many nests may be found in March and February. In shape the nests are either globular, oval, or deep purses. The domed nests vary from about 4 to 6 inches either way but the purse nests are generally much more narrow, seldom more than 3 inches wide but, on the other hand, very deep, sometimes as much as 8 or 9 inches and usually 6 inches or more. They are made entirely of very fine strips of grass-blades, strongly and carefully interwoven but without any lining. They may be placed in coarse grass, weeds or in a low bush and, where there are Tea-gardens, tea-bushes form a very favourite site. The eggs are bright blue, spotted sparingly but boldly with reddish brown, purple or blood-red brown and black and often have numerous hair-lines as well. The underlying spots are of lavender or pale purple-grey. The effect of the blue ground and dark marking is very bold and handsome. In shape the eggs are broad blunt ovals, and two hundred of them average 15·6 × 11·5 mm.: maxima **18·0** × 12·5 and 16·1 × **12·5** mm.; minima **14·0** × 10·6 and 14·5 × **10·1** mm.

The eggs number three to five.

Habits. This is a very familiar little Warbler, being found in some numbers, wherever there is sufficient low cover, round about houses, villages and towns, often entering into and even breeding in shrubs and grass in gardens. It has a loud note sounding like *weet-weet-weet*, which it often indulges in, but no song, though, like the other Prinias, the male is very fond of mounting some high perch, where it twitters and trills excitedly, evidently in the full belief it is singing. Its flight is the usual top-heavy, feeble attempt of the genus and it is much more active on its legs, preferring to escape upon them into thick cover rather than take to wing. It prefers grass-cover to any other, but also frequents bushes, crops and secondary growth, though it is never found in heavy jungle or forest. It ascends the foot-hills up to some 3,000 feet but is not common over that elevation.

(941) Prinia inornata jerdoni.

THE CEYLON WREN-WARBLER.

Drymoica jerdoni Blyth, J. A. S. B., xvi, p. 459 (1847) (Ceylon).
Prinia jerdoni. Blanf. & Oates, i, p. 453.

Vernacular names. *Chit-kuravi* (Tel., Travancore).

Description. Differs from *P. i. inornata* in being very much darker and more richly coloured above; the white tips and the

dark subterminal bars to the tail-feathers are better defined. In Winter also the general colour is much darker than in the Indian Wren-Warbler.

Colours of soft parts as in *P. i. inornata*.

Measurements. Wing 48 to 55 mm.; tail 52 to 65 mm.; tarsus 21 to 22 mm.; culmen 11 mm.

Distribution. Ceylon and South India to the Nilgiris and Travancore and the southern parts of Malabar. Oates records both this and the last race from the Nilgiris, treating them as species but the fine series in the British Museum shows clearly that all the birds of these Hills must be assigned to the present subspecies.

Nidification. Messrs. Wait and Phillips have seen nests and eggs of this little Warbler in practically every month of the year in Ceylon but there seem to be two principal seasons, one December to February and the second in July and August. In the hills of Southern India it breeds from March to July. The nest is nearly always of the long purse-shape and domed egg-shaped nests are rare. The eggs are like those of the last race but brighter blue, more boldly marked and more frequently with some hair-lines. One hundred eggs average 15·8 × 11·7 mm.: maxima **17·8 × 12·2** and 16·7 × **12·3** mm.; minima **14·2 × 11·2** and 15·1 × **11·1** mm.

The usual clutch of eggs is three, sometimes four.

Habits. Those of the genus. This race is especially fond of grass near water. It is found up to 6,000 or even 7,000 feet on the Nilgiris and adjoining hills.

(942) Prinia inornata burmanica.

THE BURMESE WREN-WARBLER.

Prinia inornata burmanica Harington, Bull. B.O.C., xxxi, p. 111 (1913) (Mandalay).

Vernacular names. None recorded.

Description. White tips and black bars on the tail-feathers much more distinct than in *P. i. inornata*; general tone darker and greyer in plumage.

Colours of soft parts as in *P. i. inornata*.

Measurements. Wing 47 to 57 mm.; tail 47 to 64 mm.; tarsus about 22 mm.; culmen about 11 mm.

