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THE
AVIFAUNA OF BRITISH INDIA
AND ITS DEPENDENCIES.

A SYSTEMATIC ACCOUNT,
WITH DESCRIPTIONS OF ALL THE KNOWN
SPECIES OF BIRDS INHABITING BRITISH INDIA,
OBSERVATIONS ON THEIR HABITS, NIDIFICATION, &c.,
TABLES OF THEIR GEOGRAPHICAL
DISTRIBUTION IN PERSIA, BELOOCHISTAN,
AFGHANISTAN, SIND, PUNJAB, N. W. PROVINCES,
AND THE PENINSULA OF INDIA GENERALLY,

WITH
WOODCUTS, LITHOGRAPHS, AND COLOURED ILLUSTRATIONS.
BY

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"KURRACHEE TO KANDAHAR;" "THE VERTEBRATE ZOOLOGY OF SIND;"
"THE REPTILES OF SIND;" "THE EDIBLE AND GAME BIRDS OF
BRITISH INDIA, WITH ITS DEPENDENCIES AND CEYLON," &c.



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PREFACE.

IT is not without some degree of gratification that this work on the Avian inhabitants of British India and its Dependencies is now brought to a close. It has occupied fully three and a half years of incessant labour and research, which, considering that there were as many as 1,460 species to examine and describe, and that the literature of this number had to be referred to with regard to their habits, nesting, distribution, and synonymy, &c., is not long. It is however some satisfaction to find my subscribers and correspondents so impatient for its completion; a proof of its utility as a Thesaurus with special reference to the Ornis of the British Indian Empire. There has not been any unnecessary delay in issuing the several parts, but the difficulties to be contended with in treating the subject systematically as well as in some degree popularly, and the time which would be involved in obtaining specimens of certain doubtful species or sub-species from various correspondents in different parts of India was not calculated, nor was there, at the outset, the faintest thought, that during the publication, I would lose the valuable assistance of several contributors of note, as well as supporters of the work, who either died or left for England, but whose reputation in Ornithology have been long ago recorded in the annals of Natural History. By such loss, the distribution table, so far as Northern India is concerned, is not as complete as it should otherwise have been.



PREFACE.

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In the first volume, part of the first great division of the Avifauna of British India was treated of—*viz.*, the carnivorous and rapacious kinds, which by the aid of their piercing sight and some by their developed sense of smell discover their prey from immeasurable heights. Several groups of Passeri-forme birds were also dealt with. In the present volume, which is more than double the size of the first, the remaining divisions are treated of, beginning with some of the Turdidæ and Timelidæ, or birds which though ordinarily less noticed, are nevertheless of much service in the economy of nature, in keeping down the myriads of insects which infest the earth and atmosphere. The total number of species as now ascertained and dealt with in this work is 1,460, or 452 in excess of the number described by the late Dr. Jerdon in his "Birds of India." The distribution in India of this number, so far as it has been possible to collate information, is shown in the following table:—

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It will be seen from the distribution table that it is chiefly the migrant forms which are more generally distributed, as the Motacillidæ, Emberizidæ and the waders and swimmers, and naturally, following in their wake, the rapacious species. Assimilation of climatic conditions as affecting this distribution may be easily judged from the number of species occurring in each of the countries above named, while the number



PREFACE.

occurring in Beloochistan and Persia must only be calculated as being generally a diffusion of species along the coast line during winter. It is much to be regretted that statistics of the occurrence of species in Cashmere are wanting, and that Nepaul has been only partially worked up. In course of time, when the British Museum authorities have completed their catalogue of Mr. Allan Hume's valuable contribution to the National collection, we may learn more of the distribution of species in those regions, as well as of the distance of their migration.

In the Introduction (Vol. I.) mention has been made of the authors from whose works information has been collated, and in many instances original descriptions also. Here I must now refer to the illustrations. In the first place, for many reasons, they are not as numerous as was at first contemplated, but of the manner in which the majority have been done, I can speak with perfect satisfaction. Of the full page plates, some are original, and others have been taken from either the Zoological Society's Journal, The Ibis, Blanford's Zoology of Persia, my work on the Vertebrate Zoology of Sind, and from the British Museum Catalogues. The coloured plates have been done by Mintern Brothers, and the manner in which these have been finished reflects much credit on the firm.

It now remains for me to mention the names of those Naturalist-Collectors who have very kindly assisted me in making the work full of more recent information, especially in regard to the distribution of species and nidification. Mr. Mahon Daly of the Shevaroy Hills has been good enough to send information and specimens from the locality he worked in; Mr. P. W. MacKinnon of Mussoorie also, as well as Mr. Charles Wilkinson of Darjeeling, Mr. Beckwith in the Sikkim



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Terai, and Messrs H. Parker and F. B. Armstrong of Ceylon. Mr. A. G. Cardew of Ootacamund also very kindly sent copious notes, also Mr. C. Wyeth of Tavoy. To this list must be added the name of Mr. J. A. Cave-Browne, of Rangomati, to whom both myself and all subscribers to this work are indebted for the English Index which was very kindly compiled by him. Mr. H. M. Phipson very kindly placed at my disposal such works of reference as he possessed, and for similar obligations I am indebted to Mr. Charles Taylor, to whom, as Superintendent of the Press, is also due the neatness and general out-turn of this work.

JAMES A. MURRAY.

Ripon Road, Byculla, Bombay,
1st February 1890.



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Fig 1. *Aethopyga nipalensis*.
 2 & 3. *seherae*.



Cinnyris Minimus.

**Family, ARTAMIDÆ.—SWALLOW SHRIKES.**

Bill moderate, wide at base, deep and slightly curved; commissure slightly curved; nostrils basal, with a minute tuft of bristles at their base; tarsus short and strong; claws well curved, acute; wings long; 1st quill minute, 2nd longest; tail short. (*Ferd.*) Plumage grey. They are called Swallow Shrikes, owing to their feeding like the swallows in the air.

Gen. *Artamus*—*Vieill.*

Characters those of the Family.

**165a. *Artamus fuscus*, *Vieill.*, *Nouv. Dict. d'Hist. Nat.* xvii. p. 297; *Ferd.*, *B. Ind.* i. p. 441, No. 287; *Hume*, *Nests and Eggs*, *Ind. B.* p. 194; *Blyth*, *B. Burm.* p. 127; *Hume*, *Str. F.* iii. p. 102; *Armstrong*, *Str. F.* iv. p. 321; *Dav. et Oust.* *Ois. Chine*, p. 101; *Cripps*, *Str. F.* vii. p. 273; *Sharpe in Rowley's Orn. Misc.* iii. p. 191; *Legge*, *B. Ceylon*, p. 666; *Hume*, *Str. F.* viii. p. 92; *Oates*, *Str. F.* x. p. 203; *id.*, *B. Br. Burm.* i. p. 396.—
The ASHY SWALLOW SHRIKE.**

Lores black; head and neck ashy grey, also the back, scapulars, rump and shorter upper tail coverts, but these with a rufescent or vinous tinge; longer upper tail coverts white; tail dark grey, tipped with whitish; wings and their coverts deep grey; quills narrowly margined with white near the tips and on portions of the inner webs; breast, abdomen, under wing and under tail coverts pale purplish brown, the latter finely barred with ashy. Bill pale blue, darker at the tip; legs slaty; irides dark brown.

Length.—7 to 7·3 inches; wing 5·2; tail 2·5; tarsus 0·65; bill from gape 0·95.

The young are barred above, the quills are broadly margined with whitish, and the under wing coverts tipped with rufous.

Hab.—Throughout nearly the whole of the moist regions in India and Ceylon. Jerdon says it is more abundant in the wooded districts, especially where palm trees abound, more particularly the Palmyra palm. He found them most abundant in the Carnatic, the Malabar Coast, the Northern Circars and Bengal; rare in the Deccan and Central India. Occurs also at Darjeeling, spread throughout Assam, British Burmah and Ceylon. It has been found at Arracan, Tenasserim and Pegu in large flocks. The nests are built on palm trees, and are made of grass, twigs and fibres. Eggs, 4 in number, whitish, marked at the larger end with yellowish brown and lilac.

Artamus leucorhynchus, a species with the rump and lower surface of the body white and the back and wings chocolate brown, is found in the Andamans.



SINCE the publication of the 2nd part of the 1st Volume of this work, the following species of *Digenea* has been described by Mr. Sharpe of the British Museum :—

269a. *Digenea leucops*, P. Z. S. 1888, pt. ii., p. 246:—

General colour above light olive brown, with somewhat of an ashy tinge; wing coverts like the back, the greater series somewhat more ruddy brown externally; bastard wing, primary coverts and quills dusky brown, externally ruddy olive; upper tail coverts rather more reddish brown than the back; tail feathers dusky brown, externally reddish brown; crown of the head like the back; a white line across the base of the forehead widening into a large supra-loral spot; feathers about the eye washed with ashy grey; lores ashy, as also the feathers round the eye; ear coverts and cheek ashy washed with olive; throat white; the chin and a broad band on each side of the throat black, continued downwards, and forming a collar on the foreneck; chest and breast pale ashy, with a slight tinge of olive brown; abdomen white; sides of body and flanks olive brown; thighs olive brown; under tail coverts white, also the under wing coverts and axillaries. "Bill slaty brown; feet white tinged fleshy; iris bright dark brown." (*R. G. Wardlaw-Ramsay.*)

Length.—4·3 inches; wing 2·5; tail 1·75; tarsus 0·8; culmen 0·45.

Hab.—Shillong and Karenne, B. B.

An allied species (*D. malayana*) is also described from Perak.

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**ORDER, GEMITORES—PIGEONS AND DOVES.**

Bill short, straight, compressed, front half of mandible vaulted and curved at the tip, the base with a soft fleshy membrane, in which are the nostrils; wings moderate or long; tail variable, of 12, 14, or 16 feathers, even or rounded; tarsi strong. Habits monogamous. Both sexes assist in making the nest, incubating the eggs, and feeding the young. Nests loosely constructed of twigs, straw, and almost any material which could be readily got and built on trees, roof of buildings or ledges and holes in rocks; eggs two in number, white. They feed on fruit and grain, and in feeding the young disgorge the food from their craw.

Family, TRERONIDÆ—FRUIT PIGEONS.

Bill variable, short, thick, or slender; tip vaulted; tail of 14 feathers; tarsi more or less feathered, the bare portion reticulated.

Gen. *Treron*.—Vieill.

Bill strong and deep; eyes surrounded by a nude space.

1140. *Treron nipalensis* (*Hodgs.*), *Jerd.*, *B. Ind.* ii. p. 445, No. 771; *Hume*, *Str. F.* iii. p. 160; *Blyth and Wald.*, *B. Burm.* p. 163; *Hume and Dav.*, *Str. F.* vi. p. 410; *Hume*, *Str. F.* viii. p. 109; *Bingham*, *Str. F.* ix. p. 193; *Oates*, *Str. F.* x. 235; *id.*, *B. Br. Burm.* ii. p. 306.—
The THICK-BILLED GREEN PIGEON.

Head and nape ashy, paler on the crown and tinged with greenish on the nape; rest of the plumage bright green, except the back, scapulars, and most of the wing coverts, which are maroon; other coverts and tertiaries green, the median series broadly edged with yellow; greater coverts blackish, edged with yellow; primaries and their coverts black, the latter narrowly edged with white; secondaries black, edged externally with yellow; central feathers of the tail green, the next pair greenish with ashy tips, the rest of tail feathers ashy, tinged with green on the outer webs, and with a black bar across; under tail coverts cinnamon brown. The *female* differs in wanting the ashy head and maroon mantle. Bill red at base; the culmen yellowish; corneous portion bluish white; eyelids greenish blue; irides blue; legs bright red; corneous portion of bill extending to the forehead.

Length.—10·5 to 10·8 inches; tail 3·5; wing 5·5 to 5·7; tarsus 0·9; bill from gape 0·95.

Hab.—The hill tracts of Eastern Bengal and S.-E. Himalayas, the hilly, parts of Burmah, extending down the Malay Peninsula to Sumatra; also Siam and Cochin-China. Found in flocks; feeds on fruits. Breeds in March. Eggs 2, pure white.

Gen. **Crocopus**.—*Bonap.*

Characters those of the Sub-Family ; basal portion of bill with the fleshy protuberance occupying one-half its length or nearly as much ; third primary sinuated on its inner web.

1141. *Crocopus phœnicopterus* (Lath.), *Ferd.*, *B. Ind.* ii. p. 447, No. 772; *Hume, Str. F.* ii. p. 423. *Crocopus Hardwickii*, *Gould, Cent. Him. B.* pl. 58.—The BENGAL GREEN PIGEON.

Top of head and demicollar ashy grey ; back of the neck yellowish green ; forehead tinged with greenish ; wing coverts lilac, the greater series margined yellow, forming an oblique bar across the wing ; tail ashy grey above, and for the terminal two-fifths tinged with green ; middle portion blackish ; neck in front and breast bright yellow green ; middle of abdomen ashy grey ; vent white and green ; lower abdomen bright yellowish green ; under tail coverts dull maroon, and with white tips ; bill whitish ; feet yellow ; irides carmine ; eyelids smalt blue.

Length.—12·5 inches ; tail 5 ; wing 7·5 ; bill at gape 0·9.

Hab.—Bengal and Upper India, extending to Assam, Sylhet and Tipperah. Found in the Eastern portions of Rajpootana, the Punjab, Central and N.-W. Provinces and Oudh ; also in Central India. Breeds from March to June, in trees. Eggs two in number, of an oval shape, white and glossy, varying in length from 1·16 to 1·35 inch, and in breadth from 0·9 to 1 inch.

1142. *Crocopus chlorigaster*, *Blyth, J. A. S. B.* xvii. p. 167 ; *Ferd.*, iii. p. 448, No. 773 ; *Str. F.* ii. p. 423 ; *Murray, Hdbk., Zool. &c., Sind*, p. 193 ; *Tem. Pig.* t. 2. *C. jerdoni*, *Strickl.*—The SOUTHERN GREEN PIGEON.

Forehead, crown and nape ashy grey, as also are the lores, sides of the face and ear coverts ; neck behind yellowish green, followed on the upper back by a narrow band of ashy grey ; back, scapulars, rump and upper tail coverts green, slightly tinged with yellowish on the scapulars ; primaries dusky brown, margined on their outer web with pale yellow ; the wing coverts broadly margined with the same colour, forming an oblique wing bar ; shoulder of wing lilac ; tail above greenish at base and ashy grey for the terminal half ; under tail coverts dull maroon, the feathers broadly tipped with white ; chin and throat greenish yellow ; neck in front, breast and abdomen bright yellow, tinged greenish on the flanks ; vent mixed green and white ; bill whitish ; legs and feet yellow ; irides carmine.

Length.—11·75 to 12·5 inches ; wing 7 ; tail 5 ; bill at front 0·75.

Hab.—Nearly throughout the Peninsula of India and Ceylon (*Ferd.*), Malabar Coast, Madras and Southern India generally ; Lower Bengal, Oudh, Central Provinces, Khandeish, the Deccan, Sind, and North Guzerat. Rare in Sind,

and has only been found on the frontier, at Jacobabad. Breeds from March to June, nesting on trees. Eggs two in number, pure white and glossy, 1.12 to 1.3 a length by .09 to 1.0 in breadth.

1143. *Crocopus viridifrons* (Blyth), Hume, Str. F. iii. p. 161; Blyth, B. Burm. p. 143; Oates, Str. F. v. p. 163; Anders., Yunnan Exped. p. 664; Hume and Dav., Str. F. vi. p. 410; Hume, Str. F. viii. p. 109; Bingham, Str. F. ix. p. 194; Oates, Str. F. x. p. 235; id., B. Br. Burm. ii. p. 307.—The YELLOW-FRONTED GREEN PIGEON.

Lores, forehead, cheeks, throat, breast, sides and back of the neck and thighs deep yellow; ear coverts, crown, nape, and a band across the nape ashy; also the abdomen, sides of the body and under wing coverts; vent mixed yellow and ashy; under tail coverts maroon, tipped with white; back, scapulars, tertiaries, rump and lesser wing coverts dull green, a patch of lilac near the bend of the wing; winglet and primary coverts dark brown; quills dark brown, edged with yellow; greater coverts dark brown, broadly edged with yellow; basal half of tail greenish yellow; terminal half of tail and upper tail coverts ashy. (Oates.) Irides blue, the outer circle pink; eyelids plumbeous; legs orange yellow.

Length.—12.5 to 12.8 inches; tail 4.7; wing 7.5; tarsus 1.1; bill from gape 1.

Hab.—British Burmah, where it is said to be extremely common, and spread over the whole Province alike in the hills and plains. It extends through the Indo-Burmese countries to Cachar, and eastwards to Cochin-China. Breeds in April. Nest placed in low trees. Eggs white, two in number.

Gen. Osmotreron—Bonap.

General characters as in *Crocopus*; bill more slender; legs red; sexes differ much in plumage.

1144. *Osmotreron bicincta*, Ferd., B. Ind. ii. p. 449; Hume, Nests and Eggs Ind. B. p. 493; Blyth and Wald., B. Burm. p. 144; Armstrong, Str. F. iv. p. 337; Oates, Str. F. vi. p. 163; Hume and Dav., Str. F. vi. p. 411; Hume, Str. F. viii. p. 109; Legge, B. Ceylon p. 725; Oates, Str. F. x. p. 235; id., B. Br. Burm. ii. p. 308.—The ORANGE-BREASTED GREEN PIGEON.

Upper surface of the body, including the lesser wing coverts, tertiaries and greater wing coverts green, the two latter broadly edged on the external web with yellow; winglet, primaries, and the primary coverts black; secondaries also black, narrowly margined with yellow; occipital region, nape, hind neck, under wing coverts, axillaries, sides of the body, and central tail feathers ashy; other tail feathers dark ashy, all tipped with greyish white; forehead, front of crown, sides of the head and neck, chin, throat, abdomen, and vent yellowish green; flanks yellow, streaked with dark green; breast orange, separated from



the neck by a lilac band across, forming a collar; under tail coverts cinnamon. The *female* has not the lilac and orange breast, and the under tail coverts are pale ashy white, dashed with dull greenish; bill glaucous green; legs pinkish red; irides blue, with an outer circle of red.

Length.—12 inches; tail 4·2; wing 6·3; tarsus 0·8; bill from gape 1.

Hab.—The more moist and wooded portions of India and Ceylon, and also in the greater part of British Burmah. Extends to Assam, Cachar, and countries to the eastward. Recorded from Lower Bengal and the coasts east and west of India. Occurs abundantly in Nepaul, Sylhet, Tipperah, and Arrakan; also the Sub-Himalayan terais of Behar and Oudh, and the Eastern forest regions of the Central Provinces. Breeds in the Nepaul terai from April to June, making a nest generally on the outer branch of a tree. Eggs two in number, oval, and pure white.

1145. *Osmotreron vernans* (Linn.), *Wald. Trans. Zool. Soc.* viii. p. 81; *Hume and Dav., Str. F.* vi. p. 411; *Hume, Str. F.* viii. p. 109; *Kelham, Ibis*, 1881, p. 526; *Oates, B. Br. Burm.* ii. p. 309. *Columba vernans*, *Linn., Mantissa Plant.* p. 526. *Columba viridis*, *Scop., Del. Flor. et Faun. Insul.* ii. p. 94. *Osmotreron viridis*, *Hume, Str. F.* i. p. 460. *Treron vernans*, *Salvad., Ucc. Born.* p. 286. —THE PINK-NECKED GREEN PIGEON.

Forehead, crown, sides of the head, chin, throat, and sides of the body ashy; nape, hind neck, sides of the neck and breast vinaceous pink; lower breast orange; back, rump, scapulars, tertiaries and wing coverts green, the outer, median and greater coverts and some of the tertiaries margined with yellow; quills blackish, very narrowly margined with yellow; upper tail coverts rufescent; abdomen greenish yellow; vent and flanks mixed green and yellow; under tail coverts deep chestnut; tail ashy, with a broad subterminal blackish band, and tipped with paler ashy. The *female* has not the vinaceous pink breast; and the whole head, neck, and breast are green; under tail coverts yellowish white, marked with cinnamon and dull ashy green; legs and feet carnation pink; bill pale plumbeous; cere dirty yellowish; irides Prussian blue, with pink and buff outer circles.

Length.—11 inches; tail 4; wing 5·7; tarsus 0·8, bill from gape 0·85.

Hab.—Southern Tenasserim, extending down the Malay Peninsula and eastwards to Cochin-China. Found also in Sumatra, Java, Borneo, Celebes, and the Phillipine Islands. Breeds in the Malay Peninsula during March on bushes in swampy places.

1146. *Osmotreron malabarica*, Jerd., Ill. Ind. Orn. pl. 31; *id., B. Ind.* ii. p. 450; *Hume, Nests and Eggs Ind. B.* p. 493; *Hume, Str. F.* iii. p. 162; *id., Str. F.* iv. p. 261; vi. p. 414.—THE GREY-FRONTED or MALABAR GREEN PIGEON.

Forehead greyish white; mantle and wing coverts maroon; rest of upper parts, including the lores, face and ear coverts green; wing coverts broadly
in



edged with bright yellow; quills the same, but narrow; tail green, with a broad medial dark band and broadly tipped with ashy white; under surface of the body green; throat and neck yellowish; vent and thigh coverts mixed green and pale yellow; under tail coverts cinnamon. The *female* has not the maroon patch; bill glaucous green; legs and feet pinkish red; irides red, with an outer blue circle.

Length.—10·2 to 10·5 inches; tail 4; wing 5·75. No nude space round the eye.

Hab.—Wooded and hilly tracts of the Indian Peninsula; abundant in Malabar and South India, also in Central India and the Eastern ghauts. It is also found in Mysore and South Wynaad, as well as in the Assamboo hills.

Breeds during April. Eggs pure white, and Hume says, thickly studded with minute pores.

1147. *Osmotreron Phayrii*, Blyth, *J. A. S. B.* xxxi. p. 344; *Ferd.*, *B. Ind.* ii. p. 451, No. 776; *Hume, Str. F.* iii. p. 162; *Blyth, B. Burm.* p. 144; *Hume and Dav.*, *Str. F.* vi. p. 412; *Hume, Str. F.* viii. p. 109; *Bingham, Str. F.* ix. p. 194; *Oates, Str. F.* x. p. 235; *Oates, Br. Burm.* ii. p. 310.—PHAYRE'S GREEN PIGEON.

Very like *Osmotreron malabarica*, differing only in having the entire cap ashy in both sexes; breast greenish, tinged with orange. The *female* has not the orange breast, and the maroon of the male is replaced by green; the under tail coverts are mixed green, ashy and white; bill bluish; legs lake red; irides blue, with an outer pink circle.

Length.—11 to 11·5 inches; tail 4; wing 6·3; tarsus 0·9; bill from gape 1.

Hab.—Lower Bengal, Assam, Sylhet, and Burmah, where it occurs in all the hilly tracts of the province, as far as Tavoy, and extends to the east as far as Cochin-China.

1148. *Osmotreron fulvicollis* (Wagler), *Hume and Dav.*, *Str. F.* vi. p. 413; *Hume, Str. F.* viii. p. 109; *Oates, B. Br. Burm.* ii. p. 311. *Columba fulvicollis*, *Wagl.*, *Syst. Av. Columba*, No. 8; *Wald.*, *Trans. Zool. Soc.* ix. p. 213. *Treron fulvicollis*, *Salvad.*, *Ucc. Born.*, p. 288.—THE RUDDY GREEN PIGEON.

Entire head, neck and upper breast ruddy vinaceous, paling on the lower breast; abdomen green; vent and flanks ashy green and yellow; thighs bright yellow; rump ashy green; sides of the body greyish white; under tail coverts cinnamon; back, scapulars and lesser wing coverts maroon; upper tail coverts and central tail feathers dull green; others green at base with a subterminal dark band and tipped with pale ashy. Legs and feet purplish pink; bill deep red; irides buffy pink; orbital skin plumbeous green.

Length.—10·5 inches; tail 3·5; wing 5·5; tarsus 0·8; bill from gape 0·8.



Hab.—Tenasserim, in the extreme south, extending down the Malay Peninsula, and occurring in Sumatra, Borneo, and the Philippines.

1149. *Osmotreron pompadoura* (Gmel.), *Jerd.*, *B. Ind.* iii. p. 452, No. 777; *Hume*, *Str. F.* iii. p. 162; vi. p. 414. *Osmotreron flavogularis*, *Blyth*, *J. A. S. B.* xxvi. p. 225.—The YELLOW-FRONTED GREEN PIGEON.

Like *Osmotreron malabarica*; differs in having a yellowish forehead, pure yellow throat, no buff patch on the breast, and the under tail coverts are green in both sexes, with broad whitish tips; bill glaucous green; irides red, with an outer blue circle.

Length.—10·5 inches; tail 4; wing 5·75.

Hab.—South India.

Osmotreron chloroptera is said to occur in the Andamans and Nicobar Islands.

Gen. *Sphenocercus*.—Gray.

Bill moderately slender and lengthened, the basal two-thirds soft and tumid; corneous extremity feeble; a small wide space round the eyes; third primary not sinuated; tail with the central feathers much elongated and narrow; soles of feet slender.

1150. *Sphenocercus sphenurus* (Vigors), *Jerd.*, *B. Ind.* ii. p. 453; *Hume*, *Nests and Eggs Ind. B.* p. 494; *id.*, *Str. F.* iii. p. 163; *Wald.* in *Blyth's B. Burm.* p. 144; *Hume and Dav.*, *Str. F.* vi. p. 415; *Hume*, *Str. F.* vii. p. 109; *Scully*, *Str. F.* viii. p. 339; *Oates*, *Str. F.* x. p. 235; *id.*, *B. Br. Burm.* ii. p. 304. *Vinago sphenurus*, *Vigors*, *P. Z. S.*, 1831, p. 173.—The WEDGE-TAILED GREEN PIGEON or the KOKLA.

Plumage green, with a ruddy tinge on the head and breast; shoulder of wing and mantle maroon; wing coverts, tertiaries, back, rump and upper tail coverts dark dull green; upper back slaty green; quills dusky or dark brown; tail green, the outer feathers slate colour, and with a dark subterminal band; greater wing coverts and secondaries narrowly margined with yellow; under surface of the body green; part of the throat, and entire breast suffused with orange buff; vent and under tail coverts pale cinnamon. The female has not the orange buff colour on the breast, and the under tail coverts are mixed white and green; bill glaucous blue, albescent at the tip; irides blue, with an outer circle of red; orbital skin pale blue; legs coral red.

Length.—13 inches; tail 5·5; wing 7; bill at front 0·75.

Hab.—Himalayas, extending into Assam and Sylhet, ascending as high as from 4,000 to 8,000 feet. Found also in Pegu. Jerdon says it is common at Darjeeling, and that at Mussoorie they leave in October and return to breed in April. Nest made on trees, composed of twigs. Eggs two in number, pure white.



1151. *Sphenocercus apicaudus* (Hodgs.), *Jerd., B. Ind.* iii. p. 454; *Wald. in Blyth's B. Burm.* p. 144; *Hume and Dav., Str. F.* vi. p. 415; *Hume, Str. F.* viii. p. 109. *Treron apicauda*, *Hodgs., J. A. S. B.* xiv. p. 854.—The PIN-TAILED GREEN PIGEON.

Plumage green; crown of the head with a yellowish tinge; upper tail coverts and under surface of the body tinged with yellowish; primaries slate colour; wing with two narrow conspicuous yellow bars; breast tinged with russet; tail with the medial pair of feathers much elongated beyond the rest, green at the base and pale grey at the tips; the others grey with a medial dark bar. Bill glaucous blue; legs coral red; irides dark yellow.

Length.—15·5 to 16 inches; tail 6·5, to end of central pair 8·0; wing 6·5; tarsus 0·9; bill from gape 1.

Hab.—S.-E. Himalayas, in Nepaul and Sikkim; also British Burmah, in Tenasserim, extending to the hill ranges of Eastern Bengal and Assam. Habits not unlike other pigeons. Jerdon says its not unlike the last species, but its *coo* is less loud, musical and prolonged.

Sub-Family CARPOPHAGINÆ.—FRUIT PIGEONS.

Bill longer than in *Treronina*, more slender and depressed at the base; the terminal third corneous; wings long; tail even or rounded, longer than in the *Treronina*; feet with broad soles; tarsus short and well feathered; under mandible feathered to nearly the tip. Breeds at high altitudes, and lays but one egg.

Gen. *Carpophaga*.—*Selby*.