Distribution. Assam, South of the Brahmaputra and the whole of Burma as far South as Rangoon; Kachin Hills, Shan States and Northern Siam.

Nidification. Similar to that of the other races, but the domed-shaped nest is more often built than the purse or tubular-shaped ones. They breed principally in May, June and July.

The eggs are like those of *P. i. inornata*, but many have a strong pink tinge in them and only very exceptional eggs are as pure a blue as those of that race. Two hundred eggs, including a large series measured by Mr. J. M. D. Mackenzie, average 15·4 × 11·9 mm.: maxima **16·75 × 11·5** and 16·0 × **12·0** mm.; minima **15·4 × 11·3** mm.

Habits. Those of the species.

(943) Prinia inornata blanfordi.

THE TENASSERIM WREN-WARBLER.

Drymœca blanfordi Wald., Blyth's B. of Burma, p. 118 (1875) (Thayetmyo).
Prinia inornata. Blanf. & Oates, i, p. 454.

Vernacular names. None recorded.

Description. Darker and more rufous above than *P. i. burmanica* and much more fulvous below.

Colours of soft parts as in the other races, but *the bill never becomes black in Summer.*

Measurements. Wing 47 to 52 mm.; tail 53 to 73 mm.; tarsus about 22 mm.; culmen about 11 mm.

Distribution. Burma from Rangoon Southwards. Possibly in the extreme East of Tenasserim another race, *P. i. herberti*, may be found.

Nidification. Similar to that of the other subspecies, but the eggs are still less blue and more pink in colour than those of the Northern Burmese race, some eggs approaching the beautiful pink type of egg always laid by *P. i. herberti*. One hundred and fifty eggs average 15·7 × 11·5 mm.: maxima **17·0 × 12·25** mm.; minima **14·25 × 10·5** mm. Three to five eggs are laid in a clutch.

Habits. Those of the species.

good. The large series in the British Museum show the same extremes of measurement in both forms and the degree of variation in the colour of the crown is also the same. On the other hand, *Regulus r. regulus* is a much more yellow bird above than is our Himalayan form and this quite suffices for its identification.

Distribution. The Himalayas from Afghanistan, through Kashmir, the Simla and Garhwal Hills, Nepal, Sikkim and Bhutan to the Dafla and Abor Hills. It is not found South of the Brahmaputra but some form of *Regulus* is sure to be found in the higher Chin and Kachin Hills. It is also found in Western China but it is difficult to say where this form meets the dark Yunnan bird.

Nidification. There is very little on record about the nidification of this bird. Buchanan took its eggs in the Liddar Valley in May, and Ward also obtained them in June and July in Kashmir. Whitehead found them common in the Safed Koh in Summer and took one nest with young and an addled egg on the 7th July at Batta Kandi, 10,000 ft., on a Paluda tree, 40 feet from the ground. The nest is like that of the English Goldcrest, a beautifully made hanging bag of moss, lichen, spiders' bags, etc., attached to the end of a branch of a Pine, Deodar or some other tree.

The eggs seem to be of two types. The first and most common are just like those of our English bird, *i. e.*, they vary from pale buffy-white to pale buff or pinky-buff indistinctly freckled in a ring at the larger end with a darker shade of the same. The second type, which includes Major Whitehead's and also some taken by Mr. S. L. Whymper, has a pure white ground-colour and is boldly speckled with reddish brown—in fact, just like the egg of *Phylloscopus trochiloides*. Had not several collectors obtained these eggs with the birds on the nest one would have feared some mistake. The earliest eggs recorded are those taken by Buchanan in May, though few birds seem to lay until well on into June and most lay in July. The first nest ever taken however, that by Sir E. E. Buck at Royee, contained seven young on the 8th June.

The eggs average about 14·3 × 10·7 mm.

Habits. A restless energetic little bird keeping much to the higher branches of conifers, where it hunts for its insect-food in much the same manner as the *Phylloscopi*. Except when with its last brood of young it is not found in flocks but where one is the pair to it is always near by. Its flight is quick, strong and direct for so small a bird and it constantly utters its Shrew-like squeak both on the wing and when feeding. It is found at all heights in Summer up to 12,000 feet and in Winter descends to 5,000 feet or lower in Kashmir and the Western Himalayas and to 3,000 feet on the Afghanistan and Baluchistan Frontier.