General characters of the sub-family; plumage above glossy metallic green or coppery brown.

1152. *Carpophaga ænea* (Linn.), *Hume, Nests and Eggs Ind. B.* p. 496; *id., Str. F.* ii. p. 260; iii. p. 163; *Blyth, B. Burm.* p. 144; *Wald., Trans. Zool. Soc.* ix. p. 215; *Armstrong, Str. F.* iv. p. 337; *Inglis, Str. F.* v. p. 39; *Hume and Dav., Str. F.* vi. p. 416; *Hume, Str. F.* viii. p. 109; *Legge, B. Ceylon* p. 718; *Bingham, Str. F.* ix. p. 194; *Parker, Str. F.* ix. p. 481; *Oates, B. Br. Burm.* ii. p. 301. *Columba ænea*, *Linn., Syst. Nat.* i. p. 283. *Columba sylvatica*, *Tick., J. A. S. B.* iii. p. 581. *Carpophaga sylvatica* (*Tick.*), *Jerd., B. Ind.* ii. p. 455, No. 780.—The IMPERIAL GREEN PIGEON.

Whole head and neck and entire under parts pearl grey, tinged with ruddy vinaceous; under tail coverts deep maroon; orbital feathers, base of bill and chin whitish; back, rump, upper tail coverts, tertiaries, upper wing coverts and tail shining coppery green; axillaries buff; primaries and secondaries greenish brown, tinged with ashy on the outer webs. Bill greyish, the base dull red; eyelids, legs, and feet lake red.



Length.—17 inches; tail 6.5; wing 9; tarsus 1.1; bill from gape 1.5.

Hab.—The whole of India, from Ceylon to Assam and Sylhet, except the North-West Provinces and the Himalayas. It is also found in Burmah, and extends through the Malay Peninsula to Sumatra and Java. Affects forests and well-wooded parts of the country. Abundant in the Malabar forests, in Central and Southern India, Midnapore and the countries to the north-east generally. Breeds in the Andamans and in Tenasserim; also in the forests of Central India, laying only a single egg in a nest made of twigs in thickets and bamboo bushes. March and April are the months in which it breeds.

1153. *Carpophaga insignis* (Hodgs.), *Ferd.*, *B. Ind.* ii. p. 457, No. 781; *Hume, Nests and Eggs Ind. B.* p. 496; *id.*, *Str. F.* iii. p. 328.—The BRONZE-BACKED IMPERIAL PIGEON.

Whole head, neck and under parts pale lilac grey; back and wings vinaceous brown with a faint coppery gloss; rump and upper tail coverts dusky cinereous; tail dusky with its terminal fourth dull ashy, the tip beneath whitish grey; chin white; under tail coverts buffy white; bill dull lake red at base, slaty at tip; orbits lake red; irides red-brown and hoary grey; legs dull lake red.

Length.—18 to 20 inches; tail 6.8 to 7; wing 9.5; tarsus 1; bill from gape 1.4. (*Ferd.*)

Hab.—S.-E. Himalayas; also the Khasia hills, Sikkim and Arrakan. Jerdon adds that it is found in the mountain regions of Malabar, in Coorg, the Wynaad, and the Western slopes of the Neilgherries. Associates in small parties or in pairs, frequenting the loftiest trees and feeding on various fruits. According to Hodgson it breeds in Nepaul from May to July, laying a single white egg.

1154. *Carpophaga griseicapilla* (Wald.), *Dav.*, *Str. F.* v. p. 460; *Hume, and Dav.*, *Str. F.* vi. p. 418; *Hume, Str. F.* viii. p. 109; *Oates, B. Br. Burm.* ii. p. 302. *Ducula griseicapilla*, *Wald.*, *Ann. Nat. Hist. Ser.* iv. xvi, p. 228; *id.*, *Ibis*, 1875, p. 459; *Hume, Str. F.* iii. p. 402; *Wardlaw-Ramsay, Ibis*, 1877, p. 467. *Carpophaga insignis*, *apud. Bl. B. Burm.* p. 144.—The GREY-HEADED IMPERIAL PIGEON.

Forehead, crown, nape, cheeks and ear coverts pure French grey; back of neck vinous; interscapular region brown, with a vinous tinge; wing coverts brown like the back, but not so strongly tinged with vinous; quills dark brown; uropygium and upper tail coverts dark ash; rectrices above dark brown, with a broad grey terminal band; lower surface of rectrices pale grey; chin and throat pure white; remainder of lower surface pale grey, the breast being tinged with lilac; under tail coverts pale cream colour (*Walden*, ex *Oates*); legs and feet deep lake pink; bill the same but the corneous portion pale yellowish brown; irides pearly grey. (*Davison.*)

Length.—18.5 inches; tail 8; wing 9.5; tarsus 1.1; bill from gape 1.6.



Hab.—British Burmah on the Karen hills, east of Tounghoo, at from 4,000 to 4,200 feet elevation, also the Mooleyit mountain. Breeds in January.

1155. *Carpophaga bicolor* (Scop.), *Ball, Str. F.* i. p. 79; *Hume, Nests and Eggs Ind. B.* p. 496; *id., Str. F.* ii. p. 264; *Salvad., Ucc. Born.* p. 292; *Blyth, B. Burm.* p. 145; *Hume and Dav., Str. F.* vi. p. 418; *Hume, Str. F.* viii. p. 109. *Columba bicolor*, *Scop., Del. Flor. et Faun. Insul.* ii. p. 94. *Myristivora tricolor*, *Wald., Trans. Zool. Soc.* ix. p. 217.—The RED IMPERIAL PIGEON.

Winglet, primaries and secondaries black; terminal portion of tail black, the black occupying about half the feather on the centrals, decreasing in extent towards the outer feathers, and on the outermost pair, occupying merely a small portion of the tip and the outer web; remainder of the plumage white, with a creamy or yellow tinge (*Oates*); legs and feet pale smalt blue; bill leaden blue; tip darkish horny or dark plumbeous; irides dark brown. (*Davison.*)

Length.—16 inches; tail 5; wing 9; tarsus 1·2; bill from gape 1·3.

Hab.—Mergui Archipelago, according to Blyth. Occurs in the Nicobars and probably also in the Andamans with *C. insularis*, a large species with darker plumage than *C. ænea*, and the under tail coverts dingy brown tinged with chestnut, and the tail blue black. *C. palumboides* also occurs in the Andamans; it is characterized by having blackish wings and tail, and dusky slaty blue plumage.

Family—COLUMBIDÆ.—Bp.—PIGEONS AND DOVES.

Bill horny at apex only; tail generally of 12 feathers only; tarsus lengthened; plumage sombre; feet more fitted for walking on the ground. Breeds in holes of rocks, buildings or wells.

Sub-Family—PALUMBINÆ.—WOOD PIGEONS.

General characters of the family.

Gen. *Palumbus*.—Linn.

Characters those of the sub-family; the distinguishing feature is the patch on each side of the neck.

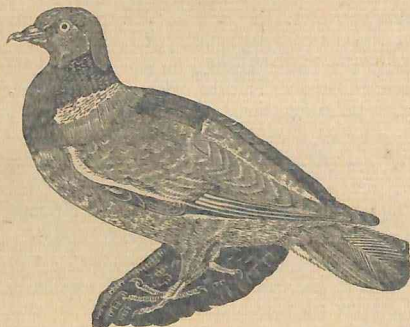
1156. *Palumbus pulchricollis*, *Hodgs., J. A. S. B.* xiv. p. 866; *Gould, B. Asia* pt. vi. pl. 13; *Jerd., B. Ind.* ii. p. 465, No. 785.—The DARJEELING WOOD PIGEON.

Above, general colour dusky grey; head, cheeks, and ear coverts light ashy; sides of the neck glossed with green and purple; neck patch black at base and with broad isabelline tips, followed by whitish at the extreme tip; tail blackish; under surface of the body pale vinous dove grey, albescent towards the vent and under tail coverts; throat whitish; breast glossed with green and purple. Bill livid at base, the tip yellow; irides yellow; legs dull red.

Length.—13·5 to 14 inches; tail 4·75 to 5; wing 8·5 to 9.

Hab.—S.-E. Himalayas, in Népaul and Sikkim. Not very common at Darjeeling.

1157. *Palumbus casiotis*, Bonap., Ic. Fig. t. 58; Jerdon, *Birds of Ind.* iii. p. 464, No. 784; Murray, *Hdbk., Zool., &c., Sind*, p. 193.—The HIMALAYAN CUSHAT.



Palumbus casiotis.

Head, lores, sides of the face, chin and throat bluish ashy; nape, hind neck and sides of the neck glossed green and purple, the latter predominating on the upper back and sides of the breast; neck patch on each side pure fulvous or yellowish clay; scapulars and tertials dusky or hair brown, lighter on the latter; breast dull lilac or ruddy vinaceous, paling on the upper abdomen to a vinous ash; lower abdomen, vent and under tail coverts ashy white; rump bluish ash; primaries and their coverts dusky, nearly dark brown; the primaries and some of their hindmost coverts margined with white on their exterior web; secondaries bluish ash, the tips dusky; wing coverts dark ashy; the lower series white on their outer web, and forming a longitudinal patch; winglet dark brown; tail dark ashy grey at the base, followed by a broad light ashy grey band, and a broad black tip; the under surface much darker, and the central band nearly white; bill orange at the tip, whitish at the base; legs red.

Length.—17 inches; wing 10·25 to 10·5; tail 7.

Hab.—This, the largest of the pigeon tribe, is found in Nepaul, N.-W. Himalayas, Sind, Punjab, Persia, Beloochistan, and S. Afghanistan. Found in Sind on the frontier only, at Jacobabad. Breeds as far as has yet been ascertained only in the extreme N.-W. Himalayas, and Hume adds, perhaps also in the higher fir forests below the snow range in the Western Himalayas. They remain about Simla, Almorah and Mussoorie from November to April, and then are found in forests between the Jumna and the Ganges.

1158. *Palumbus Elphinstonei* (Sykes), *Jerd.*, *B. Ind.* ii. p. 465, No. 786; *id.*, *Ill. Ind. Orn.* pl. 48; *Gould*, *B. Asia* pt. vi. pl. 12; *Hume*, *Str. F.* vii. pp. 95, 424. *Palumbus torringtoni* (Kelaart), *Blyth*, *Ibis*, 1867; *Hume*, *Str. F.* vii. p. 424.—THE NEILGHERRY WOOD PIGEON.

Head and neck ashy; nuchal patch black, with small *white tips*; back of neck and interscapulars cupreous ruddy, slightly glossed with greenish; rest of upper surface of body ruddy brown, dark ashy on the rump and upper tail coverts; wings, including the quills, dusky black, narrowly edged with ruddy cupreous; outer primaries pale edged; tail dull black; under surface of the body ashy, albescent on the throat; neck and breast glossed with green; vent and lower abdomen albescent; bill deep red, tipped with yellow; legs and feet dull red.

Length.—15 to 16 inches; tail 5.75 to 6; wing 8 to 8.25.

Hab.—The Neilgherries and the dense woods above the Khandalla ghauts in the Deccan. Breeds from March to July, laying only a single egg. Nests placed on high trees in dense woods. Egg spotless glossy white, oval, 1.46 × 1.2.

Gen. *Palumbæna*.—*Bp.*

Bill straight, compressed, convex, bent at the tip; base of upper mandible covered with soft skin, more or less inflated, in which are the nostrils; hind toe on the same plane with the front ones; wings ample; 1st quill shorter than the second, which is the longest.

Feet fitted for walking, as well as for perching; habits and colouring intermediate to *Palumbus* and *Columba*. (*Jerd.*)

1159. *Palumbæna Eversmanni*, *Bp.*, *Ic. Pig.* t. 61; *Jerd.*, *B. Ind.* iii. p. 467, No. 787; *Hume*, *Str. F.* i. p. 217; *Murray*, *Hdbk.*, *Zool.*, &c., *Sind*, p. 193.—THE INDIAN STOCK PIGEON.

Dark ashy, with a whitish grey rump; crown and breast tinged with vinaceous, two or three black spots on the wings, forming the rudiments of bands, and the end of the tail black; its outermost feather white for the basal two-thirds of its exterior web, or showing a black, and then a narrow grey band towards its tip; beneath the wings whitish, where it is dark ashy in the European bird. Bill yellowish translucent; legs with a yellowish tinge; skin round the eye yellow; irides buff.

Length.—11.5 inches; expanse 24; wing 8; tail 4. (*Jerdon*.) I have only a single specimen of this species from Shikarpoor, in Sind, and in a very unsatisfactory state for describing. Jerdon says this species is found in Western and Central India, and is probably migratory.

Gen. *Columba*.—*Linn.*

Characters same as those of *Palumbæna*.

1160. *Columba intermedia*, *Strickl.*, *Ann. Nat. Hist. Ser.* 1. xiii. p. 39; *Jerd.*, *B. Ind.* ii. p. 469, No. 788; *Hume*, *Nests and Eggs Ind. B.* p

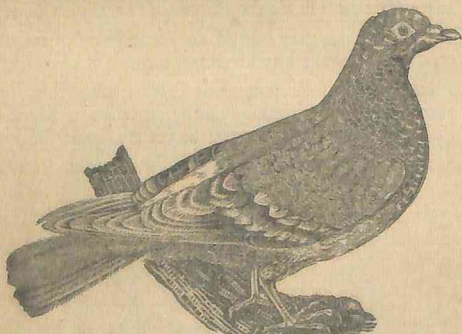
499; *David et. Oust. Ois. Chine*, p. 384; *Hume and Dav., Str. F.* vii. p. 449; *Hume, Str. F.* viii. p. 109; *Scully, Str. F.* viii. p. 339; *Legge, B. Ceylon* p. 698; *Blf., East Pers.* p. 268; *Murray, Vert. Zool. Sind*, p. 202. *Columba livia*, *apud. Bl. B. Burm.*, p. 145.—THE INDIAN BLUE ROCK PIGEON.

Head, nape, chin, abdomen, vent and upper and under tail coverts dark slaty grey; back, scapulars, secondaries, tertials, inner webs of primaries and rump pale ashy, paler on the rump; the outer webs of the primaries dusky grey, as are also their tips; secondaries broadly tipped dusky, the innermost tertials and greater wing coverts with a subterminal black patch on the outer web only, forming two black wing bands; neck all round and breast glossy, changeable green and amethystine, in varying lights; throat also slightly tinged with glossy green; under wing coverts white; tail like the upper tail coverts, or a little paler for two-thirds its length, then broadly black, with a very narrow terminal ashy tip; the basal two-thirds or more of the outer web of the outermost feather white. Bill black; cere whitish; irides dull orange; legs pinkish red.

Length.—12 to 13 inches; wing $8\frac{3}{4}$ to 9; tail 5; bill at front 0.75.

Hab.—Throughout India to Ceylon, the Himalayas, Assam, Burmah, Persia, Beloochistan and Afghanistan in great abundance, congregating in large flocks. Breeds throughout India. Eggs 2 in number, white and glossy 1.2×1.25 . Nesting in mosques, tombs, buildings, walls, and in holes in rocks, and caverns.

1161. *Columba livia*, *Bp., Ic.* t. 62; *Bodd., Pig. Pl. En.* 510; *Naum. vogl.* t. 150; *Tem. Pig.* t. 12; *Gould, B. Eur.* pl. 245; *Gray, Handlist Birds*, No. 9231; *Blf., East. Pers.* p. 268; *Hume, Str. F.* i. 218; vii. 296; *Murray, Hdbk. Zool., &c., Sind*, p. 193.—THE ROCK DOVE.



Columba livia.

Differs from *C. intermedia* in having a pure white instead of an ash coloured rump.



Hab.—S.-E. Europe, Sind, Beloochistan, S. Persia, S. Afghanistan, Arrakan, and some parts of Burmah. Breeds in December, laying, like *intermedia*, two white eggs.

1162. *Columba rupestris*, Pall., Zoogr. Rosso. As. pl. 25; Jerd., B. Ind. iii. p. 470, No. 789. *Columba livia*, apud Adams, B. Ind., No. 208. —The BLUE HILL PIGEON.

Like *Columba intermedia*, but much paler in colour, the head and sides of the face being ashy grey instead of dark slaty grey; wing coverts and upper back light grey; middle of back white; upper tail coverts dark ashy grey; quills grey, black shafted and darker at the tips and on the outer webs; a patch of greyish black on the wing, forming two bands; tail dark grey at the base, broadly tipped with black and a subterminal broad white stripe; outer rectrices white, tipped with black; chin ashy grey; neck glossed with purple; upper breast glossed with green; bill black; cere grey; irides red.

Length.—12·7 inches; tail 5; wing 8.

Hab.—Kumaon and Mussoorie.

1163. *Columba leuconota*, Vigors, P. Z. S. 1831, p. 331; Gould, Cent. Him. B. pl. 59; Jerd., B. Ind. iii. p. 471, No. 790; Hume, Str. F. iii. p. 256.—The WHITE-BELLIED OR IMPERIAL ROCK PIGEON.

Crown of the head and ear coverts blackish ash; neck behind white; interscapulars light brownish grey; rump white; wings light brownish grey, paler on the median coverts; primaries dull blackish near the tips, the secondaries broadly tipped with dusky; tertiaries and their coverts tipped greyish white, and forming 3—4 conspicuous bars; upper tail coverts and tail ashy black, with a broad greyish white curved band, the points of which reach the tips of the outer feathers, which are basally white externally; bill black; irides yellow; legs red.

Length.—13·5 to 14 inches; tail 5; wing 9·5.

Hab.—N.-W. Himalayas from 10,000 feet to snow level.

Gen. *Alsocomus*.—Tick.

Bill small, much compressed; wings long, 2nd quill equal to 4th, the 3rd longest and sinuate on the outer web.

1164. *Alsocomus puniceus*, Tickell, J. A. S. B. xi. p. 462; B. Ind. ii. p. 462, No. 782; Blyth, B. Burm. p. 145; Wardlaw-Ramsay, Ibis, Jerd., 1877, p. 147; Hume and Davison, Str. F. vi. p. 418; Legge, B. Ceylon, p. 698; Hume, Str. F. viii. p. 109; Oates, Str. F. viii. p. 167; Bingham, ibid. p. 196; Oates, Str. F. x. p. 235; Oates, B. Br. Burm. ii. p. 289.—The PURPLE WOOD PIGEON.

Whole plumage vinaceous ruddy, inclining to chestnut on the back and wings, the feathers more or less glossed with metallic green and amethystine,



especially on the neck; head greyish white; quills blackish, edged slightly with ashy; rump and upper tail coverts dark ashy; tail black; under tail coverts brown; bill livid at base, yellow at tip; legs and feet lake pink; irides orange; orbital skin purplish pink.

Length.—14·8 to 15 inches; tail 6; wing 8·5; tarsus 1; bill from gape 1·1.

Hab.—Tenasserim and Pegu, also in the Eastern portions of Central India, extending to near the sea coast in Midnapoor, and probably outwards towards Cuttack. It has been occasionally met with in Ceylon. To the east of the Bay of Bengal, in Assam, Arrakan, Singbhoom and Tenasserim it is more common. Oates says it is sparingly distributed over many parts of Pegu, and that it is more abundant near Kyakpadien than elsewhere. It has also been procured at Tounghoo. Tonka, where Hume records it from, appears to be the southernmost point of its distribution. Eggs similar to those of pigeons, and one in number only.

1165. *Alsocomus Hodgsoni* (Vigors), *Jerd. B. Ind.* ii. p. 463, No 783. *Columba Hodgsoni*, Vigors, *P. Z. S.* 1832. *Dendrotreron Hodgsoni*, Hume, *Nests and Eggs Ind. B.* p. 497.—The SPECKLED WOOD PIGEON.

Above dark vinaceous ruddy, the median coverts speckled with white; rump and upper tail coverts dusky ash; tail ashy black; head and beneath the throat in front of the neck cinereous tinged with ruddy; nape vinous grey, the feathers minutely tipped with greyish white; wing coverts greyish; quills dusky brown, the first three primaries very narrowly margined externally with whitish, not however present in all specimens; under surface of the body vinous grey; the feathers of the neck, breast and upper abdomen mesially streaked with ruddy; lower abdomen dark vinous; flanks speckled with white; under tail coverts dusky ash; bill purplish black; irides hoary; orbital space livid; legs and feet blackish green in front, yellow behind.

Length.—15 inches; tail 6; wing 9 to 9·25; tarsus 1. The *female* has a duller tinge on the upper and lower parts.

Hab.—Himalayas to Nepaul, ranging in the latter to 10,000 feet. In Sikkim, Jerdon says, it keeps to the higher ranges only. It inhabits deep forests in the middle region of the Himalayas. It is not found on the outer range of hills in the North-West Himalayas, but is far from rare on the Tyne range and other mountains, in the interior, where Blyth was informed that it is tolerably common, frequenting the pine forests.

Sub-Family—MACROPYGIINÆ.

Cuckoo doves with short feet, long and broad tails. The head too is small; wings rather short. Plumage ruddy brown.

Gen. **Macropygia**.—*Swains.*

Bill long and slender; tail long, broad and much graduated; legs and feet fitted for perching; lateral toes somewhat unequal; soles flat; rump more or less spinous.

1166. *Macropygia leptogrammica* (Temm.), *Wald., Ibis*, 1875, p. 439; *Oates, B. Br. Burm.* ii. p. 295. *Columba leptogrammica*, *Temm., Pl. Col.* 560. *Coccyzura tusalia*, *Hodgs, J. A. S. B.* xii., p. 937. *Macropygia tusalia*, *Jerd., B. Ind.* ii. p. 473, No. 791; *Hume, Nests and Eggs Ind. B.* p. 500; *Wald., in Blyth's B. Burm.* p. 146; *Wardlaw-Ramsay, Ibis*, 1877, p. 468; *Hume and Dav., Str. F.* vi. p. 419; *Hume, Str. F.* viii. p. 110.—The BAR-TAILED CUCKOO DOVE.

Forehead buff, with a vinous tinge; crown, nape and sides of the head vinaceous, glossed with changeable green and amethystine; hind neck also glossed the same; back, rump, upper tail coverts and scapulars, also tertiaries and wing coverts, dusky black, barred with numerous narrow deep rufous bars; central tail feathers black, barred with rufous; the next two pairs ashy at base and barred indistinctly with black and rufous at the end; the outermost feathers ashy, with a broad subterminal black band; outer web of the outermost feathers whitish; quills dark brown; chin and throat buff, with a vinous tinge; breast and sides of the neck vinous brown, with purple and green reflections, each feather with a concealed black bar and lilac tip; abdomen, vent and under tail coverts buff; sides of the body tinged with ashy. The female has the breast and upper abdomen barred with brown and the colours are less bright; bill horny brown; legs and feet dull lake red; irides brown, with an outer pink circle; orbital skin pale livid.

Length.—15 to 16 inches; tail 7·5; wing 7·2; tarsus 0·9; bill from gape 1.

Hab.—S.-E. Himalayas, from Nepaul to Bhootan, extending to the Khasia hills. In Sikkim, according to Jerdon, it frequents the zone from 3000 to nearly 7000 feet. Hodgson says it lays in the Central forests of Nepaul in May and June. At Darjeeling, according to Theobald, during July. It also occurs along the hill tracts of Eastern Bengal; in the north-eastern portion of Pegu on the Karin hills at 4000 feet elevation and on the Tounghoo hills at an altitude of 3500 feet. Oates adds, that Mr. Davison obtained it in Tenasserim on the Mooleyit mountain and at Kollidoo further north. They are shy birds and keep to thick forests, associating in small flocks. They breed on trees, making a nest of twigs and laying two eggs. Breeding season March and April. *Macropygia rufipennis*, Blyth, an allied species, is found in the Nicobar Islands. Nothing appears to have been noticed by late observers of *M. ruficeps*, Temm., a Javan species which Jerdon notices as occurring also in Tenasserim.

1167. *Macropygia assimilis*, *Hume, Str. F.* ii. p. 441; *Wald., in Blyth's B. Burm.* p. 146; *Wardlaw-Ramsay, Ibis*, 1877, p. 468; *Hume*



and Dav., Str. F. vi. p. 420; *Hume, Str. F.* viii. p. 110; *Oates, B. Br. Burm.* ii. p. 296.—The TENASSERIM CUCKOO DOVE.

Forehead and crown chestnut; sides of the head and neck, also hind neck and back, minutely freckled with greyish white; rump and upper tail coverts brown, suffused with rufous at the edges; wing coverts, scapulars and tertiaries dark brown, tipped with chestnut; quills dark brown; chin and throat fulvous; lower plumage rufous, blotched with black on the breast; under wing coverts chestnut; four central tail feathers brown, the others brown at the base and chestnut, with a subterminal dusky bar. (*Oates*) Legs and feet dark brownish red; bill pinkish red or pale purplish brown; irides sometimes grey with an inner ring of blue or grey only, or pearly white; orbital skin pale blue. (*Davison*).

Length.—13 inches; tail 6·5; wing 5·6; tarsus 0·7; bill from gape 0·9.

Hab.—Tenasserim on the Mooleyit mountain, and further north at Kollidoo; also on the Karin hills east of Tounghoo at an elevation of 3000 feet. Extends down the Malay Peninsula. Nothing is known of its nidification.

Sub-Family.—TURTURINÆ.—*Bp.*

Habits terrestrial and arboreal; tail somewhat long, with pale tips to the outer feathers; neck usually adorned with a ring or spot.

Sub-Family. TURTURINÆ.—*Bonap.*

Bill lengthened, slender, the base soft and tumid; wings long; feet short; feathers of the rump rather rigid.

Gen. Turtur.—*Selby.*

Bill slender; wings long, 2nd and 3rd quills longest; tail moderate, rounded or graduated; tarsi scutellated in front, naked; outer toe shorter than the inner.

1168. *Turtur pulchratus*, *Hodgs., J. A. S. B.* xiii. *Turtur rupicolus*, *apud Ferd., B. Ind.* ii. p. 476, No. 792; *Hume and Dav., Str. F.* vi. p. 421.—The ASHY TURTLE DOVE.

Forehead pale isabelline; top of head bluish ashy, nape with a vinous tinge; upper back, cheeks, sides of the face and sides of the body, also the upper breast, vinous; chin and a small gular streak pale isabelline; neck patch black, each feather tipped with paler bluish white; *lower back and rump bluish ash*; also the upper tail coverts, which in some are edged with pale rufous; *central tail feathers dusky black, the others black and tipped broadly with greyish white, the outermost feather on each side white on the outer web and at tip*; scapulars, tertiarys, lesser and median coverts dark brown, margined with rufous; greater coverts dusky on the inner web and ashy on outer; primaries and secondaries dusky brown; darker on their outer web and very narrowly edged with dirty white; innermost secondaries edged and



tipped with rufous; lower breast vinous, becoming albescent or ashy white on the middle of the belly, and *pure white on the vent and under tail coverts*; flanks and under wing coverts bluish ash. Bill brown, vinous on the basal half; irides orange; legs vinous red.

Length.—14 to 14·5 inches; tail 5·5; wing 8; tarsus 1·1; bill from gape 1·1.

Hab.—The Himalayas from Afghanistan to Sikkim at elevations of from 4,000 to 8,000 feet, also the Central Provinces, Central India, the N.-W. Provinces, and Nepaul. Breeds on the lower ranges of the Himalayas during May and June. At Mussooree and Murree it is said to lay in May two pure white eggs, which Hume adds are glossy and regular ovals, varying in length from 1·1 to 1·34, and in breadth from 0·85 to 1.

1169. *Turtur meena* (Sykes), *Ferd.*, *B. Ind.* ii. p. 476, No. 793; *Hume, Nests and Eggs* p. 501; *id.*, *Str. F.* iii. p. 163; *Bl. B. Burm.* p. 146; *Hume and Dav.*, *Str. F.* vi. p. 420; *Hume, Str. F.* viii. p. 110; *Scully, Str. F.* viii. p. 340; *Oates, Str. F.* x. p. 235; *id.*, *B. Br. Burm.* ii. p. 292. *Columba meena*, *Sykes, P. Z. S.* 1832, p. 140. *Turtur rupicolus* (*Pall.*), *Ferd.*, *B. Ind.* ii. p. 476, No. 792.—The RUFOUS TURTLE DOVE.

Forehead, crown, nape, hind neck and back ashy brown, suffused with vinous, and the feathers indistinctly edged with rufous; a patch on the neck black with greyish tips; lower back and rump dark ashy, edged paler; upper tail coverts brown, edged with pale rufous; scapulars, tertiaries, lesser and median coverts brown, broadly edged with rufous; greater coverts and secondaries edged with ashy, the innermost ones edged with rufous; primaries dark brown edged with rufous; lower plumage vinous red, tinged with purplish in some, paler on the chin and throat; sides of the body, under wing coverts, vent and *under tail coverts ashy*; central tail feathers ashy brown, the others ashy brown, tipped with grey (*Oates*); bill brown, with a tinge of ashy on the basal half; iris orange-red; legs vinous red.

Length.—13 inches; tail 5; wing 7; tarsus 1·1; bill from gape 1.

Hab.—The Himalayas to Nepaul and Ceylon. It is a permanent resident of the hilly portions of Southern India, and of the broken belt of hills that stretch across the continent of India from the northern portions of the Western Ghats to Cuttack; thence it extends into Eastern Bengal, Khasia hills, Cachar, Assam and along the bases of the Himalayas as far west as the Sikkim and Nepaul Terails, and again southwards into Arrakan, Pegu and Northern Tenasserim. (*Hume*.) Breeds from December to April, but the majority lay in March, April and May. The number of eggs is two, and like all doves, pure glossy white.

1170. *Turtur senegalensis* (Linn.), *Lev. O. A.* t. 270; *Tem. Pig.*, t. 45; *id.*, *Descr. Egypt.* t. 9, 3; *Gray, Handlist Birds*, No. 9317; *Blf.*,



East. Pers. p. 270; *Hume, Str. F.* vii. 463. *Turtur cambayensis* (Gm.), *Ferd., B. Ind.* iii. p. 478, No. 794; *Murray, Hdbk. Zool., &c., Sind.* p. 193; *id., Vert. Zool., Sind.* p. 203.—THE LITTLE BROWN DOVE.

Head, nape, lores and sides of the face pinkish vinaceous, as are also the sides of the neck, throat and breast, gradually shading to paler on the upper abdomen, and white or fulvous white on the lower abdomen, vent and under tail coverts; chin white, sides with a patch of black and dark rufous feathers; back and scapulars brown, the latter with a slight rufous tinge; primaries and their coverts dusky brown, first three quills edged with fulvous white; secondaries darker brown than the primaries, slightly edged and tipped with pale grey; wing coverts pale grey, the edges of the feathers lighter; rump, upper tail coverts and central tail feathers like the back, the others black at the base and white for nearly their terminal half; edge of the wing and under wing coverts dark ash. Bill black; irides dark brown with a white inner circle; legs lake red.

Length.—10.5; wing 5; tail 4.5.

Hab.—Nearly throughout India, Sind, Kutch, Rajputana, Deccan, Concan, Punjab, N.-W. Provinces, Southern India generally, Beloochistan, Persia and Afghanistan. In Central and Western India specially abundant. Breeds all over the plains of India during March and April.

1171. *Turtur suratensis*. Gm., *Tem. Pig.* t. 43; *Ferd., B. Ind.* iii. p. 479, No. 795; *Str. F.* v. pp. 231, 409; *Gray, Handlist* No. 9315; *Murray, Hdbk., Zool., &c., Sind.* p. 194; *id., Vert. Zool. Sind.* p. 203.—THE SPOTTED DOVE.

Forehead greyish white; crown, nape, breast and upper abdomen pale vinaceous, darker on the breast, paling on the lower abdomen and flanks, and albescent on the under tail coverts; chin and throat white; patch on the neck black with narrow rufous tips; back and scapulars isabelline brown, or rufous brown, the feathers with dark shaft-stripes, broadening into a nearly triangular spot at the tip, on each side of which, especially on the scapulars and wing coverts, is a pale rufous or vinaceous spot; in some specimens scarcely a spot, but with this colour edging the feathers; edge of the wing, and the lower series of wing coverts near it greyish white, with faint dark shaft-stripes; primaries and secondaries dusky brown, the first three quills, and some of the secondaries edged with pale or greyish white; primary coverts dark brown; tail with the central feathers brown, the outermost black at the base, and tipped white for the terminal half, and the others with the white tips decreasing in extent; bill blackish; irides hazel, surrounded by a reddish sclerotic membrane; legs reddish.

Length.—12 inches; wing 5.5 to 5.75; tail 5.5, graduated.

Hab.—Throughout India nearly, to Ceylon and the Himalayas. Replaces the last on the Malabar Coast and in Lower Bengal. Jerdon says it is rare in

the bare Carnatic land, the Deccan, and N.-W. Provinces. Uncommon in Upper Sind, but less so in Lower Sind. Breeds in April and May. It occurs, but less abundantly, in Rajputana and N. Guzerat.

1172. Turtur tigrinus (Tem.), *Hume, Nests and Eggs Ind. B.* p. 506; *id.*, *Str. F.* i. p. 461; iii. p. 164; *Blyth, B. Burm.* p. 145; *Armstrong, Str. F.* iv. p. 337; *Oates, Str. F.* v. p. 164; *Anders., Yunnan Exped.* p. 665; *Hume and Dav.*, *Str. F.* vi. p. 422; *Hume, Str. F.* viii. p. 110; *Bingham, Str. F.* ix. p. 194; *Oates, Str. F.* x. p. 235; *id.*, *B. Br. Burm.* ii. p. 290. *Columba tigrina*, *Temm., Knip. Fig.* 1. p. 94, pl. xliii. *Spilopelia tigrina*, *Salvad., Ucc. Born.* p. 296.—THE MALAYAN SPOTTED DOVE.

Forehead and cheeks grey; crown, nape, breast and upper abdomen vinaceous, paling on the chin, vent and under tail coverts; patch on the neck and hind neck black, each feather with two white spots at the tip; back, scapulars, wing coverts and rump brown, each feather blackish along the shaft and tipped on both webs with lighter brown; outermost wing coverts pure grey on the outer webs; quills dark brown, some of the tertiaries with blackish shaft streaks and tipped paler; tail brown, the outer feathers broadly tipped with white, the white decreasing in extent on each inner feather on each side till it disappears on the fifth or central pair of feathers, which are dark brown; bill bluish black; irides reddish.

Length.—12.4 inches; tail 6; wing 5.5; tarsus 1; bill from gape 0.9.

Hab.—The whole province of British Burmah, extending northwards through the Indo-Burmese Countries to Cachar and eastwards to Cochin-China. Ranges down the Malay Peninsula to Sumatra, Java, Borneo and Celebes. Breeds from August to March in low trees and bushes, laying two eggs.

1173. Turtur risorius (Linn.), *Ferd., B. Ind.* ii. p. 481; *Hume, Nests and Eggs Ind. B.* p. 506; *id.*, *Str. F.* iii. p. 165; *Wald. in Blyth's B. Burm.* p. 146; *Dresser, B. Eur.* vii. p. 51; *Dav. et Oust. Ois. Chine*, p. 387; *Cripps, Str. F.* vii. p. 297; *Legge, B. Ceylon* p. 702; *Hume, Str. F.* viii. p. 110; *Oates, Str. F.* x. p. 235; *Oates, B. Br. Burmah* ii. p. 293; *Blanf., East Pers.* p. 270; *Murray, Hdbk. Zool. Sc., Sind*, p. 194; *id., Vert. Zool., Sind*, p. 204. *Columba risoria*, *Linn., Syst. Nat.* i. p. 285.—THE INDIAN RING DOVE.

Head pale greyish brown, with a vinous tinge; the forehead albescent; nape and neck pale vinaceous; collar black, a narrow line of white before and behind it; back, scapulars and innermost tertiaries grey brown, as also are the rump and upper tail coverts; primaries and their coverts dusky brown; the primaries margined narrowly with whitish, and their coverts tinged with greyish; edge of the wing, lower series of the median coverts and greater series also pale grey; under wing coverts greyish white; chin and



throat albescent; breast and upper abdomen, also the sides of the neck and breast pale vinaceous; flanks, lower abdomen, vent, thighs and under tail coverts ashy grey, the latter with whitish tips; tail with the central feathers like the back; outermost feathers on each side narrowly margined with greyish white on their outer web, with a broad black band about the middle, greyish at base, and broadly terminated with white, which on the others increase in extent. Bill black; irides crimson; orbital skin whitish; legs pinkish.

Length.—12 to 13 inches; wing 6·5; tail 5; bill at front 0·81.

Hab.—India generally, and Ceylon, except the more moist regions, as the Malabar Coast; abundant in Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Concan, Deccan, Central and South India, also Beloochistan and Southern Afghanistan. Rare in Burmah. Breeds throughout the year.

1174. *Turtur humilis* (Temm.), *Jerd.*, *B. Ind.* ii. p. 482; *Hume, Nests and Eggs Ind.* B. p. 507; *id.*, *Str. F.* ii. p. 269; iii. p. 165; iv. p. 292; *Armstrong, Str. F.* iv. p. 338; *Wald.*, *Trans. Zool. Soc.* ix. p. 219; *David et. Oust. Ois. Chine*, p. 388; *Hume and Dav.*, *Str. F.* vi. p. 423; *Hume, Str. F.* viii. p. 110; *Oates, Str. F.* x. p. 235; *id.*, *B. Br. Burm.* ii. p. 294; *Murray, Hdbk., Zool., &c., Sind*, p. 194; *id.*, *Vert. Zool., Sind*, p. 204. *Turtur tranquebaricus, Herm., Obs. Zool.* p. 200; *Bly., B. Burm.* p. 145. *Turtur humilior, Proc. As. Soc. Beng.* 1874, p. 241; *id.*, *Str. F.* iii. p. 279.—The RED TURTLE DOVE.

Male.—Head and nape ashy grey, also the lores and sides of the face, slightly paler on the forehead; collar black, set off by whitish before and behind it; back, scapulars and wing coverts brick red, slightly paler behind the black collar; chin whitish; throat, breast and entire lower surface pale vinous red, white on the vent and lower tail coverts; rump and upper tail coverts deep slaty; primaries, their coverts and secondaries dusky brown; the margin of the primaries, as also the margins and tips of the secondaries, whitish; primary coverts slightly tinged with vinous red on their outer webs; edge of the wing greyish, some of the dark bases of the median coverts showing through; tail with the middle feathers ashy brown, the others greyish black at the base, and broadly tipped with white; outermost feathers on each side white on the exterior web; bill black; irides dark brown; legs purplish red.

Length.—9 inches; wing 5·5 to 5·75; tail 3 to 3·25. The *female* is duller in colour on the back, being more of an earthy brown and much paler below.

Hab.—The drier regions in India, to Ceylon and the foot of the Himalayas. Common in the Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Concan and Deccan, but less so in Sind. Occurs also in Assam and Northern Burmah. In Sind it affects the northern districts chiefly; seldom seen below Sukkur. It is not known from S. Afghanistan, where *T. senegalensis* replaces it.

**Family, GOURIDÆ.—GROUND-DOVES.**

Wings moderate; tarsus longer than in the *Turturina*, as are also all the toes; wings shorter and less pointed. The Indian representatives of the family belong to the *Phapidina* and *Caloenina*.

Sub-Family, PHAPIDINÆ.

General characters as of the family; tarsus not feathered; tail of 12, 14 or 16 feathers.

Gen. Chalcophaps—Gould.

Bill slender; wings moderately long; 2nd and 3rd quills nearly equal and longest; tail rather short and rounded; tarsus not feathered; plumage rich glossy metallic green.

1175. *Chalcophaps indica* (Linn.), *Jerd.*, *B. Ind.* ii. p. 484, No. 798; *Hume, Nests and Eggs Ind. B.* p. 509; *id.*, *Str. F.* ii. p. 269; iii. p. 165; *Salvad.*, *Ucc. Born.* p. 299; *Bourdillon, Str. F.* iv. p. 404; *Blyth, B. Burm.* p. 147; *Dav. et. Oust. Ois. Chine*, p. 384; *Hume and Dav.*, *Str. F.* vi. p. 424; *Hume, Str. F.* viii. p. 110; *Legge, B. Ceylon* p. 714; *Oates, Str. F.* x. p. 235; *Kelham, Ibis*, 1881, p. 528; *Oates, B. Br. Burm.* ii. p. 297.—The EMERALD DOVE.

Forehead white, continued as a supercilium over the eye; crown, nape, a narrow band down the hind neck and another across the upper back ashy-grey; back and wings shining dark emerald green; quills dark brown, the secondaries metallic green on the external web; tertiaries bright metallic green; smaller coverts near the edge of the wing white; on the lower back a narrow band of ashy, followed by a broad black one, then a second ashy one, and lastly a broad band, which with the upper tail coverts is dark ashy brown, tipped darker; sides of the head and neck and the whole under surface of the body deep vinaceous, rather duller on the abdomen; under tail coverts ashy; three central pairs of tail feathers dark brown, tipped paler, the others banded with black and ashy; under wing coverts chestnut; bill red; irides dark brown; eyelids plumbeous; legs dusky red.

Length.—10·5 inches; tail 4; wing 5·8; tarsus 1; bill from gape 0·9.

Hab.—Throughout India in forest countries and well wooded districts; not in the drier regions, as Sind, Rajputana, Kattyawar, &c. It is abundant in Lower Bengal; extends to Assam and all the countries on the east of the Bay of Bengal as far as Tenasserim. It also occurs in Ceylon, the Andamans, Nicobars, the Indo-Burmese Countries, South China, Siam, the Malay Peninsula, and all the islands nearly down to Australia. Frequents thick forests, and is met with in small parties or in pairs. Breeds from March to July in suitable localities. The nests, according to Hume, are placed in some dense bush or



low thick-foliaged tree. They are more regular saucers than those of other doves, composed of roots, grass, or twigs, but comparatively neat and with a central depression. Eggs two in number, pure white, from 1 to 1.1 inch in length and from 0.82 to 0.86 in breadth.

Gen. **Geopelia**.—Swains.

General characters of *Turtur*; tail of 12 feathers only.

1176. *Geopelia striata* (Linn.), *Salvad., Ucc. Born.* p. 298; *Hume and Dav., Str. F.* vi. p. 423; *Hume, Str. F.* viii. p. 110; *Kelham, Ibis*, 1881, p. 528. *Columba striata*, *Linn., Syst. Nat.* i. p. 282.—The BARRED GROUND DOVE.

Forehead and crown, as far as the eyes, also the cheeks, chin, and throat pure grey; upper part of the ear coverts grey; lower part brown; remainder of the crown and nape vinous brown; sides of the neck, whole hind neck and upper back, sides of the breast and of the body white, closely and finely barred with black; centre of the breast and abdomen vinaceous; vent and under tail coverts white; lower back, rump, upper tail coverts, scapulars, wing coverts and tertiaries brown, each feather with a terminal black bar; primaries and secondaries dark brown, the latter broadly edged with the colour of the back; central tail feathers pale brown, the others dark brown, the four outer pairs broadly tipped with white; under wing coverts chestnut. (*Oates*.) Front of tarsus and toes pinkish purple, with the scutellation divided by pink lines; back of tarsus and soles fleshy pink; bill blue at base, bluish white terminally; irides white or grey, brown. (*Davison*.)

Hab.—Tenasserim, in the extreme south, extending down the Malay Peninsula; is also found in Sumatra and Java. According to Davison its habits are like those of *Turtur tigrinus*.

Sub-Family, CALCENINÆ.

Bill strong with a tubercle at base; legs and feet stout; head with long crest; plumage metallic.

1177. *Caloenas nicobarica* (Linn.), *Hume, Str. F.* ii. p. 271; *id., Nests and Eggs* p. 510; *Blyth, B. Burm.* p. 147; *Hume and Dav., Str. F.* vi. p. 425; *Hume, Str. F.* viii. pp. 68, 110; *Oates, B. Br. Burm.* ii. p. 299. *Columba nicobarica*, *Linn., Syst. Nat.* i. p. 283.—The HACKLED GROUND-PIGEON.

Entire head and neck from deep slaty grey to blackish brown; a long and thick bunch of narrow hackles from the base of the occiput hairlike and slaty grey and from the back of the neck metallic green, shot with gold and copper and margined with slaty grey; rest of upper plumage except the tail and longer and upper tail coverts which are white—refulgent with metallic reflections; lesser wing coverts, outer webs of primaries, winglet, greater coverts, and earlier



secondaries glossed with deep blue; other portion of secondaries and their coverts, most of the median coverts, rump and shorter upper tail coverts brilliant green; scapulars adjoining the wing coverts the same, but with a coppery glow; upper breast like the head; lower breast, abdomen, sides, flanks, vent and shorter under tail coverts variegated deep metallic green and dark slaty, the latter forming a fringe to the feathers; first two primaries unglossed; inner webs of the primaries and secondaries and their under surface blackish brown; wing lining and axillaries brighter or duller metallic green or deep blackish slaty with a tinge of gloss; lower breast deep metallic green, the feathers tipped purplish; tibial plumes rich purplish blue. The young want the metallic gloss and protuberance at base of bill, and is duller everywhere; bill dark blackish grey; irides deep brown; legs dull purplish lilac.

Length.—16 inches; tail 3·5; wing 10; tarsus 1·7; bill from gape 1·5.

Hab.—This, the most lovely species of the Pigeon group, inhabits the Mergui Archipelago and the Nicobars, and extends to the Malay Peninsula. Feeds on fruit; nests on trees only as far as has yet been ascertained on the Island of Battye Malve in the Nicobars. The nests are like those of other pigeons. Egg, one only, spotless white; 1·84 × 1·27.

Order, Rasores,—GALLINACEOUS OR GAME BIRDS.

Bill usually short, vaulted, more or less arched and bent down at the tip; nostrils situated in a membrane at the base of the bill; wings usually short; tail variable in length and form; tarsi long and strong, often spurred; hinder toe short and elevated from the ground.

Family, PTEROCLIDÆ,—SAND OR ROCK-GROUSE.

Bill short, curved to the tip and compressed at the sides; wings and tail long and pointed; tarsi feathered; hind toe small.

Gen. *Pterocles*.—*Tem*.

Bill small, rather stout; culmen curved, sides compressed; nostrils at base partly covered by membrane; wings long, 1st and 2nd primaries longest; tail with the median rectrices sometimes lengthened beyond the rest; tarsi short, feathered in front and on the inner side.

Mr. D. G. Elliott has a very clear and exhaustive paper on the *Pteroclidæ* Family in the Proceedings of the Zoological Society of London, 1878, pp. 233, 264, giving the literature of the Family, its classification and a review of the geographical distribution, as well as a key and descriptions, with the synonymy of each species. The following key is extracted from the paper referred to, and will be found most useful.



A. "Without pectoral band.

- (a) Stripe on each side of forehead from nostril to above the eye; chin and centre of throat black...*P. coronatus*.
(b) Lores and band encircling back of head pearly grey; cheeks, ear-coverts and throat orange yellow; centre of abdomen black*P. senegallus*.

B. With pectoral band.

- (a) Without black bar on forehead.
(a') Median rectrices not lengthened beyond rest; upper part of throat and sides of neck rufous; lower portion of throat black; band on lower part of breast, abdomen and flanks black.....*P. arenarius*.
(b') Median rectrices greatly lengthened beyond the rest.
(a'') Throat yellow; black band across breast; abdomen and flanks chestnut*P. exustus*.
(b'') Throat and stripe behind the eye black; sides of throat rufous; centre of breast chestnut, bordered above and below with black; rest of under parts white*P. alchata*.
(b) With black bar on forehead.
(a') Breast uniform greenish buff.
(a'') Throat pale buff; upper part of breast buff, crossed with numerous narrow black bars; middle of breast uniform buff, crossed in the centre by a narrow black bar and another of the same hue on its lower edge; rest of under parts yellowish white, barred narrowly with black*P. lichtensteini*.
(b'') Throat and breast buff; triple band separates the fulvous breast from the abdomen, the first maroon, the second creamy white, and the 3rd unspotted chocolate brown.....*P. fasciatus*.

1178. *Pterocles coronatus*, Licht. Verz. d' Doubl. p. 65; Tem. Pl. Col. No. 339, 340; Heugh. Syst. Ueber. N. O. Afr. p. 304; Ibis, 1864, pp. 27, 240; id., 1870, pp. 9, 16; 1871, p. 144; Str. F. i. p. 224; id. (1876); iv. p. 230; Blf., East. Pers. ii. p. 272; Murray, Hdbk., Zool., &c., Sind, p. 200; Elliott, P. Z. S. 1878, No. 282.—THE CORONATED SAND GROUSE.

PLATE, fig.

Male.—A line on each side of the forehead from the nostrils to above the eye black, and a pale fulvous one between these from the point of the forehead. Crown of the head pale chestnut, vinous or rufescent fawn. A pearly grey band from the anterior angle of the eye, continued as a supercilium and



1. *Pterocles senegollus*. 2. *Pterocles coronatus*. 3. *Pterocles fasciatus*.
4. *Pterocles Lichtensteini*. 5. *Pterocles exustus*. 6. *Pterocles alchata*.



extending round to the nape;* lores and a narrow band edging the black chin and throat stripe white; sides of the face, ear-coverts and the neck all round orange buff; base of the neck and upper back isabelline, the feathers edged dusky grey; interscapulars the same, with median buffy spots at the tips; rump and upper tail-coverts a dark or dirty grey, mixed with the fulvous of the base of the feathers; tail with the median rectrices of a pale vinous colour, dark shafted, with a subterminal dark spot, and very narrowly tipped with white; lateral feathers deeper vinous with also a subterminal dark bar, and broadly tipped with white; all the feathers with a few dusky sprinkles behind the dark band; primaries and their coverts dull grey or dusky brown; all the primaries, except the first three, broadly margined with fulvous white obliquely towards the tips on their inner webs, and also slightly tipped the same; secondaries hair brown; tertiaries vinous on their inner webs and edged on the outer with buffish; scapulars vinous at the base, dark shafted, with a subterminal dark band, and mesially tipped with a nearly oval buff spot; median wing coverts the same; the greater series greyish buff or buffy isabelline; abdomen, flanks, under wing coverts, vent and lower tail coverts white, slightly soiled on the middle of the abdomen, and in some specimens a pale isabelline; tarsal plumes white.

The *female* has the throat and sides of the neck orange buff; the chin paler and nearly albescent; the crown very pale cinnamon; entire upper surface buff, with, in some specimens, a vinous tinge and barred with numerous crescentic and broken bands of dark brown; breast and under parts paler buff, also with crescentic bands; the flanks albescent; scapulars largely blotched with dusky, and with buff tips; primaries and secondaries as in the male, but very pale or hair brown.

Length.—11.75 to 12 inches; wing 7 to 7.75; tail 3.75; bill at front 0.45.

Hab.—Sind, Persia, Beloochistan, Afghanistan, N. W. Arabia, Egypt and Nubia. Breeds in the southern portions of the Sahara, where it is said to replace *P. arenarius*.

1179. *Pterocles senegallus*, Lin. Mantissa. 1771, p. 526; Lath., Ind. Orn. vol. ii. p. 642; Gray, Gen. B. vol. iii. p. 519; Tristram, Ibis, 1860; Str. F. i. p. 221; iii. pp. 418, 4; v. 231; Murray, Hdbk., Zool., &c., Sind, p. 197. *Pterocles guttatus*, Licht. Verz. Doubl., *Pterocles senegalensis*, Shaw, Nat. Misc. vol. iv. pl. 933; Shelley, Ibis, 1871, p. 144.—THE SPOTTED SAND GROUSE.

PLATE, fig. 1.

"The male has the whole chin and throat with a patch extending upwards from the throat, towards, but not quite meeting on the back of the

* In two specimens I possess there is a distinct pearly grey band across the forehead immediately behind the termination of the black forehead stripes.



neck, bright buffy yellow or orange buff; lores, forehead, a broad stripe over the eye continued round the nape and the back of the neck, pale blue grey, dull and tinged fawny in some specimens; crown, occiput, and nape, a sort of dove colour or pale, slightly rufous fawn; back and rump a somewhat similar, but more sandy colour, in many specimens more tinged with fawn; the upper tail coverts buffy yellow, all, but the longest obscurely tipped with a somewhat pinkish mouse colour. They are more or less pale dove colour at their bases, which colour however is not seen till the feathers are lifted. The central tail feathers have the pointed tips black, in many specimens more or less tinged hoary buffy, and the rest of the visible portion yellowish buff, but the bases, as may be seen on lifting the feathers, are greyish; the lateral tail feathers are a greyish brown at base, dark-shafted, with conspicuous white tips, and broad blackish brown subterminal bands; the primaries are pale isabelline, the shafts conspicuous and black; they have broad ill-defined subterminal brown bands, beyond which there is a narrow paler tipping, and they are pretty conspicuously margined on their inner webs towards the tips with still paler isabelline. The first primary has the outer web browner, the others have the outer webs, especially toward the bases, a brighter isabelline. The whole visible portions of the lesser coverts and of the primary greater coverts are yellowish fawn, or isabelline, varying much in shade in different specimens; these greater coverts are dark shafted, and with a brownish tinge next the shafts on the inner webs; the scapulars bluish grey at the bases, tipped broadly, but chiefly on the outer webs, with buffy yellow, and the lesser ones tinged immediately above the yellow with a somewhat brownish purple, or dull greyish vinaceous. The secondary, median, and greater coverts like the lesser scapulars, but showing more of the vinaceous hue. The secondaries are brown, lighter towards their bases. The lower part of the neck in front and upper breast are nearly the same blue grey or greyish fawn as the back of the neck; the lower breast, abdomen, sides, flanks, axillaries, and wing lining isabelline or desert colour; the upper abdomen often with a faint orange buffy tinge. A broad irregular deep brown patch runs down the centre of the abdomen to the vent; the lower tail-coverts are greyish brown at their bases, but are broadly tipped with white (often tinged buffy or isabelline) which is the only colour visible until the feathers are lifted. The lower surfaces of the quill shafts are white.

“The female has the yellow chin and throat patch like the male, but paler; the lores and feathers immediately encircling the eye pale isabelline white; the whole upper parts and the neck all round pure isabelline, tinged slightly rufous on the occiput, nape, and back, and conspicuously spotted with dull, somewhat greyish, black; the spots on the forehead and front part of the head are small and irregular; on the nape and occiput they are more or less arranged in rows (so as to produce more of a striated appearance) and in a band running from behind the eye round the nape, they are very much

more densely set; on the upper tail coverts they are larger; while on the scapulars they take the form of double spots or irregular bars. The primaries and their greater coverts are much as in the male, but paler; the central tail feathers are isabelline, dark shafted, the point greyish black, and the rest of the feather with narrow, transverse, irregular bars of the same colour on both webs; the lateral tail feathers are much as in the male, but have the basal portions more tinged with isabelline, and more or less imperfectly barred. The breast, abdomen, and wing lining are as in the male, but somewhat purer and paler; the abdominal patch is narrower and perhaps also somewhat paler.

"Irides brown, bare; orbital skin yellowish; bill pale plumbeous, bluish grey, or bluish white, always somewhat more dusky towards the tip; feet pale plumbeous or bluish white, paler towards the tips of the toes; weight 8 to 12 ounces, but averaging about 10 ounces.

"*Male, length.*—13·4 to 14·7 inches; expanse 23 to 23·7; tail from vent 5·3 to 6; wing 7·5 to 7·9, the wings when closed reach to within from 2·3 to 2·8 of the end of the longest tail feathers, viz., the central ones, which exceed the others by from 1·75 to 2; bill at front 0·44 to 0·47; tarsus 1 to 1·05.

"*Female, length.*—12·4 to 13·1 inches; expanse 22 to 22·6; tail from vent 4 to 4·6; the central tail feathers only extending from 0·75 to 1·2 beyond the rest; wing 7·3 to 7·5; bill at front 0·4 to 0·44."—*Hume, Str. F. i. p. 219.*

Common throughout Rajputana, Kutch, Kattiāwar, Guzerat and the Punjab. Breeds in Sind. Like the preceding species it is found in N. Africa, also in N. W. Arabia, and in Beloochistan.

PLATE.

1180. *Pterocles arenarius*, Pall., Nov. Comm. Petrop. vol. xix. p. 418; id., Rosso. As. ii. p. 73; Lath., Ind. Orn. ii. p. 642. *Pterocles arenarius*, Tem. Pig. et. Gallin. vol. iii. p. 240; id., Pl. Col. Nos. 52, 53; Gray, Gen. B. iii. p. 518; P. Z. S. 1858, p. 501; Ibis, 1859, p. 352; 1860, p. 69; Jerd., B. Ind. iii. p. 496; Str. F. i. p. 219; iii. 418; iv. 179; Blf., East. Pers. ii. 271; Murray, Hdbk., Zool., &c., Sind, p. 194.—The LARGE SAND GROUSE.