(945) Regulus regulus yunnanensis.

THE YUNNAN GOLDCREST.

Regulus yunnanensis Rippon, Bull. B. O. C., xix, p. 19 (1906) (W. Yunnan).

Vernacular names. None recorded.

Description. Similar, sex for sex, to *R. r. himalayensis* but much darker. Above, the colour is a dark olive-brown, the rump paler and yellowish; below, it is a dull greyish white with practically no tinge of buff or fulvous.

Colours of soft parts as in the Himalayan Goldcrest.

Measurements. Length about 110 mm.; wing about 55 to 57 mm.; tail about 28 mm.; tarsus 17 mm.; culmen 9 to 10 mm.

On an average, the wing-measurement of this race is about 56 mm. as against 54·5 mm. in the Himalayan bird.

Distribution. Yunnan. A specimen sent me from the Northern Shan States seems referable to this race.

Nidification. The specimen sent me was caught on its nest, which was built on a Pine and in general character just like that of the other races, a bag of lichen, moss and spiders' webs, well lined with the softest feathers. It contained four eggs of the common type of *Regulus* egg and was taken on the 4th June at Yemathaing, at about 9,000 feet.

Habits. Nothing recorded.

(946) Regulus regulus tristis.

THE MERV GOLDCREST.

Regulus regulus Pleske, Bull. Acad. St. Petersb., iii, p. 146 (1882) (Merv).

Vernacular names. None recorded.

Description. Similar to *R. r. himalayensis* but paler and greyer above and more grey, less fulvous, below.

Colours of soft parts apparently the same as in the other races.

Measurements. Wing 55 to 57 mm.; tail 40 to 41 mm.; tarsus about 17 mm.; culmen about 10 mm.

Distribution. Transcaspia, Tianschan, Samarkhand, Kashgar and possibly the Indian Frontier on the Afghanistan and Baluchistan boundary in Winter. Whitehead's breeding-birds were not, I think, of this race, but true *himalayensis*, though they are rather pale. A specimen from Quetta, shot in January, is, however, much nearer *tristis*.

[illegible]ation and **Habits.** Nothing recorded.

Family REGULIDÆ.

In this family Oates retained only the one genus, *Regulus*, whilst he placed *Leptopœcile* and *Cephalopyrus* in his subfamily *Liotrichinæ* of the family *Timaliidæ*. Gadow, in Volume viii. of the British Museum Catalogue of Birds places the first two genera in the *Regulidæ*, whilst *Cephalopyrus* he keeps with the Titmouses, *Paridæ*, in the genus *Ægithalus*. Hartert, on the other hand, places all three genera in the *Paridæ*, though he does not absorb *Cephalopyrus* into *Ægithalus* or into any of the other genera.

I can see no resemblances to the *Timaliidæ* in either *Regulus* or *Leptopœcile*, which are undoubtedly very closely allied. *Cephalopyrus* is very close to *Leptopœcile* but differs from both the other genera in its most unusual nidification. With the Warblers they have many characters in common and, probably, their most correct position would be between the *Paridæ* and *Sylviidæ*.

In this family, *Regulidæ*, the birds are all alike very small with thick soft plumage; the head is sub-crested; the bill is small and straight, less than half the length of the head; rictal bristles are present, though in different degree and there is an operculum, or semi-operculum, over the nostril, which is placed in a groove; the wing is short and rounded, the 4th, 5th and 6th primaries being subequal; the tail is shorter than the wing but varies in shape; the tarsus is long, more than two and a half times the length of the hind toe without claw.

Key to Genera.

A. Nostrils covered with a stiff feather	REGULUS, p. 538.
B. No feather over nostril.	
a. Crown chestnut suffused with blue; tail well rounded	LEPTOPŒCILE, p. 542.
b. Crown orange-red; tail square	CEPHALOPYRUS, p. 544.

Genus **REGULUS.**

Regulus Koch, Syst. baier. Zool., p. 199 (1816).

Type, *R. cristatus* Koch = *R. regulus*.