"Forehead and crown greyish brown, with a faint pearly tinge, in some specimens with a buffy tinge; lores behind the eye and ear coverts light grey, in some specimens, especially old males, the dark shafts of the feathers of the lores, under the eye, and of the ear coverts are distinctly visible and end in bristles; nape and base of the neck, like the crown; back, scapulars, upper tail and wing coverts rich buff or orange buff with a subterminal dark bar, the bases of the feathers paler buff, with waved barrings and vermiculations; primaries greyish and black shafted, the outer web of the outermost quill dark brown, and with the two following tipped blackish, the rest the same,



but edged on the tip and the outer edge of the inner web near the tip, with whitish, the under surface black; the secondaries basally white or fulvous white, with faint vermiculations on the exterior webs, all broadly tipped dusky, and the margin of the exterior web blackish; tertiaries dusky grey, or buffish, with vermiculations basally, and margined at the tips on the exterior web with rich buff or orange buff; the visible portion of the lower series of the median and greater coverts rich buff or orange, forming in the closed wing, with the outer edges of the tertiaries, an oblique bar of rich buff; edge of the wing fulvous white; under wing coverts pure white; chin, upper throat, sides of the neck to behind the ear coverts and nape deep chestnut; middle of the throat with a large triangular patch of black; breast dull ashy or pearly grey, crossed on the lower part by a broad black band, succeeded by a broad buffy one, about four times the width of the black band; abdomen, vent and thigh coverts deep black; under tail coverts black, tipped with white; tail with the central tail feathers like the back, or orange buff, with numerous dark bands, and slightly elongated beyond the others; lateral feathers dusky rufescent, with darker narrow bars, tipped white, and with a subterminal black band; tarsal feathers fulvous white; bill bluish; feet dull yellowish brown; irides dark brown.

"Length.—11·75 to 12·5; wings 9·25; tail 4 to 4·25; tarsus 1·1.

"The female differs in having the whole head and upper parts, and also the breast narrowly barred with brown. The pectoral band is narrower and the chin fulvous with a narrow black edge."

Hab.—The desert regions of Asia, Southern Europe and North Africa; Asia Minor and Palestine. Everywhere common in Sind, Punjab, N.-W. Provinces, Oudh and Bengal; Kutch, throughout Rajputana, Kattiawar and North Guzerat; Beloochistan, Persia, Afghanistan and Eastern Turkistan.

1181. *Pterocles exustus*, Tem. Pl. Col. Nos. 354, 360; *Rupp. Les. Trait. Orn.* p. 517; *Sykes, P. Z. S.* 1832, p. 154; *Gray, Gen. B.* iii. p. 519; *Ferd., Madras Jour.* xii. p. 3; *Handlist, Syst. Orn. W. Afr.* p. 205; *Ferd., B. Ind.* iii. p. 502; *Hume, Str. F.* vii. p. 160; *Elliott, P. Z. S.* 1878, p. 248; *Murray, Hdbk., Zool., &c., Sind*, p. 202.—The COMMON SAND GROUSE.

PLATE, fig. 5.

Head, nape, sides of the neck and breast isabelline with a faint fulvous tinge; lores, sides of the face, chin and throat yellowish or light orange buff; back and rump like the breast, the feathers with darker tips; scapulars tipped greyish fulvous; upper tail coverts with a greenish cast; primaries dusky brown, all, except the four outermost broadly white on their inner margins near the tip, the innermost also tipped white; secondaries hair brown, their terminal third with buffy edges on their exterior webs; tertiaries the same, but with narrower buff edgings; wing coverts buff, the feathers tipped narrowly



with blackish chestnut; tail with the central feathers much elongated beyond the rest, slightly darker buff than the wing coverts, black-shafted and the lengthened narrow portion black; lateral feathers dusky rufescent, with pale rufous bars on their exterior webs, tipped white and with a subterminal dark band; a narrow black pectoral band, occasionally edged on its upper side with fulvous white followed by a broad band of isabelline; rest of the under parts chocolate brown, paler on the vent; flanks and thigh coverts chestnut; lower tail coverts creamy or fulvous white; tarsal plumes fulvous or yellowish white.

The female has the entire upper plumage, as also the space between the pectoral band and abdomen, fulvous, closely barred with deep brown; breast unspotted isabelline, like the male.

Length.—10 to 11·5 inches; wings 7; tail 3·5. The males average from 9·5 to 10 inches in length; bill leaden brown; legs brown; irides dark brown.

Hab.—N.-E. Africa, Arabia, Nubia, Egypt, Abyssinia and Palestine; Sind, Kutch, Rajputana, Kattiawar, N. Guzerat and Deccan; Punjab, N.-W. Provinces, Bengal, Sylhet, Burmah, Beloochistan, Quetta and Afghanistan. Breeds almost everywhere from February to August according to locality, laying 2—3 eggs of a fine smooth texture and gloss, rather long and cylindrical, of a pinkish stony colour, thickly spotted and streaked or irregularly blotched with dark and light shades of olive brown and inky purple, varying in length from 1·32 to 1·6 inches and in breadth from 0·95 to 1·11.

1182. *Pterocles alchata*, Linn., *Syst. Nat.* i. p. 276; Gmel., *Syst. Nat.* i. 754; Lath., *Ind. Orn.* ii. p. 641; Licht., *Verz. Doubl.* p. 64; Ferd., *B. Ind.* iii. p. 500, No. 801; Hume, *Str. F.* i. p. 221; Blf., *East. Persia* ii. p. 271; Murray, *Hdbk., Zool., &c., Sind*, p. 197; Elliot, *P. Z. S.* 1878, p. 251. *Pterocles setarius*, Tem., *Pig. et Gallinæ* iii. pp. 256, 714.—The PIN-TAILED SAND GROUSE.

PLATE, fig. 6.

Male.—Forehead and crown, also the nape and sides of the face yellowish buff with a ferruginous tinge; the crown with some nearly obsolete dark bars; chin, throat and a streak behind each eye black; neck in front and upper breast greenish buff, the feathers above pale chestnut, those of the breast with a dark brown transverse band forming a bar across; lower breast pale chestnut, the feathers ashy white at base, with a subterminal dark or dusky bar, and broadly terminated with chestnut; a black band separates the chestnut breast from the white of the abdomen; hind neck olive brown; upper back the same, each feather tipped with yellow; lower back, rump and upper tail coverts pale buff, with, in some, a rufescent tinge, barred transversely with black; scapulars rufescent or orange buff, the feathers barred with black and tipped with yellow; on some feathers this yellow tip is subterminal, with a very narrow black margin at the extreme tip; shoulder of wing olive brown; lesser, median and greater coverts broadly maroon, bounded



above and below with a narrow white line, and tipped narrowly with black, the bases of the feathers being brownish ash; upper series of the median and greater coverts olive brown at base, then broadly greenish yellow and margined with black at the tips; primary coverts brownish ash, black-shafted; primaries black-shafted, all (except the outer web of the first which is black) with their outer webs ashy grey, their inner webs rufescent grey near the shaft; (not extending to the tip) then broadly dusky brown, and narrowly margined to the tip with white; secondaries with the outer webs and tips of the inner webs dusky brown, rest of the inner web and edging to the outer web white; tertiaries greenish olive on their outer web and rufescent grey on their inner, the uppermost with a yellow spot terminally; abdomen, flanks and axillaries white, the shafts of the feathers, except those of the axillaries, black basally; a large white patch on the under surface of the wing, formed by the white bases of the inner webs of the secondaries and their coverts; the edge of the wing inside dusky brown; tarsal plumes whitish; tail with the lateral feathers white on their outer webs, their inner webs grey brown, margined with narrow, nearly obsolete dusky and buff bars, the tips of the feathers broadly white; rest of the tail feathers barred buff and dark brown, plain grey brown near the shaft, and all (except the longest rectrices, which are black) tipped with white; bill horny; orbits dark plumbeous; irides dark brown.

Length.—To end of longest rectrices 13 inches; wing 8; tail 6 to end of longest rectrices.

Female.—Top of head and back deep buff, barred with black; sides of face and neck orange yellow; throat and chin white; a dark band on the lower neck, another on the upper breast, and a third on the lower breast separating the white of the abdomen. Upper plumage barred black and buff; secondaries the same, with a subterminal grey bar.

Length.—13 inches; wing 7.75; tail 5.37; irides and orbits as in the male.

Hab.—Sind, Punjab, N.-W. Provinces and Rajputana; Beloochistan (in the Bolan, Quetta and at Khelat), Persia, at Bushire, Southern and Eastern Afghanistan and Eastern Turkestan. It also inhabits N. Africa, Palestine, Spain and Portugal, and is said to breed in parts of Western Asia. In Sind, in especially the Northern districts, the Pintail is found in flocks, and sometimes in countless numbers; in the southern parts it is also found, but evidently only as stragglers.

1183. *Pterocles Lichtensteinii*, Tem. *Planch. Col.* 355-361; *Heuglin, Syst. Ueber. Vog. N. Afr.* p. 304; *Speke, Ibis*, p. 247; *Hume, Str. F.* i. p. 219; *Murray, Hdbk., Zool., &c., Sind*, p. 195. *Buttur, Sind*.—The CLOSE-BARRED SAND GROUSE.

PLATE, fig. 4.

Male.—Frontal zone white, or buffy white; a broad black semicircular band behind it extending from the anterior angle of the eye on each side; behind

this another white or buffy white band, interrupted on the crown, the feathers of which are buffy white and mesially dark brown; a buff spot above the hinder angle of each eye; chin and throat pale buff, their sides the same, with minute black spots; upper breast, hind neck and back pale or fulvous white, with regular and close barrings of black; scapulars, wing coverts and tertiaries the same, the black transverse bars rather broader and deeper in colour, the tips of the feathers broadly yellowish buff; upper tail coverts fulvous white, the black bars more distant and as wide as the fulvous interspaces; primaries and their coverts hair brown, the outer web of the first margined with dull white, more conspicuous basally, and some of the inner ones with white margins to the tips; secondaries dark brown; lower breast yellowish buff with a narrow black band crossing it in the middle and another on the lower part of the breast, formed by the dark termination of the lowest breast feathers; below this the abdomen, flanks, vent and under tail coverts are white, with transverse brown bars; tarsal plumes buffy white; tail barred buff and black, the terminal black bar broadest, with a streak running up the shaft of the feathers and partially dividing the broad buffy tips.

The *female* wants the frontal patch and the semicircular band behind it, also the buff breast and band crossing it in the middle; the chin and throat are pale buffy, minutely spotted with dark brown; the upper surface of the body finely, closely and narrowly barred with pale fulvous and dark brown; the lower surface the same, but the fulvous interspaces are broader and the dark bars narrower; bill horny; feet yellow; irides brown; orbits lemon yellow.

Length.—10 inches; wing 7.25; tail 3.25; bill 0.62.

Hab.—Sind, Punjab, Arabia, N.-E. Africa.

1184. *Pterocles fasciatus* (Scop.), Gould, B. Asia, pt. ii. pl. 14; Jerd., Ill. Ind. Orn. pl. 10 and 36; id., B. Ind. ii. p. 498, No. 800; Hume, Nests and Eggs Ind. B. p. 511; id., Str. F. i. p. 391; vii. p. 160.—The PAINTED SAND GROUSE.

PLATE fig. 3.

A narrow white band on the forehead followed by a broad black one and succeeded by a narrow white one, and another black one which widens behind the eye and ends in a white spot; occiput and nape streaked with black and fulvous; sides of the head, neck, breast and shoulder of wing fulvous yellow or buff; back, scapulars, tertiaries and tail fulvous yellow banded with deep brown; quills, brownish black with narrow pale edging; median and greater coverts and some of the secondaries broadly banded with black and edged with white; a triple band—a maroon, a creamy white and a chocolate brown one—separates the fulvous breast from the abdomen, which with the vent and under tail coverts are also chocolate brown, the feathers tipped with white. The *female* has not the bars on the occiput and nape, nor the pectoral bands and the wing bars; the sides of the neck, breast, wings, and tail are mixed fulvous



and rufous and finely barred with black; lower breast and abdominal region finely barred with blackish and creamy or fulvous white; bill red; irides dark brown; feet dull yellow.

Length.—10 inches; wing 7; tail 3·25; tarsus 1·1.

Hab.—The greater part of India, except in the very moist countries. It is recorded from the Deccan, Carnatic and Central India, also from Sind, Punjab, and the N.-W. Provinces, and from Delhi to Mount Abo in Guzerat, Jodhpore, and Sambhur. Affects the low ranges of rocky and more or less barren hills. They breed almost everywhere they occur, making a depression in the soil and laying 2—3 eggs, a delicate pinkish fawn or pale salmon colour, here and there finely speckled, spotted and streaked with brownish red and numerous spots of pale pinky purple underlying as if it were the primary marking. In shape and markings the eggs vary a good deal. In length they vary from 1·3 to 1·62, and in breadth from 0·93 to 1·05.

Gen. *Syrrhaptēs*—*Lin.*

Feet smaller than in *Pterocles*, and feathered to the claws; hind toe wanting; 1st and 2nd primaries lengthened and attenuated.

1185. *Syrrhaptēs thibetanus*, Gould, *Cent. Him. B.* pl.; *id.*, *Birds Asia*, p. ii. pl. 69; *Ferd.*, *B. Ind.* iii. p. 504 (*note and descr.*); *Hume and Marsh.*, *Game Birds Ind.* i. p. 43, pl.—The THIBETAN SAND GROUSE.

Male.—Forehead and lores whitish, faintly tinged with buffy, the feathers dark shafted; crown, occiput and nape white, closely and narrowly barred transversely with dark brown; chin, throat, cheeks, ear coverts, sides and front of neck buffish yellow during the breeding season; and buffish white during winter; back of the neck, upper back and lower breast whitish, tinged with vinaceous, and transversely barred narrowly with brown; scapulars and tertials vinaceous fawn, the inner webs of the scapulars with large black blotches, and everywhere excessively finely vermiculated with blackish brown; lower back and rump white, vermiculated with greyish brown; upper tail coverts fawn colour, also vermiculated with greyish brown; central tail feathers fawn colour, the attenuated portion slaty black; lateral tail feathers rufous buff, tipped with white and barred widely with black; primaries and their coverts slaty black, with a white patch near the tip on the inner web; secondaries black; lower breast grey; rest of under surface white, the feathers of the leg tinged with fulvous.

Length.—18 to 20 inches; wing 9·9 to 10·5; tail 7·5 to 9·5; bill at front 0·74 to 0·78.

Hab.—The semi-desert plains of Ladak and the upper portions of the Suttlej Valley. Hume adds that he saw numbers on the Roopshoo plains about the head of the Pangong Lake. It has also been got by Wilson on the water shed range crossing from the Mussoorie hills into Thibet.

Family.—PHASIANIDÆ.

Bill moderate, strong, vaulted, the tip of the upper mandible hooked over the lower; nostrils apert. Wings moderate or short; tail of from 12 to 18 feathers, long and broad; tarsus moderate or long, spurred in the males; toes long; hind toe raised. This family includes the Peafowls, also the Jungle and Spur fowls and Pheasants.

Sub-Family.—PAVONINÆ—PEAFOWL.

Plumage brilliant green, shot with gold, and ocellated.

1186. *Pavo cristatus*, Linn., Syst. Nat. i. p. 267; Elliot, Mon. Phas. i. pl. v.; Ferd., B. Ind. iii. p. 506; Hume and Marsh., Game Birds p. 83; Murray, Vert. Zool., Sind, p. 212.—THE COMMON PEACOCK.

Crest with bare shafts, except at the tip. Whole head, neck, and breast rich purplish blue with gold and green reflections; scapulars, tertiaries and lesser wing coverts rufescent, barred with black; facial skin greyish white; back green, the feathers scale-like in appearance with coppery edges; median coverts deep blue; primaries and tail chestnut; abdomen and under surface black; train green, ocellated. Bill horny brown; irides dark brown.

Length.—Without train, 42 to 48 inches; with train, more than double the length of head to true tail; wing 18.

The pea hen is chestnut brown on the head and nape; neck greenish, edged with whitish brown; upper surface of the body hair brown with undulations; quills brown; tail deep brown, tipped with white; chin and throat white; breast greenish, like the neck; abdomen white; under tail coverts brown.

Length.—38 to 40 inches; wing 16; tail 14. Crest feathers with bare shafts except at the tip.

Hab.—Throughout India proper, extending into Ceylon and Assam. This lovely bird is so well known that any account of its habits would be superfluous. They generally roost at night on high trees, seldom, if ever, on the ground, except perhaps when disturbed at night and are forced to fly down. They pair in the early part of the hot weather, when the peacock has then his full train of upper tail coverts to display to his wives. They lay in July and August. Eggs, pure white, or a rich *café au lait* or reddish buff, with strong glossy shells pitted all over with minute pores. Size 2.55 to 3 × 1.92 to 2.2 inches.

1187. *Pavo muticus*, Linn., Syst. Nat. i. p. 268; Elliot, Mon. Phas. i. pl. 5; Hume, Str. F. iii. p. 165; Blyth and Wald., B. Burm. p. 147; Dav. et Oust. Ois. Chine, p. 402; Anders., Funnan Exped., p. 668; Hume and Dav., Str. F. vi. pp. 425, 520; Hume, Str. F. vii. p. 455; viii. p. 110; Hume and Marsh., Game Birds p. 94, pl.; Bingham, Str. F. ix. p. 195; Oates, Str. F. x. p. 235; Kelham, Ibis, 1881, p. 529; Oates, B. Br. Burm. ii. p. 312.—THE BURMESE PEAFOWL.



Feathers of crest webbed throughout their whole length; head, neck and breast brilliant green; scapulars, tertiaries and lesser wing coverts uniform and unbarred rufescent; facial skin blue above and round the eyes; deep yellow on the remainder of the face; wing coverts violet blue, edged with pale greenish yellow; quills rufescent. Legs and feet dark horny brown; irides dark brown.

Length.—To end of true tail 40 to 48 inches; train projects beyond end of tail from 24 to 44; wing 16·75 to 19·75; tail from vent 15·5 to 17·5; tarsus 5·5; bill from gape 1·95 to 2·5.

Hab.—British Burmah, extending north as far as Chittagong; east through Siam to Cochin-China, and south down the Malay Peninsula.

Gen. **Argusianus**.—*Rafn.*

Bill short and strong; upper mandible deflected at the tip, convex; nostrils basal lateral; head naked; tail long.

1188. *Argusianus argus* (Linn.), *Oates, B. Br. Burm.* ii. p. 313. *Phasianus argus*, *Linn., Syst. Nat.* i. p. 272. *Argusianus giganteus*, *Bl., B. Burm.* p. 148. *Argus giganteus*, *Elliot, Mon. Phas.* i. pl. 11; *Hume and Dav., Str. F.* vi. p. 427; *Hume, Str. F.* viii. p. 110; *Hume and Marsh., Game Birds* i. p. 99, pl. *Argusa giganteus*, *Kelham, Ibis*, 1881, p. 530.—The ARGUS PHEASANT.

Head, cheeks, chin, and gular region naked and slaty blue; some bristly feathers on the occiput black, forming ear-like tufts; back of neck buffish, minutely spotted with black; lower neck, breast and upper back reddish chestnut, also minutely streaked and speckled with black; lower back and rump buffish, lighter on the rump; upper tail coverts dark vinaceous, thickly and closely variegated with ocelli. Wing coverts buffish, thickly freckled and speckled with dark brown; tertiaries longer than the primaries and beautifully ocellated; tail with the centre feathers much elongated; breast and upper abdomen ferruginous, finely vermiculated with ziz-zag lines. The female is duller in colour and wants the elongated tertials and tail feathers, otherwise as in the male.

Legs and feet from pale to bright red.

Length of the Male.—68 to 70 inches; tail about 50; wing to end of primaries 18; tarsus 4·7; bill from gape up to 2. *Length of Female.*—About 30 inches; tail 12; wing 17; tarsus 3·6; bill from gape up to 1·7.

Hab.—Tenasserim in the extreme south, where it was observed by Mr. Davison in the forests about Malewoon and Bankasoon and the higher portions of Pakchan. It extends down the Malay Peninsula, and is found in Sumatra. According to Davison they are confined entirely to the evergreen forests. The male and female live quite solitarily. The males, Mr. Davison says, have a peculiar habit of selecting a piece of ground some six or eight yards square,



thoroughly cleaning it from all vegetation and rubbish, and taking up their quarters there. They, however, roost on trees at night. Food—fruit, ants, slugs, and insects generally.

Gen. **Polyplectron**.—*Tem.*

Head sub-crested; bill less large and convex, more compressed, the tip deflected over the lower mandible; wing short; tail long; tarsus spurred.

1189. Polyplectron thibetanum (*Gm.*), *Elliot, Mon. Phas.* i. pl. vi.; *Hume and Dav*, *Str. F.* vi. pp. 432, 521; *Hume, Str. F.* viii. p. 110; *Hume and Marsh, Game Birds* i. p. 105 pl.; *Bingham, Str. F.* ix. p. 195; *Oates, B. Br. Burm.* ii. p. 315. *Pavo tibetanus, Gmel., Syst. Nat.* i. p. 731. *Polyplectron chinquis, Temm., Pig. et Gall.* ii. p. 363; iii. p. 675; *Blyth and Wald., B. Burm.* p. 148; *Inglis and Hume, Str. F.* v. p. 40.—The GREY PEACOCK-PHEASANT.

Crown of head subcrested, the feathers thick set; whole head and neck greyish brown, minutely freckled and stippled with brown; rest of upper plumage including the wings and tail dark brown, minutely freckled all over with greyish white; the feathers of the back, scapulars, tertiaries and wing coverts tipped with pale buff and each having near the tip a large roundish violet-blue spot, tinged with a coppery gloss next the buff tip. Each tail feather with a large oval metallic-green patch on each web, surrounded by a blackish and a buff ring; lower plumage pale ochraceous barred with brown. The *female* is similar, but duller in colour, the spots on the tail are small and inconspicuous, and those on the tail coverts altogether absent. (*Oates*.) Bill with the upper mandible and the tip of the lower one black; rest of the bill and facial skin pale yellow; irides white; legs and feet blackish; in the female dark plumbeous; the bill horny brown; and the facial skin pale dingy fleshy yellow. (*Davison*.)

Hab.—The dense hill forests of the Indo-Burmese region, its furthest limits northwards and westwards being the Buxa Doars and the outer slopes of the Bhootanese Himalayas. Eastwards it is not rare in suitable localities in the Eastern Doars, northern portions of Goalpara, Kamrup, and Durrang, and Hume adds possibly, further east. South of the Brahmaputra it occurs in the Garo, Khasia and Naga hills, in Sylhet, Cachar, Hill Tipperah, Chittagong, Arrakan, Pegu and Tenasserim as far south as Tavoy. A closely allied species, *P. bicalcaratum*, is said to have occurred at Mergui, but this requires confirmation. Hume, however, says that from the southern boundary of Tenasserim to the extreme south of the Malay Peninsula it certainly occurs, and that it may yet prove to occur in the higher hills of Southern Tenasserim.

Family.—MEGAPODIDÆ.

Birds with large legs and feet, commonly known as Mound-birds; facial skin nude; head crestless; tail short; tarsi thick and strong; hind toe on the



MEGAPODIDÆ.

same plane as the anterior one. Eggs large, laid in a mound of earth, heaped up by the parent birds.

Gen. **Megapodius**.—*Lin.*

Characters the same as those of the family.

1190. Megapodius nicobariensis, *Blyth*, *J. A. S. Beng.* xv. p. ; *Hume*, *Str. F.* i. p. 82 ; iii. pp. 276, 499 ; *id.*, *Nests and Eggs Ind. B.* iii. p. 517 ; *Hume and Marsh.*, *Game Birds Ind.* i. p. 110.—The NICOBAR MOUND BIRD OR MEGAPODE.

Upper and lower surface of the body dull chocolate brown, darker on the back and lower abdomen, slightly tinged with rufescent on the lesser, median and greater wing coverts, and greyer on the breast ; all the feathers margined lunately with black ; primaries (3—4) yellowish, edged with black ; top of head greenish brown ; lores, orbital and aural region and visible portions of the skin of the neck from a light somewhat dull cherry red to a bright brick red. Legs and feet dark greenish horny ; scuta somewhat paler ; soles of the feet pale caraneous ; knee brick red ; bill light greenish horny.

Length.—14·5 to 17 inches ; wing 8·5 to 9·5 ; tail 2·75 to 3·5 ; tarsus 2·6 to 2·75 ; bill at front 0·94 to 1·1.

Hab.—The central and southern portions of the Nicobar Islands. According to Hume, the Nicobar Megapode never wanders far from the seashore, and throughout the day keeps in thickish jungle a hundred yards or so above water mark. They come out generally at dusk and in the early dawn. Generally met with in pairs, coveys and flocks of from thirty to fifty, and Mr. Hume adds that they are unsurpassed. "The flesh is white, very sweet and juicy, loaded with fat, is delicious, a sort of *juste milieu* between that of a fat Norfolk turkey and a fat Norfolk pheasant." The eggs too, he says, are quite equal if not superior to those of the Peafowl. Eggs, 10—18 in number, elongated ovals, pointed towards one end, whitish, of a chalky texture, varying in size from 3·01 to 3·4 in length and from 1·9 to 2·25 in breadth.

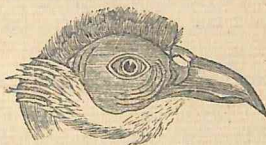
Sub-Family.—PHASIANINÆ.

Tail typically long, with the central feathers of great length ; plumage rarely ocellated ; head more or less crested. Includes (*Monaul*), the Horned, Gold and Silver, Snow and Blood pheasants, Firebacks and Jungle fowl.

Gen. **Crossoptilon**.—*Hodgs.*

Bill strong, broadly convex ; upper mandible longer than and overlaying the lower mandible ; cere and facial skin nude ; nares basal ; wing with the 6th quill longest ; tail ample, of 18 feathers ; upper tail coverts long, and covering the tail feathers ; tarsi nude, scutate before and behind ; males only with a spur.

1191. *Crossoptilon thibetanum*, Hodgson, J. A. S. B. 1849; Hume and Marsh., *Game Birds Ind.* p. 115, pl.; Tickell, *Field* iii., 1886, p. 170. *Crossoptilon drouyni*, Verr.—HODGSON'S EARED PHEASANT.



Head of *Crossoptilon thibetanum*.

Top of the head black, the feathers narrow, short, erect, velvety and thick set; cheeks and facial skin nude and red; wings short, stiff, bowed and rounded; quills blackish on their outer webs; lesser and median wing coverts greyish ash, tinged with blue; upper plumage bluish hoary, paler and tinged with yellowish on the lower surface; alar and caudal plumes dusky or black, glossed more or less with changeable blue; bill dull ochreous red. (*Hodgson*.)

Length.—38 to 40 inches; tail 19 to 20; wings 12·5; tarsus 4·12; bill 1·62.

Hab.—Nepaul. Mr. Hume figures this bird in his "*Game Birds of India*," and though he says it could hardly claim to be included in the Indian Avifauna, I have (owing to the rarity of the species, and the remarks of Colonel Tickell in a note by Mr. Hume,) given a description of it in the event of the bird being found, as Colonel Tickell surmises, nearer Nepaul.

Gen. *Lophophorus*, Temm.

Head crested, the shafts of the feathers bare except at the tip; orbits bare; bill somewhat lengthened, the tip deflected; tarsus spurred; tail short. Plumage rich metallic green and gold.

1192. *Lophophorus impeyanus* (Lath.), Gould, *Cent. Him. Birds*, pls. 60, 61; *id.*, *B. Asia* pt. ii. pl. 7; *Ferd.*, *B. Ind.* iii. p. 510, No. 804; Hume and Marsh., *Game Birds of Ind.* i. p. 125.—THE MONAUL PHEASANT.

Head, including the crest, also the throat, brilliant metallic green; back of the neck brilliant iridescent purple, passing into bronzy green, and all with a golden gloss; upper back and wing coverts, also the rump and upper tail coverts richly glossed with purple and green, the latter colour prevailing on the wings and furthest tail coverts. Middle of back white; quills black; tail cinnamon rufous; whole lower surface black, glossed on the throat with green and purple, dull and unglossed elsewhere. Bill dark horny; naked orbits blue; irides brown; legs dull ashy green. (*Ferd.*)



Length.—27 to 29 inches; wing 11 to 12·2; tail from vent 9·5 to 10·5; tarsus 2·7 to 3; bill from gape 1·9 to 2. Females are smaller. The female has the chin and throat white, the rest of the body pale buffy brown, with dark brown spots, bars and undulations; secondaries barred black and rufous; tip of tail and external margin of tail coverts whitish. Bill blackish; legs dusky greenish.

Length.—24 to 26 inches; wing 10·3 to 11; tarsus 2·65 to 2·7.

Hab.—The western borders of Cashmere to the more western portions of Bhootan, and throughout the Himalayas, as far east as Sikkim. Jerdon says in Sikkim it is not found at a lower elevation than 10,000 feet. Common about Mussoorie at one time, and also about Simla. Breeds throughout the forest-clad ranges of the Himalayas during May and June. The eggs are laid in a bare depression in the ground under the shelter of some overhanging rock, or the massive root of some large tree. The eggs, 4 to 6 in number, are long ovals, a good deal compressed at one end; the ground colour is buffish white thickly and coarsely freckled all over, especially in the middle, with deep reddish brown. Size from 2·41 to 2·69 in length by 1·7 to 1·89 in breadth.

1193. *Lophophorus Sclateri*, *Jerd.*, *Ibis*, 1870, p. 147; *id.*, *J. A. S. Beng.* 1870, p. 61; *Sclater*, *P. Z. S.* 1870, p. 162, pl. xiv.; *Elliot*, *Mon. Phas.* i. pl. xx.; *Hume*, *Game Birds* p. 135, pl. *Lophophorus* (*Chalcophasis*) *Sclateri*, *G. R. Gray*, *Hand List B.* ii. p. 261. *Chalcophasis Sclateri*, *Gould*, *B. Asia* vi. pl. 70.—SCLATER'S CRESTLESS MONAUL.

Top of head covered by a short recurved green crest; occiput, cheeks, throat and entire under parts deep velvety black; back of neck red, becoming orange yellow on the lower part; back and wings metallic green, with blue and purple reflections; shoulders reddish bronze; primaries brownish black; rump white with mesial black lines; upper tail coverts white; tail deep chestnut tipped broadly with white; facial skin deep blue, with short, black hair-like feathers; legs and feet brown; bill greenish horn.

Length.—27 inches; wing 12·4; tail 9·0; bill at front 1·3; from gape 1·95; tarsus 3·2; irides brown.

Hab.—East and South-East of Sadiya. Nothing is known of its habits.

Gen. *Ceriornis*.—Swainson.

Bill rather short; head with two small erectile fleshy horns behind the nude orbits; crown crested; throat with extensile gular wattles; tail short, broad, of 18 feathers; tarsi short.

1194. *Ceriornis satyra* (*Linn.*), *Gould*, *Cent. Him. B.* pl. 62; *Jerd.*, *B. Ind.* iii. p. 516, No. 805; *Hume and Marsh.*, *Game Birds* i. p. 137.

CERIORNIS.

Meleagris satyra, Linn., *Syst. Nat.* i. p. 717. *Satyra Lathamii* (Gray), *Hardwick, Ill. Ind. Zool.*, pl. 49, 51.—The SIKKIM HORNED PHEASANT OF INDIAN CRIMSON TRAGOPAN.

Forecrown, nape, and sides bordering the nude parts black; crest formed of slender hair-like feathers black basally and red terminally; back, rump, wings and upper tail coverts brown, finely barred with black and with white ocelli; wing coverts and sides of the rump brown, the ocelli on a maronne-red spot at the tip of each feather; shoulder of wing bright fiery red; tail black, barred narrowly with rufous; sides and back of the neck, the breast, and under surface of the body rich crimson red, with white, black-edged spots. Bill brown; orbits, horns and nude parts fine blue; wattles blue, with crimson bars when excited; irides deep brown; legs yellowish brown.

Length of Males.—26·5 to 28·5; wing 10 to 10·6; tail 10 to 11·5; tarsus 3·25 to 3·75; bill from gape 1·4 to 1·5. *Females*.—21·5 to 23·75; wing 8·5 to 9; tail 8 to 10; tarsus 3 to 3·25; bill from gape 1·25 to 1·45.

Hab.—The higher wooded ranges of the Central and Eastern Himalayas, westwards to Kumaon and the western portions of Garhwal. Found in suitable localities throughout Nepaul and Sikkim and well into Bhootan. Occurs also in the Daffa Hills; also in the vicinity of Darjeeling. Breeds at elevations of from 9,000 to 12,000 feet in the forests that lie below the snow. Eggs are like large hen's eggs, white, freckled with dull lilac.

1195. *Ceriornis melanocephalus* (Gray), *Gould, Cent. Him. B.* pls. 63, 64, 65; *Ferd., B. Ind.* iii. p. 517, No. 806; *Hume and Marsh., Game Birds* i. p. 143. *Phasianus nipalensis* (Gray, the female), *Hardw., Ill. Ind. Zool.* i. pls. 46, 47, 48 and 2 pl. 40; *Elliot, Mon. Phas.* i. pl.—The SIMLA HORNED PHEASANT OF THE WESTERN TRAGOPAN.



Head of *Ceriornis melanocephalus*.

Head black, crest tipped with red; nape, the back and sides of neck dark red; back and upper parts dark brown, minutely barred irregularly with black, each feather with a round white spot on a black ground; shoulder of wing dark red; quills blackish, mottled and barred with brown; some of the wing coverts with dusky olive spots; tertiaries mottled like the back and with the scapulars have a large white spot; upper tail coverts lengthened, the lateral



feathers with a large fulvous tip edged with dull black and white spotted; tail black, unspotted towards the tip, but barred with white, brown for the greater part of its length; beneath, the throat and neck below the wattle vivid scarlet, passing into flame colour and yellow on the lower part of the neck; breast and lower parts black, dashed with dull red, and each feather with a round white spot; thigh coverts mottled black and brown, paler and yellowish near the joint. Bill blackish; irides hazel brown; orbits bright red; fleshy horns pale blue; gular wattles purple in the middle, spotted and edged with pale blue and fleshy on the sides; legs and feet fleshy.

Length.—27 to 29 inches; wing 11·25; tail 10·5 to 11; tarsus 3.

The female has the head and all the upper parts mottled with dark and light brown and blackish with small pointed streaks of pale yellow; quills and tail dark brown, minutely mottled and barred; under surface light ashy brown, powdered with blackish and marked with irregular spots of white; fleshy horns and wattles absent.

Hab.—Western borders of Nepal to the extreme N.-W. Himalayas. It is found about Simla and Mussoorie, but more abundant near Almora. It is not a very rare species, and is very easily reared in captivity, as well as easy to shoot. They feed chiefly on berries, but insects also form part of their food. They begin to pair in April. Eggs have been obtained in May at from 8,000 to 11,000 feet elevation. They are, according to Hume, elongated ovals considerably compressed towards the small end, and about the size of the egg of the Monaul. The shell is devoid of gloss, and vary in colour from a pale *café au lait* to a dull reddish buff. Size from 2·4 to 2·55 by 1·68 to 1·72.

Cerionis Blythi, *Jerd.*, *J. A. S. Beng.*, 1870, p. 60; *Gould, B. Asia* vii. pl. 47. This is another species of which much is not known. It is said to occur in the Naga and Assam hills: the forecrown and occiput is black; lores, orbital region, cheeks, chin, throat and nude parts adjoining golden yellow; back of the head, neck all round and breast bright brick red or lake; a black post orbital and gular band; upper surface of the body rich maroon red, with white ocelli on a black ground at the tip of each feather; flanks more yellowish; belly grey; tail dark brown.

Gen. *Ithaginis*—Wagler.

Bill short, stout; tail of 14 feathers; tarsus of male with several spurs; head sub-crested; neck feathers elongated.

1196. *Ithaginis cruentus* (*Hardw.*), *Gould, B. Asia*, pt. iii. pl. 3; *Jerd.*, *B. Ind.* iii. p. 522, No. 807; *Elliott, Mon. Phas.* i. pl. 10; *Hume and Marsh., Game Birds* i. p. 155. *Phasianus cruentus*, *Hardw., Linn.*

ITHAGINIS.

Trans. xiii. p. 237. Phasianus Gardneri, *Hardw.* (the female).—The GREEN BLOOD PHEASANT.



Head of *Ithaginis cruentus*.

Forehead black; crown buff; crest dull grey, with a mesial streak of buff; lores and cheeks, also a broad ring round the red orbital region black; base of the bill, chin and throat blood red; lower throat brownish to black, with a mesial stripe of greenish buff down each feather; ear-coverts black, with buffish striæ; hind neck and upper surface of the body dark grey, each feather striped mesially with buff, which is again bounded by black; wing coverts the same; tail grey, passing into greyish-white at the tips; the shafts white and the basal three-fourths of the feathers broadly margined with blood red; breast, sides of the abdomen and flanks pale green with lighter shafts; breast feathers with a blood red spot near the centre of either margin; centre of abdomen, thighs and vent dark brownish grey, with a greenish mesial stripe bounded by black; under tail coverts deep blood red, tipped with pale yellow.

Bill brownish, black at tip and red at the base; irides brown; legs and feet coral red.

Length.—16 to 17 inches; wing 8·5; tail 6·5; tarsus 2·75.

The *female* has the forehead, cheeks and chin, bright rusty yellow; upper parts ferruginous brown mottled very finely with blackish; first primary plain dark brown, the others and the tail dark brown, freckled finely with blackish; lower parts brighter ferruginous brown than the back; under tail coverts and vent mottled with brown.

Hab.—S.-E. Himalayas, in Nepaul and Sikkim, more abundant in the latter, affecting ranges from 10,000 to 14,000 feet. According to Hodgson they are not rare. In November and December numbers are caught. They ascend and descend with the snow, and are easily captured, being fearless and stupid.

Gen. **Pucrasia**—Gray.

Bill short; head double-crested; tarsus spurred; toes slender, long; tail long, of 16 feathers.

1197. *Pucrasia macrolopha* (Lesson), *Gould, Cent. Him. B.* pls. 69, 70; *id.*, *B. Asia*, pt. vi. pl. 4; *Ferd.*, *B. Ind.* iii. p. 524; *Elliot, Mon. Phas.* 1 pl.; *Hume and Marsh., Game Birds* i. p. 159. *Pucrasia nipalensis*, *Gould, Cent. Him. B.* pl. 6; *Hardw., Ill. Ind. Zool.* pl. 40; *Hume, Str. F.* vii. p. 428; *Hume and Marsh., Game Birds* i. p. 165. *Pucrasia castanea*, *Gould, B. Asia*, pt. vi. pl. v.; *Hume, Str. F.* v. p. 138; vii. pp. 124, 428.—The KOKLASS PHEASANT.



Head of *Pucrasia macrolopha*.

Head glossy dark green, the crown and medial crest ashy brown; the lateral feathers of the crest dark green and from 4 to 4·2 inches long; an oblong patch of white on each side of the neck; upper surface of the body light ashy, each feather with a mesial streak of black; wing coverts light chestnut brown, the feathers with black patches; upper tail coverts light ashy; tail chestnut brown, tipped with black and narrowly edged with whitish; chin and throat black, also the upper edge of the oblong white neck patch; breast and centre of abdomen deep chestnut; flanks ashy; vent chestnut, tipped with white. Bill black; irides dark brown; legs and feet ashy.

Length.—24 inches; wing 10; tail 12; tarsus 2·5.

The plumage of the female is pale yellow brown above, variegated and banded with dark brown chestnut, and pale yellowish; chin and throat yellowish white; under surface of the body yellowish-chestnut, with dark brown markings, paler along the abdomen and darker on the flanks.

Length.—20 inches; wing 8·1 to 8·6; tail 7 to 7·5; tarsus 2·2 to 2·5.

Irises deep brown; bill dusky black, yellowish horny at the tip of upper and base of lower mandible; legs and feet dusky plumbeous.

Hab.—N.-W. Himalayas, from the west of Nepaul to beyond Simla, extending probably into the Bhootan Himalayas. It is said to be common to the whole of the wooded regions from an elevation of about 4,000 feet to

nearly the extreme limits of forest, but more abundant in the lower and intermediate ranges, where its favourite haunts are wooded ravines and hill sides where oak and chestnut are plentiful. It is found singly or in pairs. There is much difference of opinion as to whether it is good eating, but all agree that it affords good sport. Hume says the spot for Koklass is either some depression or saucer-like valley, or some place in a gorge where a horizontal plateau is thrown out inside the gorge. October and November are said to be good months about Mussoorie for Koklass.

It feeds chiefly on leaves and buds, also roots, grubs, acorns and berries. Breeds in May throughout the Himalayas in all well-wooded localities within the limits above indicated. Eggs, 6—9, oval, more or less pointed towards the small end; of a rich pale buff colour, densely and thickly speckled and spotted, or boldly and thinly blotched and splashed with deep reddish brown. They vary in size from 1.85 to 2.29 in length, and from 1.39 to 1.57 in breadth.

Gen. Phasianus.—*Linn.*

Tail long, cuneate, of 18 feathers; cheeks naked; tarsi spurred in the males.

1198. Phasianus Wallichii (*Hardw.*), *Gould, Cent. Him. B.* pl. 68; *Jerd., B. Ind.* iii. p. 527; *Hume and Marsh., Game Birds* i. p. 169; *Elliott, Mon. Phas.* i. pl.—The CHEER PHEASANT.



Head of Phasianus Hardwickii.

Head with a crest composed of a few long hair-like feathers and dark ashy in colour; neck pale ashy, barred narrowly with dusky black; back and scapulars and rump pale reddish chestnut, barred with bluish black; tail with the two long middle feathers pale yellow, broadly barred and speckled with black; the rest barred with pale yellow, black, and dark chestnut; chin



soiled buffish; throat and breast yellowish ashy, with a few broken black bars; abdomen dusky; wing coverts yellowish ash, with curved black bars and shining golden spots in some feathers; primaries dusky, with a few pale yellow bars; thigh coverts and vent yellowish chestnut marked with dusky. Bill pale horny; nude orbits bright red; irides yellowish hazel; legs and feet brown.

Length.—34 to 40 inches; wing 9·6 to 10·4; tail 20 to 23·0; tarsus 2·8 to 2·95; bill from gape 1·35 to 1·45. The females are 24 to 29·5 in length, with a wing of 8·8 to 9·5, and tail of 13·5 to 15·5.

Hab.—W. and N.-W. Himalayas, Nepaul, Garhwal, Dehra Dhoon, and about Chamba. "Mountaineer," according to Jerdon, says that it is an inhabitant of the lower and intermediate ranges, seldom found at very high elevations and never approaching the limits of forest. They are confined to particular localities, and not like other pheasants scattered indiscriminately over almost every part of the regions they inhabit. Grassy hills, scattered oak forests, sites of deserted villages and long grass in precipices are the haunts of this species. In the interior they are often found in the immediate vicinity of villages in flocks of 5 and 6. During the day they sit concealed, and only issue out in the morning and evening to feed. They run fast and lie very close and are flushed within a few yards. "Mountaineer" says he has knocked them over with a stick and even taken them with his hand; they feed chiefly on roots, grubs, insects, seeds and berries. The Cheer breeds throughout the lower ranges of the Himalayas during April, May and June, making a nest in grass or grass tufts. The eggs are of a pale stone colour, almost devoid of markings, but generally there are some few specks of red at one end. Size, from 2·05 to 2·22 inches \times 1·4 to 1·56.

Gen. **Euplocamus**.—*Temm.*

Head more or less crested; orbits naked, red; plumage glossy black and white; feathers of the neck and breast hackled; tail moderately long, of 16 feathers, divaricated, raised in the centre, as in jungle fowl, and held demierect, the feathers curving outwards and drooping. (*Jerd.*)

1199. *Euplocamus albo cristatus* (Vigors), Gould, Cent. Him. B. pls. 66, 67; Hume, Str. F. iv. 42; id., Str. F. vii. p. 429; Hume and Marsh., Game Birds i. p. 178. Phasianus Hamiltoni (Gray), Hardw., Ill. Ind. Zool. i. pl. 41. Gallophasis albo cristatus (Vigors), Jerd., B. Ind. iii. p. 532.—The WHITE-CRESTED KALIJ PHEASANT.

A long crest of decomposed feathers white; head, neck, wings and tail glossy bluish-black; lower back dull white; rump and upper tail coverts broadly tipped white; throat and breast greyish white, the feathers sharp-pointed; abdomen and vent dark grey. Bill greenish white, dusky at the tip; irides orange brown; nude orbits bright scarlet to deep crimson, dotted here and there with tiny tufts of abortive black feathers; legs and feet livid white

with a purplish or brownish tinge. The *female* is of a light brown colour throughout, each feather being tipped with pale whitish brown; chin whitish; lateral tail feathers dark brown.

Length—Males—24 to 29 inches; wing 8·7 to 10; tail 10·2 to 13; tarsus 2·9 to 3·1; bill from gape 1·3 to 1·55. *Females—Length*—20 to 23 inches; wing 8 to 8·3; tail 7·8 to 9.

Hab.—N.-W. Himalayas, as far as Nepaul in the westernmost portions. Hume says, throughout the fairly-wooded lower and middle ranges of the Himalayas from Kumaon to Hazara; also occurs in the Siwaliks, in some places very abundantly. Usually three or four are found together, and sometimes as many as a dozen. It feeds on roots, grubs, insects, seeds and berries, and the leaves and shoots of shrubs. Thick clumps of bushes near the banks of rivers are its favourite haunts. It breeds everywhere in the Himalayas, according to Hume, south of the first snowy range from the borders of Afghanistan to those of Nepaul; also in the Dhoon and at Simla from April to June. There is no regular nest, except a pad, with a slight depression, made of leaves, fine grass and coarse roots. Eggs, 9 to 14 in number, oval, moderately elongated, a good deal pointed towards one end, glossy and closely pitted with minute pores. In colour they vary from a pale creamy buff to a rich reddish buff, often thickly speckled with minute white spots. Size from 1·85 to 2·03 × 1·25 to 1·52.

1200. *Euplocamus leucomelanus* (Lath.), Hume, Str. F. vii. p. 428; id. and Marsh., Game Birds Ind. i. p. 185. *Phasianus leucomelanus*, Lath., Ind. Orn. ii. p. 633.—The NEPAUL KALIJ.

Differs from *albocristatus* in having a black crest and more narrowly white tipped rump and upper tail coverts. Bill greenish horny; irides dark brown; orbital skin fine crimson red and papillated; legs and feet pale brownish.

Length.—23 to 26 inches; wing 8·7 to 9·2; tail 10·9 to 12·3; tarsus 2·8 to 3·05; bill from gape 1·25 to 1·37. *Females* 19·3 to 20·5; wing 7·8 to 8·5; tail 7·3 to 8·5; tarsus 2·3 to 2·9; bill from gape 1·2 to 1·3.

Hab.—Nepaul, ranging just inside the limits of British India.

1201. *Euplocamus melanonotus* (Blyth), Jerd., B. Ind. iii. p. 534; Hume, Str. F. v. p. 42; id., p. 124; id. and Marsh., Game Birds Ind. i. p. 192.—The BLACK-BACKED KALIJ.

Differs from *leucomelanus* in having the rump and upper tail coverts entirely black. Bill, legs and feet as in the last.

Length.—21 to 25 inches; wing 8·9 to 9·5; tail from vent 9·5 to 12·3; tarsus 3·05 to 3·2; bill from gape 1·28 to 1·36. *Females—Length*—18 to 21 inches; wing 8·1 to 8·8; tail 7·5 to 8·6; tarsus 2·7 to 2·9; bill from gape 1·15 to 1·25.



Hab.—Sikkim, and the Eastern parts of Bhootan. According to Jerdon it is the only Pheasant common in Darjeeling at all elevations between 2,000 and 7,000 feet. Breeds during March, April, and May. Eggs, 8—10 in number, similar to those of other species. Size 1·79 to 2 inches by 1·4 to 1·54.

1202. *Euplocamus horsfieldi* (G. R. Gray), *Hume, Str. F.* v. p. 42; vii. p. 429; *Hume and Marsh., Game Birds B. Ind.* i. p. 197.—The BLACK-BREASTED KALIJ.

Differs from *albocristatus*, *leucomelanus* and *melanonotus* in having the breast black, with rounded instead of lanceolate feathers, and the rump and upper tail coverts broadly tipped with white. Bill greenish horny, paler at tip, dusky towards the base; nude orbital skin crimson; irides reddish brown; legs and feet plumbeous.

Length, Males.—23 to 24 inches; wing 9 to 10; tail 9 to 10·75; tarsus 3·2 to 3·25; bill from gape 1·37 to 1·5.

Length, Females.—21 to 22·5 inches; wing 8·5 to 8·9; tail 7·75 to 8·5; tarsus 3 to 3·05; bill from gape 1·15 to 1·3.

Hab.—Cachar and around the bases of and up to four thousand feet elevation on the Khasia and Garo hills; thence eastwards in suitable localities right up the valley of Assam to beyond Sadiya. Has been met with in Eastern Bhootan and in the lower ranges of the Daffa hills, also in Tipperah and Northern Chittagong. Dilkusha, Sylhet and Cachar are districts in which they are fairly abundant. (*Hume.*) Breeds in April and May. Eggs of the usual type.

1203. *Euplocamus lineatus*, *Elliot, Mon. Phas.* ii. pl. 23 (pt.); *Hume, Nests and Eggs Ind. B.* p. 525; *id., Str. F.* iii. p. 165; *Anders., Fun. Exped.* p. 669 (part); *Hume and Dav., Str. F.* vi. p. 436; *Hume, Str. F.* viii. p. 110; *Hume and Marsh., Game Birds* i. p. 205, pl.; *Bingham, Str. F.* ix. p. 195; *Oates, Str. F.* x. p. 236; *Oates, B. Br. Burm.* ii. p. 316. *Phasianus lineatus*, *Lath. in Vigors, P. Z. S.* 1831, p. 24. *Nycthemerus lineatus*, *Blyth and Wald., B. Burm.*, p. 149. *Gennæus lineatus*, *Oates, Str. F.* v. p. 164.—The LINEATED SILVER PHEASANT.

Whole head, including crest, also the chin, throat and lower plumage black; sides of breast and body streaked with white; forehead and feathers above the red facial skin stippled with white dots; sides of the head and neck, also the hindneck and the whole of the upper plumage and wing coverts black, finely and closely vermicellated with white; wings and tail the same, but the wavy bars of white broader; central pair of tail feathers almost entirely white on the inner webs. Younger males have more white streaks on the lower plumage extending to the whole breast and abdomen. The female has the forehead, crown and crest olive brown tinged with rufous; chin and throat grey; sides and back of the neck olive brown, streaked with white; front of the neck



pale chestnut with white streaks, the remaining lower plumage rich chestnut streaked with white; base of the hind neck and the back olive brown with white arrow-head-shaped marks; wings, coverts, lower back, rump and the shorter upper tail coverts olive brown, the feathers edged paler; longer upper tail coverts yellowish white, barred with black; six outer pairs of tail feathers blackish, broadly barred with white, each white bar having another black bar within it; between the white bars there are marks of chestnut; the next pair similar, but the terminal half of the inner web yellowish, vermiculated with black; central pair wholly yellowish white on inner web, the outer web vermiculated with black. In the male the irides are reddish hazel; bill green, turning to dusky at the tip and at the base of the culmen; bare skin of the head rich crimson; legs plumbeous brown; claws pale horn; spur dark brown. (*Oates.*)

Length.—27 inches; wing 9·3; tail 12·5; tarsus 3·2; bill from gape 1·35.

Female, Length.—20 inches; wing 8·5; tail 7·5; tarsus 3; bill from gape 1·3.

Hab.—British Burmah. Confined to Pegu, Tenasserim, north of Tavoy, the south-western portions of Independent Burmah, and the N.-W. portions of Siam. Hume says it is not a bird of high elevations. It is numerous at from 1,000 to 3,000 feet. It is almost omnivorous, and feeds according to season and locality on all kinds of berries, young leaves, green shoots and flower buds. The breeding season commences in March and is over by the end of April. The nest is merely a hollow scratched in the ground and thinly lined and sprinkled with dry leaves, placed under a shrub, or at the foot of a large tree. Eggs, 7—8, of a pinkish stone colour, minutely pitted all over. Size, 1·81 to 2·03 by 1·4 to 1·52 in width.

1204. *Euplocamus Cuvieri* (Temm.), *Oates, Str. F.* iii. p. 343; *Hume, Str. F.* viii. p. 110; *Hume and Marsh., Game Birds* & p. 201, pl.; *Sanderson, Str. F.* viii. p. 493; *Oates, B. Br. Burm.* ii. p. 318. *Lophophorus Cuvieri* (Temm. *Pl. Col.*), *Hume, Str. F.* iii. p. 166 (note). *Nycthemerus Cuvieri*, *Blyth, B. Burm.* p. 149.—THE ARRACAN SILVER PHEASANT.

Like *E. lineatus*, but with no white streaks on the lower plumage, the breast is strongly tinged with deep blue, and a tinge of blue runs all through the upper plumage; rump and upper tail coverts with broad white margins; vermiculations on the upper plumage are not so frequent nor so white, and there is less white on the tail. The *female* is also like the *female* of *E. lineatus*, but differs in having the feathers of the upper plumage margined paler; the white stripes on the lower surface are reduced in breadth, are buffy in colour, and are almost entirely confined to the breast; the whole back and wings are a more or less rich rufous-olivaceous-brown everywhere, closely freckled with blackish brown; tail rufous, pale on the central tail feathers, deep chestnut on the four exterior ones, and freckled only on the inner webs.



Length.—25 inches; tail 11·2; wing 9·3; tarsus 3·4; bill from gape 1·6.
The female—wing 8·5; tail 8·8.

Hab.—Arracan Hills, extending northwards to Chittagong. Habits same as last.

1205. *Euplocamus Andersoni*, *Elliot, P. Z. S.* 1871, p. 137; *Anderson, Yunnan Exped.*, p. 670, pl. liii; *Elliot, Mon. Phas.* ii. pl. 22; *Oates, B. Br. Burmah*, ii. p. 319. *Euplocamus Crawfordi*, *Hume and Dav., Str. F.* vi. pp. 437, 521; *Hume, Str. F.* viii. p. 110; *Hume and Marsh., Game Birds* i. p. 203, pl.—ANDERSON'S SILVER PHEASANT.

Upper parts black, each feather having three or four white irregular lines, running parallel to and meeting towards the edges; secondaries black, with broken irregular black lines, running lengthwise with the feather; feathers of the rump like the back, but fringed with white, which overlaps the feather beneath and gives this part a beautiful silvery appearance; top of head, lengthened crest and entire under parts deep rich blue; tail moderately long, middle feather white, thickly covered with rather broad irregular black lines, these most numerous on the outer web and towards the base, becoming less on the inner web, and disappearing entirely at the tip and on the edge of inner web; rest of tail feathers black, with fine broken lines of white, these disappearing towards the tips; primaries dark brown, marked with white lines. (*Elliott*.) Hume says the characteristic points in which typical *E. Crawfordi* = *E. Andersoni* differs from *E. lineatus* are, first, the much coarser and bolder character of the markings of the upper surface, which are all longitudinal and more or less parallel to the margins of the feathers, which are entirely free from the fine more or less transverse markings or mottlings characteristic of *E. lineatus*; second, in the whole of the central tail feathers, except just at the tip and margins of the inner webs, being boldly variegated black and white, instead as in *E. lineatus* almost the whole of the inner webs and the terminal half at any rate, of the outer webs being white or sullied white free from markings, and such markings as exist on the basal portions being fine. Bill pale bluish horny; facial skin deep crimson; legs and feet dark pinkish fleshy; irides brown. (*Davison*.)

Length.—30 inches; tail 13·5; wing 11·5; tarsus 3·62; bill from gape 1·55.

Hab.—Tenasserim proper, in the hills at the N.-E. extremity. Dr Anderson also procured specimens on the confines of Upper Burma and Yunnan.

1206. *Euplocamus Vieilloti* (*G. R. Gray*), *Sclater, P. Z. S.*, 1863, p. 118; *Hume and Dav., Str. F.* vi. p. 438; *Hume, Str. F.* viii. p. 110; *Kelham, Ibis*, 1881, p. 532; *Oates, B. Br. Burm.* ii. p. 320. *Gallophasis Vieilloti*, *G. R. Gray, Gen. B.* iii. p. 498. *Euplocamus ignitus*, *Elliot, Mon. Phas.* ii. pl. 26 (part); *Blyth, B. Burm.*, p. 149; *Elliot, Ibis*, 1878, p. 124 (part).—VIEILLOT'S FIRE-BACK PHEASANT.