Regulus regulus.

Motacilla regulus Linn. S. N. i, p. 338 (1766).

Type-locality: Sweden.

Key to Subspecies.

A. Upper parts dull olive-green, below fulvous-white	*R. r. himalayensis*, p. 539.
B. Upper parts darker and browner, below greyish white	*R. r. yunnanensis*, p. 541.
C. Upper parts paler and more grey, below greyish white	*R. r. tristis*, p. 541.

(944) **Regulus regulus himalayensis.**

THE HIMALAYAN GOLDCREST.

Regulus himalayensis Jerdon, B. of I., ii, p. 206 (1863) (N.W. Himalayas) (restricted to Srinagar).
Regulus cristatus. Blanf. & Oates, i, p. 344.

Vernacular names. None recorded.

Description.—Adult male. Centre of crown flame-colour edged with bright lemon-yellow; sides of crown black; upper parts dull olive-green, greyish on the upper back and becoming almost olive-yellow on the rump and upper tail-coverts; tail-feathers brown edged with olive-yellow; wing-coverts dark brown edged



Fig. 85.—Head of *R. r. himalayensis*.

with yellowish white forming two broad bars; quills brown edged with yellowish white and with a black patch on the base of the inner primaries; lores and round the eye greyish white; below fulvous-white, tinged with olive on the flanks and sides of breast.

Colours of soft parts. Iris dark brown; bill black; legs and claws dark greenish brown, soles of feet paler and more yellowish.

Measurements. Length about 100 mm.; wing 53 to 58 mm.; tail about 36 mm.; tarsus about 17 mm.; culmen 9 to 10 mm. Hartert gives the wing as 55 to 58·5 mm. but there are several smaller than this in the British Museum.

Adult female. Similar to the male but with the centre of the crown yellow. The sexes are about the same in size.

The young are like the female but brighter and paler, though with no gold crest.

The Himalayan Goldcrest has generally been separated from the European on account of its larger size and more brilliant flame-coloured crown. Neither of these alleged differences hold

Distribution. The Himalayas from Afghanistan and Gilgit to Bhutan between 3,000 and 10,000 feet, descending to the Northern Plains in winter as far as Raipur, Nagpur and Saugor. It is also found in North Yunnan and Szechuan.

Nidification. This Tit-Warbler breeds in Kashmir, the Simla and Garhwal Hills, etc., between 5,000 and 10,000 feet in May and June. It is a common bird in the Murree Hills at 9,000 feet, making a deep cup-shaped nest of fine grasses and roots, which it places in a natural hole in a tree, generally in the trunk and most often at a great height from the ground. Marshall and Cook both found the nest at about 15 feet from the ground, but Rattray, Buchanan, Wilson and others took it as high up as 40 feet.

The eggs, which number four or five, are very remarkable, being a beautiful soft blue-green, a shade darker than the common Hedge-Sparrow's egg, without any gloss, although the surface is very fine and close. In shape they are broad ovals, the smaller end very little accentuated. Twenty-five eggs in my collection average 14·5 × 11·0 mm.: the maxima length and breadth are **16·2 × 11·5** mm., and the minima **13·9 × 10·3** in each case both being found in the same egg.

Habits. In its habits this bird appears to be a true *Regulus* and resembles that bird in flight, song and its entirely insectivorous diet. On trees it has the same quick restless movements and it also has the same rather curious habit of constantly flying backwards and forwards between two favourite feeding-grounds.

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Distribution. South Tibet and East to the Yangtse-kiang. The type-locality is N.E. Tibet, but in the extreme N.E. *sophiæ* is undoubtedly the subspecies found; it also possibly straggles into Gilgit, where it again meets that form. It is common in the extreme North of Sikkim in the Chambi Valley.