General colour of the plumage, including crest, metallic violet blue; sides of the body streaked with white; centre of abdomen and vent, secondaries and lateral tail feathers black; lower back and rump glistening fiery chestnut; primaries brown; central pair of tail feathers white, the next pair white, with the basal half of the outer web brown. The *female* has the whole upper plumage chestnut; the chin and throat albescent; the front and sides of the neck streaked with white; the head, hind neck and upper back plain; all the other parts finely vermiculated with black; breast black, the feathers with chestnut tips and white margins; upper abdomen, sides of the body and thighs black, the feathers margined with white; lower abdomen and vent white; under tail coverts chestnut. Bill whitish to horny brown; facial skin smalt blue; legs and feet vermilion red; irides pale red.

Length.—27·5 to 29 inches; tail 10 to 10·5; wing 10·75 to 12·12; tarsus 4·25 to 4·4; bill from gape 1·6 to 1·8. *Female*.—23 to 24 inches; tail 7·5 to 9; wing 9·7 to 10·75; tarsus 3·5 to 3·75; bill from gape 1·6 to 1·7.

Hab.—Tenasserim, in the south, extending down the Malay Peninsula. According to Davison it frequents thick evergreen forests in small parties of five or six, feeding there on berries, tender leaves, and insects. Hume says they appear to breed in the monsoon. The only egg he obtained was laid by a captured hen in July. The egg is simply like a large game fowl's egg.

Sub-Family—GALLINÆ.

Head generally furnished with fleshy crests and wattles, crested or sub-crested; tail of 14 feathers, more or less divaricate, and held demi-erect; upper tail coverts of males elongated and pendant.

Gen. Gallus.—Linn.

Head furnished with a fleshy crest; face and wattles nude; tarsus in males spurred; other characters as in the sub-family.

1207. Gallus ferrugineus (Gm.), *Ferd.*, *B. Ind.* ii. p. 236; *Elliot*, *Mon. Phas.* ii. pl. 32; *Hume*, *Nests and Eggs Ind. B.* p. 528; *id.*, *Str. F.* iii. p. 171; *Blyth*, *B. Burm.* p. 148; *Oates*, *Str. F.* v. p. 104; *Hume and Dav.*, *Str. F.* vi. p. 442; *Hume*, *Str. F.* viii. p. 111; *Hume and Marsh.*, *Game Birds* i. p. 217, pl.; *Bingham*, *Str. F.* x. p. 195; *Oates*, *Str. F.* x. p. 236; *id.*, *B. Br. Burm.* ii. p. 322. *Tetrao ferrugineus*, Gm., *Syst. Nat.* i. p. 761.—
The COMMON JUNGLE FOWL.

Head and neck rich golden, becoming yellow on the longer hackles which cover the back; back, lesser wing coverts, and lower plumage black; tertiaries black, the greater coverts also black with a bluish tinge; median wing coverts glistening maroon chestnut, also a band connecting them with the lower back, which is followed by a broad band of rich purplish brown; lower rump and upper tail coverts rich golden; tail black, glossed with greenish.

The *female* has the crown rufous, the shafts darker; hackles of the neck dark brown edged with yellow; upper plumage and wing coverts yellowish brown mottled with black, and the shafts yellowish; primaries and secondaries dark brown, the outer webs of the latter and both webs of the tertiaries mottled with yellowish brown; under surface of the body reddish brown with paler shaft streaks, and most of the feathers stippled with blackish. (*Oates.*) Bill dark brown, reddish towards the base; under parts dull red; irides orange red; legs and feet purpurecent.

Length.—25 to 28 inches; wing 8'12 to 9'5; tail 11'25 to 14'3; tarsus 3 to 3'12; bill from gape 1'19 to 1'37. Females do not exceed 18'5 in length, and have a wing of from 7'1 to 7'5.

Hab.—Himalayas, in the lower ranges, the Dhoons, Terais, and sub-montane districts. The whole of Assam, Oudh, Central and N.-W. Provinces, Eastern Bengal, including the Sunderbuns, Arracan, Pegu, Tenasserim; all the hilly portions of Western Bengal and Northern and Central Provinces. Southwards and eastwards, it occurs north of the Godavery, Orissa, the Tributary Mehals, Ganjam, Vizagapatam, Joonaghur, Nowagur, Jeypore. There is no description of jungle from which it is absent. In the dry, level, alluvial plains and semi-deserts of Upper India it is absent. It is very partial to bamboo jungle, broken ground and ravines with dense vegetation. It breeds from January to July, according to locality. Eggs, a pale yellowish, *café au lait* colour, 8 to 12 in number.

1208. *Gallus Sonnerati*, Tem., Pl. Col. 232, 233; *Jerd.*, B. Ind. iii. p. 539, No. 813; *Elliot*, Mon. Phas. ii. pl. 34; *Hume*, Nests and Eggs Ind. B. p. 531; *id.*, Str. F. iv. pp. 5, 404; *Hume and Marsh.*, Game Birds i. p. 231, pl.—The GREY JUNGLE FOWL.

Head, neck and hackles blackish grey, the feathers with white shafts and two yellow spots; wing coverts with oblong spots of wood brown; ear coverts pale rufous; rest of the plumage blackish grey above and below, the feathers with albescent shafts, those of the flanks centred and tipped with wood brown; outermost primaries dusky, edged paler; rest black; upper tail coverts glossy purple; tail feathers glossy green, plainer on the lateral feathers; under tail coverts glossy black with white shafts. The *female* has the head and neck rufous brown, paler on the chin and throat; the upper surface of the body is mottled with brown; wing coverts pale shafted; beneath blackish brown, the feathers broadly centred with white; flanks, thighs, vent and under tail coverts dull brown; primaries dark brown, the secondaries mottled brown; tail blackish brown. Bill yellowish horny; comb, nude orbits and wattles red; irides orange brown; legs and feet horny yellowish or reddish yellow.

Length.—28 to 32 inches; wing 9'35 to 9'65; tail from vent 14 to 16; tarsus 2'85 to 3; bill from gape 1'28 to 1'3. *Females*—*Length*—18 to 20 inches; wing 7'8 to 8'3; tail 6 to 7; tarsus 2'2 to 2'5; bill from gape 1'02 to 1'2.



Hab.—Throughout the peninsula of India in suitable localities, extending northwards in the Central Provinces to Puchmuree, and on the west as far north as Mount Abu. It ascends the Neilgherries to 5,000 feet. Breeds wherever found in March and April, making a nest in woods on the ground. Eggs, 7 to 13, dirty white or buff colour, from 1·7 to 2·05 inches in length, and from 1·35 to 1·5 inches in breadth.

Gen. Galloperdix.—Blyth.¹

Bill somewhat lengthened; orbits nude; tail moderately long, of 14 feathers, held erect and folded as in the domestic fowl; tarsus of male with 2 or more spurs; females also spurred.

1209. Galloperdix spadiceus (*Gmel.*), *Hardwicke, Ill. Ind. Zool.* i. pl. 42, fig. 2; *Gould, B. Asia*, pt. vi. pl. 3; *Ferd., B. Ind.* iii. p. 541, No. 814; *Hume, Nests and Eggs, Ind. B.* p. 532; *id., Str. F.* iv. p. 5; *Hume and Marsh., Game Birds*, p. 248 pl.—The RED SPUR FOWL.

Forehead buffish; crown of the head and nape dusky olive brown; orbital region whity brown; chin, throat, and sides of the neck pale brown; rest of body both above and below rich bay, each feather margined paler; central feather of the tail chestnut, the rest dark brown, more or less mottled in adolescents, the mottlings obsolete in old adults; lower abdomen, vent, and under tail coverts olivaceous. In the female the crown is dusky blackish, the neck olive brown; upper plumage pale rufous brown, each feather banded with black and minutely speckled; rump and upper tail coverts the same; tail feathers with black bars and rufous mottlings; primaries, their coverts and winglet spotless dusky brown; in some specimens the primaries are margined whitish and the secondaries barred with dark yellowish, the winglets too are finely barred with black and white; chin and throat albescent; neck olive brown, tipped with black; breast and flanks bright ferruginous with narrow black fringes; belly dusky brown; under tail coverts freckled rufous brown. Bill dusky, red at base, horny towards the tip; legs and feet from coral to vermilion red. Males have from 2 to 3 spurs; females also have spurs, sometimes one on one leg only, on others one on each leg; irides orange brown.

Length.—14 to 15 inches; wing 6·2 to 6·5; tail 5 to 6; tarsus 1·65 to 1·75; bill from gape 1 to 1·2. Females are smaller.

Hab.—Southern India, on the Neilgherries, Shevaroy's, Wynaad, Malabar Coast, Western Ghats, up to Mount Abu; the Eastern parts of Central India, between Nagpur and Nerbudda and in the Vindhian range; also in the Rajmehal and Kurruckpore hills. It has been found north of the Ganges and in the Nepaul and Goruckpur Terai. Wherever it is found, Hume says, he believes it is a permanent resident. It lays from the end of February to the middle of June, about 10 eggs, similar to that of a hen in shape and size, though this varies much, and also in colour.



1210. *Galloperdix lunulatus* (Valenc.), *Ferd.*, *B. Ind.* iii. p. 543, No. 815; *Hume, Nests and Eggs Ind. B.* p. 533; *Str. F.* ii. pp. 427, 458, 532; *Hume and Marsh., Game Birds* i. p. 255, pl.; *Elliot, Mon. Phas.* ii. pl. 34 (?) *Francolinus nivosus*, *Deless., Voy. Aux. Indes.* pl. 10. *Perdix Hardwickii* (Gray), *Hardw., Ill. Ind. Zool.* i. pl. 52; *Ferd., Ill. Ind. Zool.* i. pl. 52; *Ferd., Ind. Orn.* pl. 42 (the female).—The PAINTED SPUR FOWL.

Crown, lores, nape, cheeks, chin and throat variegated with streaks and spots of black and white; upper breast black with triangular white or buffish white spots; back, rump, upper tail coverts and wing coverts rich chestnut, the back and wing coverts with a spot of white encircled by black on each feather, and the lower back and rump with black edges to the feathers; lower breast and abdomen ochreous buff, the feathers edged with black and with a triangular black spot; thigh coverts, flanks, and under tail coverts dull chestnut, the feathers edged with black and with a white spot on each feather; primaries earthy brown, margined with chestnut, secondaries the same; tail dark sepia brown, in adults glossed with green. The *female* has the top of the head dusky; the forehead, superciliary region and nape tinged very slightly with chestnut; moustachial streak buffish, edged with dark brown; upper and under plumage olivaceous brown, except the breast and abdomen, which are ochreous with blackish lunulated margins. Bill blackish; orbits red; irides red brown; legs horny brown; legs and feet plumbeous.

Length.—12·5 to 13·6; wing 5·85 to 6·2; tail 4·3 to 5; tarsus 1·5 to 1·65; bill from gape 0·8 to 0·9. Females are smaller. The males have from one to three spurs on each leg, generally two on each, often two on one and three on the other. The females also generally have at least one spur on each leg, sometimes two, rarely none at all.

Hab.—Southern India south of the Neilgherries, the Eastern Ghauts and the high broken country connected with these into Cuttack, the Tributary Mehals, Raipoor, Bhundara, Mirzapoor and Monghyr hills. On the other hand, at Goomsoor, in the north of the Ganjam districts, *spadiceus* only occurs. The distribution of this and *spadiceus*, Hume says, is as yet very imperfectly understood and difficult to disentangle. This species is especially partial to low rocky hills covered with impenetrable thickets. They are found either singly or in pairs, and generally met with in the morning and evening, when they descend to the more open spaces to feed. It breeds in suitable localities in the eastern two-thirds of the Peninsula of India, south of the Neigherries, during March, April, and May, making only a slight excavation in the ground for the eggs under the shelter of a boulder or rock in a thicket. The eggs are rather regular ovals, whitish buff in colour, and somewhat more elongated than the typical fowl's egg. *Galloperdix zeylonensis*, which Hume figures in his *Game Birds of India*, is peculiar to Ceylon.

**Family.—TETRAONIDÆ.**

Bill generally short, stout and thick; wings rounded in most, pointed in a few, longer comparatively than in the *Phasianidæ*; tail short; tarsus short and stout.

Sub-Family.—PERDICINÆ.

Tarsus not feathered; orbital region not feathered in some; tarsus often spurred. This includes the Snow Cocks and Partridges, also the Rock or Sand Partridges.

Gen. *Tetraogallus*,—Gray.

Bill moderately long, broad and stout; a small nude patch behind the eye; tail of 18 feathers; tarsi short and stout, and with a blunt spur.

1211. *Tetraogallus Himalayensis* (*G. R. Gray*), *Gould, B. Asia*, pt. v. pl. 2; *Ferd., B. Ind.* iii. p. 549, No. 816; *Hume, Game Birds of Ind.* p. 267, pl.—The HIMALAYAN SNOW COCK.

Crown of the head, cheeks and back of neck grey; a chestnut band from above the eye down the sides of the nape, and a second one from the angle of the mouth down the sides of the neck; two dark brown lunate marks on the sides of the neck; chin and throat whitish; ear coverts greyish; breast whitish, the upper feathers each with a black lunule; upper surface of the body light ashy grey, minutely freckled with black, more ashy on the wings and fringed with rufous; feathers of the back, rump and wing coverts striped with rufescent buff; primaries white, broadly tipped with dusky and freckled with greyish; under surface of the body grey, minutely freckled with brown, with a double broad streak of chestnut on each feather; vent and under tail coverts white. Bill pale horny or slaty; nostril dark horny; irides dark brown; legs and feet yellowish red or orange.

Length.—26 to 29 inches; wing 11·25 to 12·6; tail 7·8 to 8·1; tarsus 2·7 to 2·8; bill from gape 1·35 to 1·55. Females are smaller. *Length*—21·5 to 23 inches, with a wing of 10·8 to 11·5.

Hab.—The Himalayas from the eastern portions of Kumaon to Hazara. Affects bare rocky hillsides, ravines and passes in the higher snowy ranges. Common also in the northern portions of Kumaon and British Garhwal.

1212. *Tetraogallus thibetanus*, *Gould, B. Asia* part v. pl. 4; *Ferd., B. Ind.* iii. p. 554; *Hume, Str. F.* vii. p. 430; *id. and Marsh., Game Birds* p. 276, pl.—The THIBETAN SNOW COCK.

Head and neck grey; ear coverts white; upper plumage freckled with buff grey and black, the latter colour forming dashes; primaries grey; secondaries broadly edged externally with white, forming a marked wing band; tail rufous brown; chin, throat and breast white, separated from the grey of the head and neck by a dusky freckled line and a gorget of freckled grey and

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buff; abdomen white; flanks and lower belly with dashes of black; under tail coverts black; bill horny; legs red. (*Jerd.*)

Length.—22 inches; wing 10·5; tail 7; tarsus 2·5. (*Jerd.*)

Hab.—Kumaon, in the Himalayas, Ladak, and other places across the Himalayas.

Gen. **Lerwa**.—*Hodgs.*

Bill short and stout; orbits feathered; wings moderately long and pointed, 2nd quill longest; tail of 14 feathers; tarsi partly feathered and with short spurs in the male.

1213. *Lerwa nivicola* (*Hodgs.*), *Jerd.*, *Madras Journ Lit.* 1837; *Jerd.*, *B. Ind.* iii. p. 555, No. 817; *Hume and Marsh.*, *Game Birds* vol. ii. p. 1, pl. *Perdix lerwa*, *Hodgs.*, *P. Z. S.* 1833; *Hardw.*, *Ill. Ind. Zool.* 2, pl. 44, fig. 1; *Gould*, *B. Asia*, pt. vii. pl. 8.—THE SNOW PARTRIDGE.



Head of *Lerwa nivicola*.

Head, neck and whole upper plumage, including the wings and tail, minutely barred with black and greyish white; the sides of the neck tinged with chestnut, also the wing coverts; quills dusky brown, narrowly freckled with buffy white on their outer edges, and the secondaries broadly tipped with white; tail dusky, with freckled bars of grey and rufous, the feathers black-shafted; chin greyish; throat, breast and upper abdomen chestnut red with dashes of buff especially on the flanks; lower abdomen, vent, and thigh coverts like the back, but with a rufous tinge; lower tail coverts chestnut red, with buffy white tips. Bill bright red; irides dark brown; legs and feet red.

Length.—15 to 16 inches; wing 8; tail 4; tarsus 1·5.

Hab.—The whole extent of the Himalayas to the extreme N.-W. in Sikkim. According to Jerdon they are gregarious in coveys, nestle and breed under jutting rocks, feed on seeds and insects.

Gen. **Francolinus**.—*Steph.*

Bill very slightly curved at tip; tail of fourteen feathers, even or rounded; tarsi of male with blunt spurs.

1214. *Francolinus vulgaris* (*Steph.*), *Gould*, *B. Eur.* pl. 259; *Jerd.*, *B. Ind.* iii. p. 558, No. 818; *Hume*, *Nests and Eggs Ind. B.* p. 537; *id.*, *Sir. F.* iv. p. 5; *id.* and *Marsh.*, *Game Birds* ii. p. 9, pl.; *Murray*,



Hbdk., Zool., &c., Sind, p. 202; *id., Vert. Zool., Sind*, p. 213.—The BLACK PARTRIDGE.

PLATE.

Male.—Top of head black, the feathers behind edged with rufescent brown; lores, chin, throat and neck in front black; nape and hind neck black, each feather with four white spots, two on each side of the shaft, the lower of which near the tip showing through; a streak under the eye to the ear coverts white; a chestnut red collar round the neck; upper part of the back black, also the scapulars, the smaller feathers with four roundish spots, two on each side of the shaft, and the longer ones with six rufescent marks, two transverse and a longitudinal streak on each side of the shaft, the longitudinal ones only showing from under the feathers; middle and lower back, rump and upper tail coverts barred with black and white; wing coverts black, edged with rufescent; quills barred with rufous and black; tail black, the middle feathers barred like the back with black and white, the rest barred at the bases only; breast, abdomen and flanks deep black, the feathers of the flanks with 3—4 white spots, the hinder ones near the vent with broad white tips; thigh and under tail coverts and feathers round the vent chestnut; bill black; irides brown; legs reddish.

Length.—13 to 14 inches; wing 5·5 to 5·75; tail 3·5.

The *female* wants the black head and neck of the male and the rufous collar. It is generally much browner in colour.

Hab.—The whole of Northern India from the Himalayas to the valley of the Ganges; also the Punjab. Southwards, through Rajpootana to Sind. Eastwards, through Dacca to Assam, Sylhet and Tipperah. Breeds in suitable localities, wherever it occurs, during July and August, laying from six to ten eggs, unspotted fawn brown in colour, varying in size from 1·42 to 1·8 in length and 1·22 to 1·38 in breadth. It frequents, by preference, grass meadows near water; also cultivated fields of corn, mustard or pulse, and any patch of moderately high green herbage. In Sind it affects low tamarisk jungle and wheat fields. Its call in the early mornings is unmistakable, and is always made from some little eminence, as an ant hill or the stump of a tree. It affords good sport with a pointer, and is tolerably good eating, but, like all the *Tetraonidæ*, is best cold, and after at least 36 hours.

1215. *Francolinus pictus* (*Fard. and Selby*), *Ferd., B. Ind.* iii. p. 561, No. 819; *Hume, Str. F.* v. p. 211; *id., Nests and Eggs Ind. B.* p. 538; *id. and Marsh., Game Birds* p. 19 pl. *Perdix pictus*, *Fard. and Selby, Ill. Orn.* pl. 50.—The PAINTED PARTRIDGE.

Crown of the head dark brown, the feathers edged paler; forehead and lores, also the cheeks and ear coverts, chestnut; back and scapulars deep brown, the feathers margined with white; wings chestnut, banded with black; lower back, rump, and upper tail coverts with wavy bars of black and white;

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tail deep brown, the feathers narrowly barred across; chin white; neck all round pale ferruginous; breast and abdomen variegated black and white, each feather being white with two dark bands, and the shafts and tip black; under tail coverts chestnut. Bill blackish; irides dark brown; legs yellowish red.

Length.—12 inches; wing 6; tail 2·75; tarsus 1·75.

Hab.—Central and Southern India, where it replaces *F. vulgaris*. Found throughout Bundelkund and the Saugor and Nerbudda territories, thence south to Nagpore and the Deccan; west it extends into Khandesh and perhaps Guzerat, and eastwards to the Northern Circars. Like its northern congener, Jerdon adds that it delights in grassy plains and fields, but affects more the open, dry and raised plains with scattered bushes. It breeds during the monsoon (July to September), laying 7—8 eggs, rather of a peg-top shape, broad and obtuse at the large end, and much pointed towards the small end; the colour may be said to be a pale *café au lait*. Size 1·3 to 1·45 by 1·1 to 1·22.

1216. *Francolinus chinensis* (Osb.), Hume, *Nests and Eggs Ind. B.* p. 539; *id.*, *Str. F.* iii. p. 171; Wardlaw-Ramsay, *Ibis*, 1877, p. 468; *Oates, Str. F.* v. p. 164; *Dav. et Oust. Ois. Chine*, p. 400; *Hume and Dav.*, *Str. F.* vi. p. 443; *Hume, Str. F.* viii. p. 111; *Hume and Marsh.*, *Game Birds* ii. p. 27, pl.; *Oates, Str. F.* x. p. 236; *id.*, *B. Br. Burm.* ii. p. 323. *Tetrao chinensis, Osb., Voy.* ii. p. 326. *Tetrao perlatus, Gm., Syst. Nat.* i. p. 758. *Francolinus Phayrei, Blyth, J. A. S. B.* xii. p. 1011; xxiv. p. 480; *id.*, *B. Burm.* p. 149. *Francolinus perlatus, Anders., Yunnan Exped.* p. 672.—THE CHINESE FRANCOLIN.

Crown of the head black, each feather edged with chestnut; a band from the bill over the eyes and ear coverts black; space between this and the crown chestnut, a dark band from the bill on each side down the sides of the throat; space between these and the superciliary streak white; chin and throat white. Neck, back, breast, abdomen and sides of the body black, ocellated with fulvous white; under tail coverts chestnut; rump and upper tail coverts barred black and white; scapulars and tertiaries chestnut; coverts and wings blackish, ocellated and barred with white; tail black, barred with white, except at the tip.

The female has the whole lower plumage barred with black; the chin white, and wants the superciliary and coronal band, and there are no ocellations on the wings; irides hazel; bill dusky, paler at tip of upper mandible; legs orange.

Length.—13 inches; tail 3·3; wing 5·7; tarsus 1·7; bill from gape 1.

Hab.—British Burmah, confined to the upper portion of the Irrawaddy valley above Prome. Habits same as its other congeners. Breeds in June and July. Eggs 8 in number, pale buff. Size—1·45 to 1·51 by 1·2.

Gen. *Caccabis*.—Kaup.

Bill red, slightly longer than in *Francolinus*; tarsi of male with a blunt spur; a small bare patch behind the eye.



1217. *Caccabis chukor*, Gray, *Ill. Ind. Zool.* pl. 54; *Ferd.*, *B. Ind.* iii. p. 564, No. 820; *Hume, Nests and Eggs, Ind. B.* p. 139; *Murray, Hdbk., Zool., &c., Sind*, p. 203; *id.*, *Vert. Zool., Sind*, p. 213; *Hume and Marsh., Game Birds* ii. p. 33, pl.—The CHUKOR PARTRIDGE.

Above pale bluish or olive ashy, with a rufescent tinge on the back; sides of the face, chin and throat fulvous, pale chestnut or rufescent, encircled by a broad black band from the forehead through the eye along the side of the neck on to the breast, meeting its fellow from the other side and forming a large pale chestnut or rufous pectoral gorget; a pale white line behind the eye; ear coverts chestnut; sides of the lower mandible and chin with a black spot; breast bluish ashy, slightly tinged with rufescent; abdomen and under tail coverts buff, the flanks from the axil deeper buff, each feather ashy at the base with two dark bands, the interspace of which is buff and terminated broadly with chestnut; wings concolorous with the back, the ends of all the primaries, except the first, margined to nearly the tip on their outer webs with buff, some of the secondaries also; axillaries buff. Tail rufous, except the central feathers, which are concolorous with the back.

Length.—14 to 15·75 inches; expanse 21 to 23·25; wing 6·25 to 6·8; tail 4 to 4·8. The female is slightly smaller. *Length*.—13 to 14·25; resembles the male, and wants the spur.

Hab.—Throughout the Himalayas to Afghanistan. Common also in Beloochistan, Sind, Punjab Salt Range, Persia and along the Arabian Coast. Breeds from May to July in Chaman (S. Afghanistan), making a nest composed of a little grass under the shelter of grass tufts or bushes. The normal number of eggs is 12, but as many as 14 and 16 have been taken from a single nest, all varying in size and shape, from peg-tops to elongated ovals. The colour is also variable, but typically is a pale *café au lait* ground colour, with brick-red specklings. The Chukor Partridge is very pugnacious, especially during spring time, when two fighting cocks may be almost knocked over with a stick. They are much prized for their fighting propensities, and in Beloochistan and Afghanistan the men have a number trained for the purpose, on which large bettings are made.

Gen. **Ammoperdix**.—Gray.

Bill reddish; wings long; tarsi not spurred.

1218. *Ammoperdix bonhami*, Gray, *Des. Murs. I. O.* t. 29; *Gould, B. As.* pt. ii. pl. 4; *Ferd.*, *B. Ind.* iii. p. 567; *Str. F.* i. 226; *Murray, Hdbk., Zool., &c., Sind*, p. 203; *Hume, Nests and Eggs Ind. B.* p. 540; *Hume and Marsh., Game Birds* p. 45 pl.—The SEESSE PARTRIDGE.

Male.—Head and cheeks dull grey; forehead, a streak above and below the eye and a border to the ear coverts black; lores, a band behind the eye and ear coverts silky white, rufous behind; throat greyish white; breast vinaceous or vinous fawn; sides of the neck spotted with white; upper



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parts isabelline or pale brownish, freckled with dusky; rump and upper tail coverts like the back, with darker markings; primaries isabelline on their outer webs, finely pencilled with dusky, and all, except the first, with broad whitish bands or bars; tail brownish, tinged with chestnut, the tips of the feathers freckled with dark brown; legs and feet dingy yellow; irides bright or orange yellow; bill orange; cere orange red.

Length.—9 to 11 inches; wing 4·75 to 5·75; tail 2·5. *Female* slightly smaller, has not the dull grey crown of the male, and in general is more brownish throughout; the black markings on the head are replaced by freckles of dusky or black and white, and the entire upper and lower surface of the body is mottled.

Hab.—Sind, Punjab, N.-W. Provinces, Beloochistan and Afghanistan, also Persia. Numerous throughout Upper Sind, also in Beloochistan, where in the early morning, especially on broken ground and on the road in the Bolan, as many as two or three hundred may be met with, feeding on the droppings of cattle, or, in its absence, on grass seeds along the hill sides. Breeds in the Punjab, Beloochistan and Afghanistan in April and May, nesting in a slight depression in the ground under some thick bush or jutting rock. Eggs 10—12 in number rather lengthened ovals, more or less compressed or pointed towards one end; in colour from pure white to a pale *café au lait*. They vary in size from 1·3 to 1·5 inches in length \times 0·98 to 1·1 in breadth.

Gen. *Ortygornis*.—*Reich*.

1219. *Ortygornis ponticeriana*, Gmel., *Syst. Nat.* i. p.; Gray, *Ill. Ind. Zool.*, pl. 56, fig. 2; *Ferd.*, *B. Ind.* iii. p. 569, No. 822; Murray, *Hbdk., Zool.*, &c., *Sind*, p. 203; *id.*, *Vert. Zool.*, *Sind*, p. 214; Hume, *Nests and Eggs, Ind. B.* p. 542; *Hume and Marsh.*, *Game Birds* p. 51, pl.—The COMMON GREY PARTRIDGE.

Forehead, over the eyes, lores, nape and face rufous, the face with dusky freckles; top of the head olive brown; ear coverts rufescent brown; back, scapulars and wing coverts dark chestnut, each feather with two or three transverse buffy bars, bordered with black on both sides; feathers of the rump and upper tail coverts similar, but olive brown instead of chestnut; tail feathers rich chestnut or deep ferruginous, with a broad subterminal dark brown nearly black band, tipped with pale or yellowish white; central tail feathers like the back; beneath the chin and throat are white or creamy, encircled from the base of the lower mandible with dark spots, forming a gular patch; breast and entire lower parts creamy white, or very pale buff, the feathers with transverse dark bars; lower tail coverts ferruginous. The female is like the male, but paler in colour, and wants the spur.

Length.—11·5 to 13·5 inches; wing 5·5 to 6; tail 3·35 to 4; legs bright red; irides brown; the orbital ring with a row of minute white feathers; bill dusky brown.



Hab.—Throughout India, Ceylon, Beloochistan and S. Persia. Affects dry, scrubby or bare stony tracts. Delights among *Euphorbia* bushes. In the morning they are generally found in fields or on the edges of cultivation, where they pick up seeds and corn, also insects of all kinds. They afford fair sport with one or two good men, or a good dog and one's wits against the birds. Breeds from February to May, and from July to November. In Bengal, either in the deltaic district or in the Eastern Provinces, it does not occur, nor in Assam or Burmah. In the Deccan it ascends to 2,500 feet or more; in the Himalayas and Southern India not above 1,000 feet.

1220. *Ortygornis gularis* (Temm.), *Jerd.*, *B. Ind.* iii. p. 572, No. 823; *Hume, Nests and Eggs Ind. B.* p. 544; *id. and Marsh., Game, Birds* p. 59, pl. *Perdix gularis*, *Hardw., Ill. Ind. Zool.* i. pl. 56, fig. 1.—The KYAH PARTRIDGE.

Crown olive brown; lores, a streak below the eye and supercilium pale buff; a line through the eye to the ear coverts dusky brown; back brown, barred with buff; wing coverts the same; primaries brown on the outer web, ferruginous on the inner; tail ferruginous, central feathers brown; chin and throat rusty ferruginous; breast and abdomen brown with broad white streaks edged with black; under tail coverts ferruginous; under wing coverts ferruginous. Bill blackish; irides dark brown; legs litharge or dull red.

Length.—15 to 15·5 inches; wing 7·1 to 7·25; tail 4·5; tarsus 2·5; bill from gape 1·01.

Hab.—Bengal from Tirhoot and Goruckpoor to the Sunderbuns, extending eastwards into Assam, Sylhet, Cachar, and Tipperah. In the Western Provinces of Bengal, it is found on the north bank of the Ganges, crossing in a few suitable localities from Monghyr to Rajmahal. It is also found up to the base of the Himalayas and in the Oudh Terai. Jerdon adds that its favourite grounds are thick beds of reeds and long grass, along the banks of rivers, jheels and watercourses, and especially in those swampy patches of reeds where the creeping rose bushes form thickets impenetrable to aught but an elephant. It is said to breed from March to May. The eggs, 5 in number, are, it is said, laid under some thick bush in a dry spot, and to be white, like those of the Grey Partridge.

Perdix Hodgsoni, *Gould*, figured by Gould in his "Birds of Asia," pt. ix., pl. 2, does not appear to have been yet obtained within our limits. The upper plumage is olive brown, and the lower parts buff; sides and back of the neck and wings chestnut red; head red, speckled with white; line from the forehead round the ear coverts and throat black. (*Jerd.*)

Gen. **Arboricola.**—*Hodgs.*

Tarsus not spurred; toes long with long claws; tail short, of 12 feathers. Sexes similar in plumage.



1221. *Arboricola torqueola* (Valenc.), *Ferd., B. Ind.* iii. p. 577, No. 824; *Hume, Str. F.* ii. p. 449; *id., Nests and Eggs Ind. B.* p. 544; *id. and Marsh., Game Birds* ii. p. 65, pl. *Perdix megapodiæ, Tem., Pl Col.* 462, 463. *Perdix olivacea, Gray and Hardw., Ill. Ind. Zool.* i. p. 57.—
The COMMON HILL PARTRIDGE.

Top of the head uniform bright chestnut; lores black, also above and below the eye; ear coverts chestnut, continued as a streak down the sides of the nape; back and rump olive, the feathers edged with dusky and forming lunules; wing coverts pale chestnut with blackish shaft streaks and spots; chin and throat black, the feathers margined with white; *breast pale ashy, surmounted by a broad white band*; lower breast and abdomen ashy white; flanks olive, broadly dashed with chestnut and with large white spots; tail olive, speckled with black. The female has the head and neck olive, speckled with black; the lores white with the same but distant speckles; middle of throat unspotted rufous; breast grey, tinged with rusty. Bill black; irides brown, deep brown or reddish brown; orbital skin and a spot at gape crimson; legs and feet blue grey, tinged with red.

Length.—10·5 to 12 inches; wing 5·7 to 6·2; tail 2·75 to 3·25; tarsus 1·6 to 2; bill from gape 0·8 to 1.

Hab.—Throughout the outer ranges of the Himalayas from Simla to Darjeeling. In Sikkim it is found from about 6,000 to 9,000 feet. It extends to Bhootan and also to the Naga hills. Hume says it haunts dark, densely jungled watercourses and ravines running down the hillsides and never or seldom rising when disturbed. Nothing appears to be known of the nidification of this species.

1222. *Arboricola atrogularis* (Blyth), *Ferd., B. Ind.* iii. p. 579; *Hume, Str. F.* ii. p. 449; v. p. 14 (note); *Hume and Marsh., Game Birds*, p. 79, pl.—The BLACK-THROATED HILL PARTRIDGE.

Not unlike *A. torqueolus*, but differs in having the top of the head greyish olive, more or less black spotted, and the breast pale uniform grey. Bill blackish brown; irides deep brown; orbital space and gular skin vermilion; legs orange red.

Length.—10 to 11 inches; wing 5 to 5·9; tail 2·15 to 2·5; tarsus 1·5 to 1·7; bill from gape 0·85 to 0·87.

Hab.—Assam, extending to the Garo hills, thence it occurs in Cachar, Sylhet and Tipperah; also in Chittagong. Breeds in Sylhet, where Mr. Cripps took two nests. The eggs were broad ovals, a good deal pointed towards the small end, and white. In size they vary from 1·33 to 1·43 in length and from 1·1 to 1·13 in breadth.

1223. *Arboricola brunneipectus* (Tickell), *Blyth, J. A. S. B.* xxiv. p. 276; *Blyth, B. Burm.* p. 150; *Hume and Dav., Str. F.* vi. p. 443;



Hume, Str. F. viii. p. 111; *Hume and Marsh., Game Birds* ii. p. 87 pl.; *Bingham, Str. F.* ix. p. 195; *Oates, Str. F.* x. p. 236; *Oates, B. Br. Burm.* ii. p. 325. *Arborophila brunneipectus, Hume, Str. F.* ii. p. 449; iii. p. 174; *Wald., Ibis*, 1875, p. 459.—The BROWN-BREASTED HILL PARTRIDGE]

Forehead and supercilium, which extends to the nape, fawn colour; lores, circle round the eye, a line continued from behind the eye over the ear coverts to the sides of the neck black, forming in the latter a large black patch, behind which and around the throat and upper breast are spots of black; crown and nape olive brown, the feathers tipped with black; hind head nearly all black; back and scapulars olive brown, barred, straight or lunately with black; rump olive brown with but few bars; upper tail coverts plain olive brown; tail olive brown, mottled with black; primaries brown, their tips mottled with rufescent; secondaries brown, edged on the outer webs with pale chestnut; tertiaries and longer scapulars olive brown, tipped with chestnut and a subterminal black oval patch; wing coverts olive brown, some of the median and greater series with large black patches; breast uniform tawny or ferruginous olive; middle of abdomen and vent whitish; sides of abdomen and body tawny, the feathers with a large white spot and edged in crescent form with black; under tail coverts tawny brown barred with black. Bill black; eyelids, orbital patch, and gular skin bright red, very thinly covered with feathers; legs and feet dull coral to bright red.

Length.—10·6 to 11·6; wing 5·2 to 6; tail 2·1 to 2·6; tarsus 1·5 to 1·8; bill from gape 1·0 to 1·1. Females are smaller and average only 10 inches in length.

Hab.—The Pegu hills on the eastern spurs and Tenasserim, as far south as Tavoy. Oates adds that it is common in densely-wooded ravines and nullahs. They skulk in the undergrowths, and would seldom be seen were they not to come to the beds of streams to drink and bathe.

1224. *Arboricola chloropus* (Tickell), Blyth, *J. A. S. B.* xviii. p. 453; Blyth, *B. Burmah*, p. 150; *Hume and Dav., Str. F.* vi. p. 444; *Hume, Str. F.* viii. p. 111; *Hume and Marsh., Game Birds* ii. p. 91, pl.; *Bingham, Str. F.* ix. p. 195; *Oates, Str. F.* x. p. 236; *id., B. Br. Burmah* ii. p. 326. *Tropicoperdix chloropus* (Tickell), Blyth, *J. A. S. B.* xxviii. p. 415. *Arborophila chloropus, Hume, Str. F.* ii. p. 449. *Peloperdix chloropus, Hume, Str. F.* iii. p. 176.—The GREEN-LEGGED HILL-PARTRIDGE.

Forehead and supercilium continued on to the sides of the nape and meeting behind white, the feathers slightly edged with blackish; crown and nape rich olive brown; the back, scapulars, tertiaries, lesser wing coverts, rump, and upper tail coverts rich olive brown tinged with fulvous and irregularly but closely barred with blackish; primaries dark brown, freckled on the outer webs with fulvous; greater coverts and secondaries freckled and marked with fulvous and pale rufous; tail rufous brown, with freckles and



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broken bars of black; upper abdomen ferruginous; lower abdomen, vent and under tail coverts buffy white; sides of the body pale ferruginous with wavy bars of black. Irides hazel; bill dusky red at base, rest greenish; eyelids and orbital skin purplish; legs greenish.

Length.—11·4 to 12 inches; wing 6·05 to 6·6; tail 2·9 to 3·5; tarsus 1·7 to 1·79; bill from gape 0·8 to 0·9. The females are smaller.

Hab.—The evergreen forests of the eastern slopes of the Pegu hills; also in Tenasserim from the extreme north down to Tavoy. Habits same as the last.

1225. *Arboricola intermedia*, Blyth, *J. A. S. B.* xxiv. p. 277; Hume, *Str. F.* viii. p. 111.; *Hume and Marsh., Game Birds* ii. p. 85, pl. *Arborophila intermedia*, Hume, *Str. F.* ii. p. 450; Oates, *Str. F.* iii. p. 344; *id.*, *B. Br. Burma* ii. p. 327.—The ARRAKAN HILL-PARTRIDGE.

Front of the head as far back as the eyes pale grey; rest of head and nape hair brown, streaked with black; lores, and a broad supercilium reaching to the back of the head greyish white, the feathers with a central black streak; ear coverts, cheeks, sides of the neck and feathers under the eye black, the bases rufous and showing through; back, rump, and upper tail coverts glossy olive brown, edged darker, and all the feathers except those on the back with a small lanceolate spot of black; tail olive brown, mottled with black, the outer feathers tipped with white; primaries brown, narrowly edged and tipped with pale buff; secondaries with broader edges and tips; tertiaries, scapulars and wing coverts a mixture of chestnut, fulvous and black, the latter colour being in the form of large oval spots near the tips; throat and foreneck black, a rufous patch below it; breast and upper abdomen dark grey; sides of the body chestnut, each feather with a large grey patch, inside of which is a long and narrow white streak; lower abdomen greyish white; flanks and thigh coverts pale buff with large black spots; under tail coverts black at base, white at tip.

Length.—10 to 11 inches; wing 5·15 to 5·7; tail 2·2 to 2·4; tarsus 1·5; bill from gape 0·8 to 0·9.

Hab.—Arrakan hills; also Cachar and the Naga hills.

1226. *Arboricola rufogularis*, Blyth, *J. A. S. B.* xviii. p. 819; *Ferd., B. Ind.* ii. p. 578; Blyth, *B. Burma*. p. 150; Hume, *Str. F.* v. p. 114; Hume and Dav., *Str. F.* vi. p. 444; Hume, *Str. F.* viii. p. 111; Hume and Marsh., *Game Birds* ii. p. 75, pl.; Scully, *Str. F.* viii. p. 349; Oates, *B. Br. Burma*. ii. p. 328. *Arborophila rufogularis*, Hume, *Str. F.* ii. p. 450. *Arboricola tickelli*, Hume, in *Hume and Marsh. Game Birds* ii. p. 78, note.—The RED-THROATED HILL-PARTRIDGE.

Very similar to *A. intermedia*, but differs in the throat, foreneck and sides of the neck being rufous, spotted with black, instead of black, and the rufous



of the foreneck divided from the grey breast by a black band. (*Oates*) Legs and feet pale pinky red; bill horny black; irides deep brown; orbital skin bright red. (*Davison*.)

Length.—11 inches; tail 3; wing 5·5; tarsus 1·5; bill from gape 1·1.

Hab.—Tenasserim, and along the Himalayas from Assam to Kumaon. Habits the same as the other species of the genus.

1227. *Arboricola Mandelli*, *Hume*, *Str. F.* ii. p. 449; iii. p. 262, pl. 1; *Hume and Marsh.*, *Game Birds* ii. p. 84, pl.—The BHOOTAN HILL-PARTRIDGE.

Lores, forehead, and sinciput a rich deep brownish chestnut; under the anterior portion of the lores a narrow yellowish streak; crown, occiput and nape rich deep rufescent olive brown; supercilium grey, continued back over the ear coverts to the nape; chin, throat, cheeks, ear coverts, sides of the neck and basal portion of the back of the neck rich bright ferruginous, spotted everywhere except on the chin and throat with velvety black, a band of which clearly defines the ferruginous across the base of the throat. Immediately above this black band, in the centre of the base of the neck in front, is a conspicuous pure white patch, about 0·8 inch long and 0·35 to 0·4 deep. Below the black band, the breast and sides of the breast are rich slightly ferruginous maroon; on either side of the upper portion of the throat a very narrow mandibular white stripe, about 0·6 inch long, runs down from the base of the lower mandible; above this a black line, beginning under the posterior portion of the lores, runs under the eye; the abdomen and rest of the lower parts pale slaty grey, rather sullied, and in some lights slightly brownish, and many of the feathers with a small irregular central white spot near the tip. The flank feathers (where the white spots are largest and most conspicuous) tinged or margined with rusty or ferruginous chestnut; the vent and lower tail coverts strongly tinged with dull olive, the coverts, moreover, having the white spot nearer the tips and more or less expanded into a bar, and being here and there a little tinged with rusty; wing lining about the carpal joint a rich hair brown; the rest a pale grey brown (much the colour of the lower surface of the quills), a little tipped with white. Upper back and infer-scapular region plain olive, a little slaty in some lights towards the bases of the feathers, some of the feathers very narrowly and inconspicuously fringed with black; lower back, rump and upper tail coverts rather browner and brighter olive, some of the feathers very narrowly fringed with black and most of them with conspicuous hastate subterminal velvet black spots; coverts and scapulars and tips of tertiaries similar (the black spots varying in shape from a sort of lunule on the scapulars to the linear lanceolate dash on some of the coverts), but the feathers more or less tinged towards the margins with deep ferruginous; the primaries plain, uniform hair brown; secondaries similar, but freckled and mottled more or less on the outer webs and at the tips with ferruginous. (*Hume*, *Game Birds*.) The soft parts are not described.



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Length.—8·5 inches; wing 5; tarsus 1·5; bill from gape 0·9; bill at front 0·65; tail 1·5.

Hab.—The Bhootan Doars. Nothing is known of its habits, though it may be presumed that they do not differ materially from those of its congeners.

Gen. *Bambusicola*.

General characters as in *Arboricola*; wings short and rounded; male tarsi spurred.

1228. *Bambusicola Fytchii*, Anderson, Yunnan Exped.; Hume, Str. F. iii. p. 399; id., v. p. 493; Hume and Marsh., Game Birds ii. p. 97.—The WESTERN BAMBOO PARTRIDGE.

Top of head, hind neck, lower back, rump and upper tail coverts dull pale olivaceous brown, more or less barred with very fine zigzag lines of a paler colour; some of the upper tail coverts mesially with a black spot; tail rufous brown, banded transversely with freckly bars of black and rufescent buff; wing coverts, tertiaries, and longer scapulars with chestnut and black spots at the tips; sides and flanks ochraceous, with a large velvet black subterminal spot; chin pale ochraceous; lores, a streak above the black streak behind the eye, sides of the face and cheeks ochraceous; breast tinged with chestnut; primaries chestnut on the outer webs; bill dark brown; irides hazel brown; legs pale greenish grey.

Length.—14 to 14·3 inches; wing 6·1 to 6·45; tail from vent 4·62 to 5·13; tarsus 1·75 to 1·93; bill from gape 0·9 to 0·97. Females average smaller.

Length.—12·5 to 13 inches, with a wing of 5·6 to 5·8.

Hab.—Shillong, in the Khasia hills, also in the Garo, North Cachar and Naga hills, and probably the hill ranges of Upper Burmah and Assam. It is said to be a shy bird, and to frequent dense grass.

Gen. *Caloperdix*.—*Blyth*.

Bill longer and stouter than in *Arboricola*; tarsus stout and strong, double-spurred in the males. Plumage of the sexes alike.

1229. *Caloperdix oculatea* (Temm.), Salvad., Ucc. Born. p. 310; Hume and Dav., Str. F. vi. p. 449; Hume and Marsh., Game Birds Ind. iii. p. 101, pl.; Hume, Str. F. viii. p. 111; Oates, B. Br. Burm. ii. p. 329. *Perdix oculatea*, Temm., Fig. et Gall. iii. p. 732. *Tetrao ocellatus* Raffl., Trans. Linn. Soc. xiii. p. 322. *Caloperdix ocellata*, Blyth, B. Burm. p. 151.—The FERRUGINOUS WOOD PARTRIDGE.

Whole head, neck, breast, and abdomen chestnut, darkest on the crown and palest on the throat; a streak over the eye paler chestnut than the other parts; tips of the ear coverts black; lower abdomen and vent ashy white; base of the neck above, back, scapulars, sides of the breast and of the body black,



each feather with a subterminal white bar; lower back and rump black, each feather with a central oval spot of chestnut; upper tail coverts black, each feather with an irregular V-shaped mark of chestnut; flanks chestnut, with oval black drops; thighs plain chestnut; under tail coverts mixed chestnut and black, the longer ones black, tipped with fulvous white; tail brownish black, the two centre pairs of feathers irregularly marked with zigzag lines of pale fulvous; primaries plain brown, all but the first three tipped with fulvous; secondaries brown, edged on the outer webs with fulvous, the edging increasing in extent till it occupies the whole of the web on the inner secondaries; tertiaries and coverts liver brown, each feather with a black drop near the tip and the coverts narrowly edged with rufous; under wing coverts brown. (*Oates.*) Legs and feet pale dirty green; bill black; irides deep brown. (*Davison.*)

Length.—11 inches; tail 2·5; wing 5·8; tarsus 1·8; bill from gape 1.

Hab.—British Burmah in Tenasserim, south of Mergui; tolerably abundant at Malewoon and Bankasoon. Found also throughout the Malay Peninsula and Sumatra.

Gen. Rollulus.—*Bonn.*

Claw of the hind toe wanting; no spurs; head crested; bare orbital space crimson.

1230. Rollulus roulroul (*Scop.*), *Wald.*, *Ibis*, 1872, p. 382; *Salvad.*, *Ucc. Born.* p. 308; *Hume and Dav.*, *Str. F.* vi. p. 448; *id.*, *Str. F.* viii. p. 111; *id. and Marsh.*, *Game Birds* ii. p. 103, pl.; *Oates*, *B. Br. Burm.* ii. p. 330. Phasianus roulroul, *Scop.*, *Del. Flor. et Faun. Insubr.* ii. p. 93. Tetrao viridis, *Gmel.*, *Syst. Nat.* i. p. 761. Columba cristata, *Gm.*, *Syst. Nat.* i. p. 774. Perdix coronata, *Lath.*, *Suppl. Ind. Orn.* pl. lxii. Rollulus cristatus, *Blyth and Wald.*, *B. Burm.* p. 151.—The RED-CRESTED WOOD PARTRIDGE.

A long crest of feathers from the hinder part of the crown to the nape maroon; base of crest in front white; head and neck black; lower plumage, sides of the breast and lesser wing coverts bluish black; median and greater coverts, secondaries and tertiaries dark brown, freckled more or less with rufous brown on the outer webs; back, rump and upper tail coverts glossy bluish green; tail black; outer webs of primaries rufous, freckled with brown; inner webs plain brown.

The female has no crest, but there are a few hairs springing from the forehead, the whole head and neck are grey, and there is a band of dull black on the hind neck; whole of the plumage green, washed with slaty on the abdomen and vent; tail slaty brown; wings and their coverts chestnut, more or less freckled with brown. Legs, feet and base of bill scarlet-red; rest of bill black; irides slaty grey; facial skin bright red.

Length.—11 inches; tail 2·5; wing 5·5; tarsus 1·6; bill from gape 0·8.



Hab.—The extreme south of Tenasserim, extending down the Malay Peninsula, to Sumatra and Borneo. According to Davison it is always found in small parties of six or eight or more; keeps to the dense forests, and never ventures in the open; lives on berries, seeds and insects.

Gen. *Perdicula*.—*Hodgs.*

Bill short, thick, curved; tarsus with a blunt tubercle; wings rounded; outer webs of most of the primaries sinuated; tail short of 12 feathers. Size small.

1231. *Perdicula asiatica* (Latham), Gould, B. A. S. part xv. pl. 12; Temm., Pl. Col. p. 447; Hume, Str. F. vii. p. 156; Hume and Marsh., Game Birds p. 109, pl. Coturnix pentah, Sykes, Trans. Zool. Socy. ii. pl. 3; Hardw., Ill. Ind. Zool. 2, pl. 45, fig. 3. *Perdicula cambayensis*, apud Jerd., B. Ind. iii. p. 581, No. 826.—The JUNGLE BUSH QUAIL.

Above rich dark reddish brown, mottled with dull rufous; supercilium rufous white, narrowly edged with black, an indistinct pale line from the gape; feathers of the back of the neck and the back white shafted; scapulars and wing coverts richly marked on their inner webs with pale creamy white and black; primaries red-brown with tawny spots and bars; tail with a few black bars; chin rich chestnut; rest of the under surface white, tinged with rufescent on the lower abdomen, flanks, vent and lower tail coverts, and with numerous cross bars of black, smallest on the throat and sides of the neck. Bill dusky, tinged with reddish; irides light brown; legs yellowish red.

Length.—6·5 to 7·2 inches; wing 3 to 3·5; tail 1·5 to 1·78; tarsus 0·94 to 1; bill from gape 0·5 to 0·6.

Hab.—Generally distributed throughout India, Ceylon, Malabar Coast, the Wynaad, Mysore, Madras, Eastern Ghauts, Western Ghauts, Khandalla, Mahableshwar, Rutnagherry, and South Konkan generally; Chanda, Seoni, Nursingpur, Manbhoom, Rajmahal hills, Mirzapoor, Etawah, Kuchawan Hills, Mount Abu, Lucknow, Umballa, the Dhoon, Mussoorie, Simla, lower Himalayan ranges below Kumaon and Kashmir, are some of the recorded localities given by Mr. Hume, where this species is common. They always keep in small coveys in grass jungle or stubble long enough to hide them. They feed of course on seeds and grains of sorts. Breeds from September to January according to locality, making a nest on the ground under the shelter of some bush or tuft of grass. It is shallow and circular, and lined or made up of grass roots, grass and a few dead leaves. Eggs, 5–7 in number, regular ovals, more or less pointed towards one end, with a faint gloss, and in colour spotless creamy white. Size from 0·96 to 1·1 in length and 0·79 to 0·9 in breadth.

1232. *Perdicula argoondah*, Sykes, Trans. Zool. Soc. ii. pl. 2; Jerd., B. Ind. iii. p. 583, No. 827; Hume, Nests and Eggs Ind. B.



p. 545; *id.*, *Str. F.* vii. p. 156; *Hume and Marsh.*, *Game Birds* ii. p. 117.—
The Rock Bush Quail.

Upper plumage brownish rufous, the feathers minutely freckled and lineated with black and tawny; feathers of the head and neck tipped with black; some of the scapulars and wing coverts with irregular black blotches; primaries dark brown, with tawny bars on their outer webs; tail with the lateral feathers also barred; supercilium from the base of the bill over the eye bordered by dusky, and another shorter one from the gape; cheeks, sides of the face, chin and throat bright rufous; under surface of the body, including the sides of the neck white, with numerous cross bars of black; flanks tinged with rufous; also the lower belly and thigh coverts. Bill dark slaty; irides brown; orbits pale; legs red.

Length.—6·7 to 7·25 inches; wing 3·1 to 3·5; tail 1·5 to 1·9; tarsus 0·75 to 1·0; bill from gape 0·5 to 0·67.

Hab.—The Punjab, N.-W. and Central Provinces, Central India, Rajpootana, Eastern Madras districts, Coimbatore, Mysore, throughout the Deccan, in Bundelkund, Deesa, the Panch Mahals, Kutch, Sambhur Lake, Jodhpore, and Mount Abu, but not in Sind nor anywhere in Lower Bengal. Affects rocky hills with low scrub jungle. Breeds from August to December and again in March. Eggs. 6—7, of the type of the Jungle Bush Quail.

Gen. *Ophrysia*.—Gray.

General characters the same as those of *Perdicula*.

**1233. *Ophrysia superciliosa* (J. E. Gray), *Hume*, *Str. F.* vii. p. 434; *id. and Marsh.*, *Game Birds* ii. p. 105; *Gould*, *B. Asia*, pl.—
The Mountain Quail.**

Lores, chin, throat and sides of the face and ear coverts deep black; forehead and a broad stripe above and behind the eye silvery grey, the feathers of the forehead paler shafted at base, and darker on the shaft towards the tip; hind head and nape light greyish brown; upper surface of the body, tail and under surface olive, tinged with grey on the breast and abdomen; all the feathers of both surfaces margined on each side with a line of black; under tail coverts black, every feather with a small tooth-like mark of white on each side near the base, a similar but larger mark about two-thirds from the base, and two coalescing oval spots of white at the tips; bill reddish; tarsi brown. Total length 9 inches; bill 0·62; wing 3·5; tail 2·75; tarsi 1·33.

Female.—General tint cinnamon brown, with a rufous edging to each feather; those of the upper surface with light coloured shafts and triangular mark of dull black on the inner web near the tip, preceded by a small mark of the same hue as the shafts; on the under surface the dark mark occupies the centre of the tip of each feather, and is of a lanceolate form; the throat is pale greyish cinnamon, as is also the head, where there is an indication of the



superciliary stripe seen in the male : the feathers of the crown and behind the eye being somewhat greyer than the others, and having polished shafts ; on each side of the nape a dark stripe as in the male ; tail irregularly barred with black ; under tail coverts dark cinnamon, with a stripe of black in the centre, between which and the margin is a stripe on each side, which unites with a large patch of the same hue near the tip. (*Gould, B. of Asia.*) Bill coral red ; legs and feet pinkish.

Length.—10 inches ; wing 3·6 ; tail 3·3 ; tarsus 1 ; bill from gape 0·58.

Hab.—Only known from Mussoorie in the neighbourhood of Naini Tal.

Gen. **Microperdix**, *Gould.*

Bill red, slender, no tarsal tubercle in the male, otherwise as in *Perdica*.

1234. *Microperdix erythrorhyncha* (*Sykes*), *Hardw., Ill. Ind. Zool.* 2, pl. 44, f. 2 ; *Gould, B. Asia* pt. xiv. pl. xvi. *Coturnix erythrorhyncha*, *Sykes, Trans. Zool. Soc.* vol. ii., pl. i. *Perdica erythrorhyncha*, iii. p. 584, No. 828.—The PAINTED OR RED-BILLED BUSH QUAIL.

Forehead, lores and crown of the head black ; a white frontal band continued as a supercilium over each eye ; upper plumage rich olive brown with black lunules ; scapulars, wing coverts and secondaries with large patches of black, the shafts pale yellow and some faint cross lines of the same ; primaries brown, the outer webs barred with dark rufous ; tail brown, with black spots, and barred with narrow pale lines ; beneath the chin is pure white bordered by black ; rest of lower parts rufous, passing into olive brown on the sides of the neck and with a few spots of black on the breast and side of the neck ; flanks with large spots of deep black tipped with white. Bill and legs fine red ; irides yellow brown.

Length.—6·5 inches ; wing 3 ; tail 1·5 ; tarsus 1. The female has the head brown, and the white parts rufous.