Nidification. The Tibetan Tit-Warbler breeds from the middle of April to the end of May, second broods being often reared in June and even early July. It is extremely common in the Gyantse plateau, where many have found its nests and eggs. The nest is invariably placed very low down, often only a few inches from the ground, in the small dense clumps of a thorn-bush which grows everywhere on this plateau and, as it is always built well inside, it is frequently very difficult to get at even when its situation has been spotted. In shape the nest may be a ball, an oval or a long domed affair of no particular shape, wedged into a mass of thorns and stout twigs. The ball-shaped nests measure between 5 and 6 inches either way, whilst the shapeless ones may measure up to 9 or even 10 inches with a chamber of about 3 inches densely lined with feathers both soft and hard. The outside seems to be always ornamented with spiders' egg-bags and small scraps of lichen, etc., whilst the main portion of the nest is composed of moss, lichen, grass and feathers all mixed up and matted together.

The eggs number four to six and are tiny fragile ovals with glossless white shells speckled with dark blackish brown, occasionally with paler and redder specks and tiny blotches. Fifty eggs average 15·1 × 11·6 mm.: the maxima are **16·0** × 12·1 mm. and 15·5 × **12·2** mm.; the minima **14·3** × 11·0 and 14·8 × **10·9** mm.

Habits. The habits of this little bird seem to be a cross between those of the Titmouses and Warblers. It is extraordinarily restless and equally energetic: it scuttles along branches and twigs, now running along their upper surface, now proceeding head downwards along their lower. Then, when one has decided that its actions are purely Tit-like, it commences to make little sallies into the air, little flutters before leaves and flowers or otherwise to behave in the way so many Warblers do. It flies direct and fairly quickly, much as does *Regulus* and, like that species, keeps, when feeding, principally to the higher branches of trees.

It is essentially a bird of high levels, breeding between 10,000 and 15,000 feet and, even in winter, being seldom found under 9,000 feet, though it may descend on rare occasions as low as 5,000 feet. It is entirely insectivorous in its diet.

Genus **CEPHALOPYRUS.**

Cephalopyrus Bonap., Jerdon, B. of Ind., ii, p. 267 (1864).

Type, *C. flammiceps* Burton.

This genus contains but one species which is apparently very closely allied to the preceding but the wing is proportionately longer and more pointed, with a minute first primary and the tail is short and square.

Oates thought it probable that *Cephalopyrus* has a Spring moult, or at any rate a partial one, but that the material at his disposal was insufficient to prove this.

The extraordinary nidification of this bird, blue eggs laid in holes in trees, at once makes one very doubtful as to whether it can possibly be placed with the *Regulidæ* and it may have to be removed therefrom, either to another family or, more probably, to a family, *Cephalopyridæ*, by itself. Certainly, in so far as its nidification is concerned it shows no affinity with any other Oriental bird with which I am acquainted.

The egg is like that of the Suthoras and so may be said to form a link with the Tits through the *Paradoxornithidæ*, but those birds make very *Panurus*-like nests and do not lay their eggs high up in tiny holes in trees.

For the present I retain it, though with many misgivings, in this Family.

(949) **Cephalopyrus flammiceps.**

THE FIRE-CAPPED TIT-WARBLER.

Ægithalus flammiceps Burton, P. Z. S., 1835, p. 153 (Himalayas).
Cephalopyrus flammiceps. Blanf. & Oates, i, p. 247.

Vernacular names. None recorded.

Description.—Adult male. Forehead and fore crown flaming scarlet; upper plumage bright olive-yellow, greener on the upper back and purer yellow on the rump and upper tail-coverts; wings and tail brown, the feathers edged with olive-yellow, almost white on the inner secondaries; lores yellow, more or less washed with scarlet; a short broad supercilium the same; chin and upper throat scarlet-orange; sides of head, lower throat, breast and flanks golden-yellow fading to dull, pale yellow on the abdomen and under tail-coverts.

Colours of soft parts. Iris dark brown; bill plumbeous or horny-grey; legs plumbeous or slaty-brown.

Measurements. Length about 100 to 110 mm.; wing 57 to 60 mm.; tail 28 to 31 mm.; tarsus about 17 mm.; culmen about 9 mm.

Adult female. Above dull pale olive-green with no red and below dull whitish washed with pale olive-yellow.

Colours of soft parts and **Measurements** as in the male.

The young male is like the female.

Male after first moult like the adult male but decidedly darker and with the scarlet confined to the forehead.

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PRINTED BY TAYLOR AND FRANCIS,
RED LION COURT, FLEET STREET, LONDON.