Hab.—Southern India, from the Wynaad to the Deccan in Poona. Has also been obtained in Coorg and on the Neilgherries ; also at Karlee above the Khandalla Ghauts, and near Dharwar. Habits the same as Bush Quails, living in small be vies. Breeds in the Neilgherries from August to November. According to Mr. Mahon Daly, it is very common amongst the coffee on the Shevaroyes, and often in rocky ground with low jungle. They go about nearly always in pairs, and not in large be vies as stated by Jerdon. They lay from 6 to 8 eggs on the ground, with just a few leaves placed around the nest. It is very daring. Mr. Daly adds that he has seen it fly at a dog in defending its brood. January to March, and again September and October, are the months in which this species breeds. The eggs are long ovals, pointed towards one end, rather glossy and spotless *café au lait*, varying in length from 1·35 to 1·45 inches, and in breadth from 0·87 to 0·95.



1235. *Microperdix Blewitti*, Hume, Str. F. ii. p. 512; *id.* and Marsh., Game Birds ii. p. 129, pl.—The EASTERN PAINTED BUSH QUAIL.

Very similar to *M. erythrorhyncha*, but differs in the male having the black frontal band much narrower, and the white band surmounting it, also the supercilium, broader; the chestnut of the lower surface is much paler; the feathers of the upper breast, sides of the breast, part of the upper mandible fringed with greyish pink, with black subterminal spots much larger and more widely spread; upper surface paler brown; chin very narrowly black, or pure white. Irides brown; bill, legs and feet coral red.

Length.—5·9 to 6·5; wing 2·8 to 3·15; tail 1·4 to 1·6; tarsus 0·87 to 0·91; bill from gape 0·5 to 0·6.

Hab.—Chota Nagpur, in the Raipur, Sambulpoor, Bhandara, Mandla and Seoni districts of the Central Provinces; affects grass patches and fields in fairly large beves. Breeds during June and July. The flesh like that of all the *Perdicinae* is delicate and well flavoured.

Sub-Family.—COTURNICINÆ.—QUAILS.

Wings long, rather pointed; bill moderate; tarsus not spurred; tail short, coriceated by the upper tail coverts.

Gen. *Coturnix*.—Brisson.

Bill short, straight, very slightly curved at the tip; tarsi not spurred; tail short; wings long and pointed; 1st and 2nd quills longest.

1236. *Coturnix communis* (Linn.), Bonn., Tabl. Enc. Meth. p. 217; Bodd, Pl. Enl. 170; Jerd., B. Ind. iii., p. 586, No. 829; Hume, Nests and Eggs, Ind. B. p. 549; Blyth, B. Burm. p. 151; Dav. et Oust. Ois. Chine, p. 396; Dresser, B. Eur. vii. p. 298; Hume, Str. F. viii. p. 111; Scully, Str. F. viii. p. 350; Hume and Marsh., Game Birds ii. p. 133, pl.; Hume, Str. F. x. p. 236 (note); Murray, Hdbk., Zool., &c., Sind, p. 203; *id.*, Vert. Zool., Sind, p. 215; Oates, B. Br. Burm. ii. p. 331.—The COMMON EUROPEAN OR LARGE GREY QUAIL.

PLATE.

The following synopsis of the two known species will suffice to identify them :—

Primaries with pale rufous bars on their outer webs.—*C. communis*.

Primaries without pale rufous bars on their outer webs.—*C. coromandelica*.

Top of head brown, the feathers edged paler; a mesial buffy line on the crown; supercilium pale yellowish white, reaching above the ear coverts, which are partially brown; lores and a line below the eye white; sides of the neck white; two narrow blackish lines from the sides of the neck to below the throat, the interspace being white; the upper black band not always



perfect; chin and throat patch dark brown; breast pale buff, buffy white or rufous, with pale shafts to the feathers; sides of the breast and flanks similar or deeper in colour, with pale shafts; abdomen white, pale rufous, or buff; back, scapulars and upper tail coverts from brown to a rich dark brown, each feather shafted a rich rufous, or buff, with three transverse bars or bands of the same colour on each side, the tips being pale buff; *primaries dusky brown with pale rufous bars on their outer webs*; the secondaries with pale tips, and the tertials barred buffy on both webs, the borders of the buffy bars darker than the ground colour of the feathers. The female is like the male, but wants the central throat patch, and the breast is spotted with brown or dark brown. She is also much larger.

Length.—7 to 8 inches; wing 4 to 4·5; tail 1·6 to 2·25; irides brown or hazel; legs pale fleshy; bill blackish with a brownish horny tinge above and at the tip.

Hab.—Sind, Punjab, Beloochistan, Afghanistan, Persia, Arabia, the Deccan, N. Guzerat, Rajputana, Kutch, Kattiawar and Southern and Central India generally to Nepaul. A rare visitor to Burmah and in the countries S.-E. of the mouths of the Ganges, Chittagong, Arracan and Pegu, where it may be considered a straggler. It is found throughout Europe and nearly the whole of Asia. The greater bulk of these which come into India, Hume says, are migratory. They arrive from the North from Central Asia across the Himalayas, and from the west from Persia, Beloochistan, &c. Hume adds, that arrived within our boundaries, while a certain number remain scattered about, some remaining in the lower ranges and valleys of the Himalayas up to an elevation of 4000 to 5000 feet, the greater bulk move forward, southwards and eastwards, and arrive about the middle of October in Sylhet, Bengal, and the Deccan, and frequent the crops of peas, millet, &c., to the end of March; their stay, however, depends much on the supply of food. They migrate invariably at night, and evidently in large numbers at a time. Numbers are netted throughout India, for the table, for quaileries, and the cock-birds for fighting purposes,—a favourite pastime nearly throughout India amongst Mahomedans. Breeds generally in the N.-W. and Upper Provinces of India, laying six eggs, from February to April. Eggs broad ovals, a good deal pointed towards one end. The ground colour is a clear yellowish or reddish buff, thickly speckled and freckled and thinly blotched with reddish brown.

1237. *Coturnix coromandelica* (Gmel.). *Ferd*, *B. Ind.* iii. p. 588, No. 830; *Hume, Nests and Eggs Ind. B.* p. 550; *id.*, *Str. F.* iii. p. 178; *Blyth, B. Burm.* p. 157; *Hume, Str. F.* viii. p. 111; *Hume and Marsh., Game Birds* ii. p. 151, pl.; *Oates, Str. F.* x. p. 236; *id.*, *B. Br. Burm.* ii. p. 333; *Murray, Hdbk., Zool., &c., Sind*, p. 203; *id.*, *Vert. Zool., Sind*, p. 216. *Tetrao coromandelica*, *Gmel., Syst. Nat.* i. p. 764.—The BLACK-BREADED RAIN QUAIL.



Male.—Top of head brown, with a longitudinal pale stripe on the crown; supercilium white, extending above and beyond the ear coverts; a white streak under the eye, followed by a dark brown one, which meets the first dark brown stripe running below the throat, and forming with its fellow on the other side a triangle, from the middle of which to the chin runs a broad throat stripe; a triangular patch of white on each side of the throat; there is also on the throat a second dark stripe behind the first, running down to the breast, the interspace between both being white; breast with a large jet black patch, some of the feathers of the lower part of which are edged with pale buff or white; sides of the breast dark rufous, the feathers pale shafted, and a few with dark spots on both webs; flanks and abdomen pale buff and white intermixed, the feathers black shafted; lower tail coverts and vent rufous; back, scapulars and upper tail coverts same as in the large grey quail, from which it may be readily distinguished by the absence of rufous bars on the first two primaries, the first primary having a pale outer edge, and by the well-defined lines on the chin and throat, and the patch on the breast, also by its much smaller size.

Length.—6.25 to 7 inches; wing 3.43 to 3.7; tail 1 to 1.5; irides dark brown; legs and feet pale fleshy; bill dusky black.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Beloochistan, Persian Gulf, Rajputana, N. Guzerat, Kutch, Kattiawar, the Concan, Deccan, Central and parts of South India, also Dacca and Sylhet. Rain Quail visit India during the monsoon months, about the end of July, and remain to breed. The majority breed in the Deccan, Guzerat, Central India and parts of the Central Provinces. In Oudh, Behar and the N.-W. Provinces, only a very limited number remain to breed. July to October are the months in which they breed. The eggs are not unlike those of *C. communis*. They leave about the end of October or middle of November.

Gen. **Excalfactoria**.—Bonap.

General characters similar to those of *Coturnix*. Wings less pointed and more rounded; 1st quill shorter than the 2nd; 3rd, 4th and 5th graduating very slightly from the 2nd.

1238. *Excalfactoria chinensis* (Linn.). *Ferd.*, *B. Ind.* ii. p. 591; *Hume, Nests and Eggs Ind. B.* p. 553; *Salvad., Ucc. Born.* p. 311; *Oates, Str. F.* iii. p. 345; *Wald., Trans. Zool. Soc.* ix. p. 224; *Blyth, B. Burm.* p. 151; *David et Oustf. Ois. Chine*, p. 397; *Hume and Dav., Str. F.* vi. p. 447; *Hume, Str. F.* viii. p. 111; *Oates, Str. F.* viii. p. 167; *Hume and Marsh., Game Birds* ii. p. 161 pl.; *Bingham, Str. F.* x. p. 196; *Oates, Str. F.* x. p. 236. *Tetrao chinensis*, *Linn., Syst. Nat.* i. p. 277. *Coturnix chinensis*, *Legge, B. Ceylon*, p. 755.—THE BLUE-BREASTED QUAIL.



A narrow white line from the nostrils to the eye; forehead, feathers round the eye, ear coverts, breast, sides of the neck and of the body slaty blue; abdomen, vent and tail chestnut; upper plumage, wing coverts and tertiaries olive brown, marked with black and pale rufous, and most of the feathers with pale shaft streaks; primaries and secondaries plain brown; chin, throat, and cheeks black; a broad moustachial stripe from the gape white; a broad collar below the black of the throat white, succeeded by a narrow band of black. The female has the upper plumage almost similar to the male; the supercilium, forehead and throat are rufous, enclosing a dull white chin; sides of the head pale rufous, speckled with black; lower plumage pale buff; all but the centre of the abdomen barred with black. Bill bluish black; irides red; eyelids plumbeous; legs bright yellow.

Length.—5·7 inches; tail 1; wing 2·8; tarsus 0·8; bill from gape 0·5.

Hab.—Generally distributed over Eastern India and Ceylon. Occurs in Bengal, Assam, Burmah, Southern and Cochin-China, the Malay Peninsula, Sumatra, Java, and Borneo. In Ceylon it is fairly common, especially towards the south of the island. In Burmah it is generally distributed, but is nowhere common except in Pegu, where it arrives in May in large numbers. In Raipur, Mandla, and the Chanda districts, also in the Tributary Mahals, Singbhoom, Calcutta, Cachar, Sylhet, Khasia hills, as well as in the Daffa hills and in the valley of Nepaul it is fairly common. It is also recorded from Arracan. Open, swampy grassy lands or meadows are their favourite haunts, and they are seldom found far from such spots. They do not appear shy but freely come into the open to feed. Breeds in Pegu, Cachar, Purneah, and the Sub-Himalayan districts from Sikkim to Kasauli. Lays from June to the 1st or 2nd week in September. Eggs, 5—6, broad ovals, of the shape of those of the Common Black Partridge, *café au lait* tinged with olive in colour. In size they vary from 0·95 to 1·04 in length and from 0·7 to 0·81 in width.

Family, TINAMIDÆ.

Bill short, rather slender, and very slightly curved at the tip; tail short or none; tarsi not spurred; hind toe small or wanting.

Gen. *Turnix*.—*Bonap.*

Characters the same as those of the Family; nostrils linear; 1st quill longest; no hind toe.

1239. *Turnix plumbipes* (Hodgs.), Hume, *Nests and Eggs Ind.* B. p. 354; Blyth, *B. Burm.* p. 152; Oates, *Str. F.* v. p. 164; Anders., *Yunnan Exped.*, p. 673; Hume and Dav., *Str. F.* vi. p. 450; Hume, *Str. F.* viii. p. 111; Scully, *Str. F.* viii. p. 350; Hume and Marsh., *Game Birds* ii. p. 177, pl.; Oates, *Str. F.* x. p. 236; *id.*, *B. Br. Burm.* ii. p. 337. Hemipodius *plumbipes*, Hodgs., *Beng. Sport. Mag.* ix. p. 345. *Turnix ocellatus* (Scop.),



Ferd., *B. Ind.* ii. p. 597, No. 833. *Turnix pugnax* (*Temm.*), *Hume*, *Str. F.* iii. p. 178; *id.*, *Nests and Eggs Ind. B.* p. 553. *Turnix taigoor*, *Sykes*, *Trans. Zool. Soc.* 2, pl.; *Ferd.*, *B. Ind.* iii. p. 595, No. 832; *Hume and Marsh.*, *Game Birds* ii. p. 169, pl.—The INDO-MALAYAN BUSTARD QUAIL.

Above rufous with transverse black lines and pale yellow streaks; below rufescent or pale ferruginous, becoming chestnut on the flanks and undertail coverts; the foreneck, breast and sides of the body lunated with black.

The *female* is a much larger bird, and the plumage is darker; the crown and sides of the head, the sides and back of the neck are spotted with white; chin, throat and breast black; sides of the breast and body lunated with black. Legs and feet plumbeous or pale leaden; irides pearly grey.

Length.—5·6 to 6·25; wing 3·12 to 3·5; tail 1·0 to 1·4; tarsus 0·95 to 1·12; bill from gape 0·7 to 0·81.

Hab.—Throughout India nearly (except Sind, Kathiawar and Jodhpoor, and other similar dry places), extending to Ceylon, Burmah, the Malay Peninsula, Siam, and Cochin-China. It frequents gardens, land covered with grass, also bushes, roadsides, &c. Breeds in July and August, wherever it occurs, laying 4—6 eggs, of a stone grey colour, irrorated with small specks of brown interspersed with larger spots of a neutral tint.

It will be seen that I have made *T. taigoor* a synonym of *T. plumbeipes*. There can be no doubt of both species being identical; the rufous tint of the Malayan race can only be considered as climatic. There are no other characters which could be considered sufficient to warrant a separation.

1240. *Turnix joudera* *Hodgs.*, *Beng. Sport. Mag.* 1838, pl. 1, fig. 1; *Ferd.*, *B. Ind.* iii. p. 599, No. 834; *Str. F.* vii. p. 453; *Hume*, *Nests and Eggs Ind. B.* p. 556; *id. and Marsh.*, *Game Birds* ii. p. 187, pl. *Turnix* *Dussumieri*, *apud Ferd.*, viii. p. 599.—The INDIAN BUTTON QUAIL.

Male.—Top of head light brown with a faint longitudinal streak on the crown; back of neck, back and scapulars ferruginous brown, the feathers behind the head with dark spots, and those of the back, scapulars and under tail coverts with narrow transverse striæ, distinct on the lower part of the back; scapulars with a few white spots or edgings to the feathers; wing coverts pale earthy brown, the tips broadly white, each with a dark ocelli in the centre; primaries pale earthy brown, narrowly edged with pale white; chin and upper throat white; middle of breast ferruginous, the sides of the breast like the scapulars, with white tipped feathers, in the middle of which is a dark spot; under parts ferruginous; vent whitish.

Length.—5·5 to 6 inches; wing 2·75; bill at front 0·43.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Deccan, South India; Kutch, Kattiawar, N. Guzerat, Rajputana and Punjab during the rains; rare in the Deccan and sparingly distributed in



Bengal; affects chiefly large open grassy plains; occurs also in South Travancore, and probably in Ceylon.

1241. Turnix Dussumieri (Temm.), *Blyth, Ibis*, 1867, p. 161; *Hume, Nests and Eggs Ind. B.* p. 556; *David et Oust. Ois. Chine*, p. 397; *Hume, Str. F.* viii. p. 111; *Hume and Marsh, Game Birds* ii. p. 193, pl.; *Oates, Str. F.* x. p. 237; *id., B. Br. Burm.* ii. p. 336. Hemipodius Dussumieri, *Temm., Pl. Col.* 454, fig. 2. Hemipodius Sykesi, *Smith, Ill. S. Afr. Zool. Aves. Sub.* tab xvi.; *Murray, Hdbk., Zool., &c., Sind*, p. 204; *id., Vert. Zool., Sind.*, p. 217.—THE LITTLE BUTTON QUAIL.

Male.—Head brown, barred with black, and with a central longitudinal yellowish stripe; supercilium pale white or yellowish white; back and scapulars chestnut brown, the feathers with fine dark transverse striæ and edged with yellowish white; rump and upper tail coverts dark brown, closely barred with black, the feathers with whitish edges; throat white, with a few dark spots on the sides; breast pale ferruginous, the feathers on the sides with dark spots or lunules; abdomen whitish.

Length.—5 to 5·5 inches; wing 2·75; irides light yellow; legs and feet pale fleshy.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, and the Concan during the monsoon, in grassy plains or cultivated fields. In the Deccan it is very numerous and difficult to flush from the fields of pulse which it affects. Said to breed in the Himalayas and N.-W. India.

1242. Turnix maculosa (Temm.), *Hume, Str. F.* ii. p. 281; iii. p. 179; *Hume and Dav., Str. F.* vi. p. 452; *Hume, Str. F.* viii. p. 111; *Hume and Marsh., Game Birds* ii. p. 183, pl.; *Bingham, Str. F.* ix. p. 196; *Oates, Str. F.* x. p. 236; *id., B. Br. Burm.* ii. p. 335. Hemipodius maculosus, *Temm., Pig. et Gall.* iii. p. 631. Turnix maculatus Vieill., *Nouv. Dict. d'Hist. Nat.* xxxv. p. 47; *David et Oust. Ois. Chine* p. 398. Turnix Blanfordi, *Blyth, J. A. S. B.* xxxii. p. 80; *Blyth and Wald., B. Burm.* p. 151.—BLANFORD'S OR THE BURMO-MALAYAN BUTTON QUAIL.

Upper plumage rufous, black and yellow, the first two colours preponderating, and the yellow disposed in oval drops not streaks; wing coverts yellowish-buff, with large black spots; hind neck and upper back rufous, forming a broad collar; crown of the head blackish with a pale rufous mesial line; sides of the head buff, barred with black; chin and throat buffy white; breast, sides of the body, vent, flanks and under tail coverts ferruginous; sides of the breast and sides of the body with large ovate or round spots of black. (*Oates*.) Legs yellow; upper mandible dark brown; lower mandible and gape pale brown, tinged with yellow; irides white.

Length, Male—6·5 inches; female 7; wing 3·62; tail 1·5; tarsus 1; bill from gape 0·75.



Hab.—Tenasserim, in Pegu, Arracan, and Hill Tipperah. Found about gardens or in the immediate vicinity of cultivation. It is said to be hard to flush, and only flies a short distance before again dropping. It is everywhere thinly distributed, and is a terrible skulk, like *joudera*, an allied species which is barely separable from this. Nothing is known of its habits or nidification.

1243. *Turnix albiventris*, Hume, Str. F. i. p. 310; ii. p. 281; id. and Marsh., Game Birds. ii. p. 199, pl.—The NICOBAR BUTTON QUAIL.

Lores and a circle round the eye pale fulvous; base of bill and two stripes along the crown to the nape black, the feathers narrowly margined with chestnut; ear coverts fulvous, tipped darker; sides of the neck fulvous buff, spotted with black; sides and back of the neck, interscapular region and scapulars bright chestnut, more or less variegated with yellowish white and black; lower back and rump, also the upper tail coverts blackish brown, the feathers tipped with chestnut, and a subterminal freckled bar of the same colour; tail feathers greyish brown with obsolete blackish brown bars; primaries, secondaries and greater coverts pale satin brown, the outer web of the first nearly white; rest narrowly edged with pale fulvous; tertiaries pinkish-brown, mottled with blackish brown towards their tips, and with a yellowish brown spot there on the outer webs; most of the secondary coverts pale buff, with blackish brown irregularly shaped spots near the tips; chin and upper portion of the throat pure white; rest of throat and middle of breast light ferruginous; sides of the breast pale buff, with regular narrow transverse blackish brown bars; middle of abdomen white; sides, vent, tibial plumes, flanks and lower tail coverts tinged buffy. The female has the black stripes on the head, edged with white and not chestnut; the stripe dividing them is also white; back of the neck and upper back occupied by a broad, intensely bright chestnut collar, entirely unmarked and unspotted; ear coverts, sides of the head, and a line under the eye pale fulvous, dotted with black; entire chin, throat and upper breast bright ferruginous; rest of the plumage like that of the male; irides white; legs and feet yellow, tinged orange; upper mandible horny brown, yellowish at gape; lower mandible yellow, tipped horny.

Length.—6 inches; wing 3; tail 1·4; tarsus 0·9; bill from gape 0·7.

Hab.—Port Blair in the Andamans; also the Nicobar Islands.

ORDER, GRALLATOIRES.—WADERS or SHORE BIRDS.

Tarsi long, rounded; tibia bare to a greater or less extent; hind toe imperfect in most or absent; wings long; neck long or of moderate length, generally in proportion to the length of the legs; bill variable in size and structure. All, except the Ostriches and Emeus (which do not fly) fly well, and stretch their legs out behind them during flight.

Tribe, PRESSIROSTRES.—Cuvier.

Hind toe small, absent or moderate; bill depressed at base, and rather compressed on the sides. It comprises the *Olitidae* or Bustards and *Floricans*;

OTITIDÆ.

the *Cursoridæ*, or Courier Plovers; *Glareolidæ* or Swallow Plovers; *Charadriidæ* or Sand Plovers; *Hæmatopodidæ* or Shore Plovers, and the *Gruidæ* or Cranes,

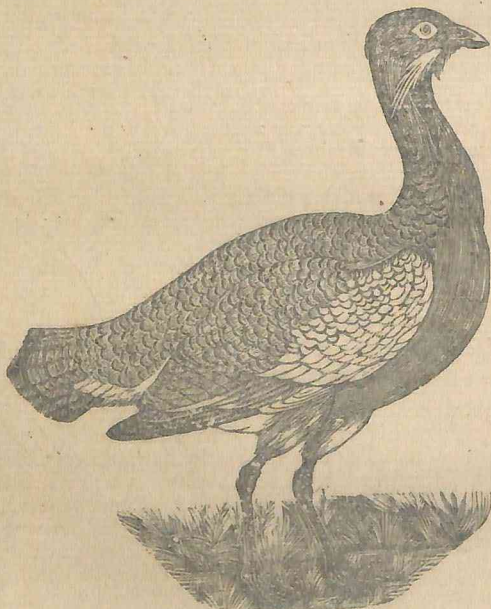
Family, OTITIDÆ.

Bill compressed, the tip scooped, and slightly curved; nostrils in a membranous groove, partially closed; wing, 2nd to 4th quills longest; tertials nearly as long as the primaries; tarsi reticulated; hind toe absent; plumage mottled fulvous and black. Food insects, young shoots, and grain. As game all the members of the family Otitidæ are eagerly sought after. For the table there is scarcely any other bird so succulent and delicious.

Gen. Otis.—Lin.

Bill moderately long, pointed and nearly straight; legs long, and strong; tarsi reticulated; claws short and blunt; wings ample; moustachial tufts long.

1244. *Otis tarda*, Linn., *Syst. Nat.* ii. p. 279; MacGillivray, *B. Eur.* iv. p. 31; Hume, *Str. F.* vii. p. 434; *id.* and Marsh., *Game Birds* p. i. pl.—The EUROPEAN BUSTARD.



Otis tarda.



Head and upper neck all round are light greyish-blue ; on the upper part of the head is a longitudinal brown band ; the elongated moustachial feathers white ; the lower part of the neck interiorly is pale yellowish red ; the forepart of the breast pale greyish blue, fading into white, of which colour are the other lower parts, excepting the sides of the lower neck and body, which are light yellowish red, barred with black, each feather having two subterminal unequal bars, and generally several spots ; the tail feathers are similar, but tipped with white, and having the base of that colour ; the outer wing coverts, secondary coverts, and inner secondary quills are white, the former tinged with grey ; the primary quills brownish black, with the shafts white.

Male.—Bill pale yellowish brown, darker on the ridge ; iris hazel ; feet light brown, as are the claws.

Length.—To end of tail from 40 to 48 inches.

Female.—The female is much inferior in size to the male, generally weighing only ten or twelve pounds ; there are no elongated feathers on the sides of the head ; the bare parts are coloured as in the male ; the upper part of the head is yellowish red, barred with black ; the foreneck greyish blue, without any red at its lower parts ; the colouring of the other parts as in the male ; but the black markings on the back and tail more numerous.

Length.—To end of tail about 35 inches. (*MacGillivray*, vol. iv., p. 31.)

Hab.—According to Hume, has only once occurred within our limits in 1870, north of the Kabul river in Hastnagar, within a few miles of the most north-westerly point of British India proper in Lat. 34° N. and Long. 71° 45 E.

1245. Otis tetrax, *Lin.*, *Syst. Nat.* iii. p. 279 ; *MacGillivray*, *B. Eur.* iv. p. 31. ; *Hume*, *Str. F.* ii. p. 423 ; *id. and Marsh.*, *Game B.* p. 4, pl.—The LESSER BUSTARD.

Male in Summer.—Upper part of the head and the nape are pale reddish yellow, thickly variegated with longitudinal and transverse brownish black markings ; sides of the head and throat to the length of two inches greyish-blue, with an inferior black margin, succeeded by a narrow ring of white, extending more than an inch downwards in front in a pointed form ; middle of the neck, all round, for the length of two inches and a half, deep black, succeeded below by a half collar of white and another of black ; all the lower parts white, excepting some feathers on the fore and lateral parts of the breast, which are similar to those of the back. Upper parts, including the back, scapulars, many of the small wing coverts, with the inner secondaries and their coverts, light reddish yellow, beautifully undulated transversely with brownish black ; the upper tail coverts with white in place of yellow ; wing with a broad band of white, commencing at the carpal joint, including the alula ; eight of the outer secondary quills and their coverts are white at the base, chocolate brown and mixed with grey towards the end, with the tip white, which



becomes gradually more extended on the inner primaries, of which the tenth has only a narrow band of brown near the end; tail feathers are also white at the base and tip; in the rest of their extent pale yellow, undulated with black, and having three distinct transverse bands of the latter colour, the lateral feathers gradually becoming more white, and losing one of the black bands.

Bill brown, greyish blue at the base, the ridge and tips dusky; irides reddish yellow; feet light brownish grey; scutella of toes darker; claws dusky.

Length.—To end of tail, 18 inches; bill along the ridge, 1, along the edge of lower mandible 1'33; wing from flexure 10; tail 4'25; bare part of tibia 1; tarsus 2'66.

Female.—The female, which is about the same size, differs in having none of the blue or black so conspicuous on the neck of the male; the upper part of the head, its sides, and the neck all round, are pale reddish yellow, variegated with dark brown, each feather having a broad median longitudinal band and several transverse bars; throat yellowish white; upper parts as in the male, many of the feathers with large patches of black in the middle; wings and tail as in the male, but with the white less extended and barred with black; lower parts yellowish white; feathers of the breast and sides with transverse black lines; lower tail coverts black shafted. In winter the male resembles the female. (*MacGill*.)

Hab.—The Punjab and N.-W. Provinces. A regular and tolerably abundant winter visitant. Said to breed in Afghanistan.

Gen. *Eupodotis*.—*Less*.

Bill long, pointed, straight, the tip curved; legs long and strong; male with a pouch; wings ample.

1246. *Eupodotis Edwardsi*, Gray, *Ill. Ind. Zool.* pl. 59; Gould, *C. B.* pl. 72; Jerdon, *B. Ind.* iii. p. 607; Murray, *Hdbk., Zool., &c., Sind*, p. 204; *id.*, *Vert. Zool. Sind*, p. 217; Hume and Marsh., *Nests and Eggs* iii. p. 557; *id.*, *Game Birds*, i. p. 7, pl. (*Tekdar, Sind.*)—THE INDIAN BUSTARD.

Male.—Top of head and crest black; sides of the face, neck all round, breast and entire lower parts white; the feathers of the breast and lower part of the neck long and hackled, those of the breast covered with minute dusky mottlings; a dark band across the breast; back, scapulars, wing and upper tail coverts brown, pale buff, or grey brown, beautifully mottled and vermiculated with minute black stræ; primaries snuff brown, darker on their inner webs, and tipped with white; some of the inner ones with 3—4 white patches on their inner webs; secondaries slaty, much irrorated basally, and broadly tipped with white; tertials as long as the primaries, concolorous with the back, also the lesser wing coverts; median coverts black, tipped with white;



greater wing coverts slaty grey, also tipped with white. Tail like the back with a subterminal dark band and tipped with white; flanks and sides dark brown, mixed with whitish or dark olive brown; vent and lower tail coverts the same as the back, with white tippings to the feathers.

Male, Length.—45 to 50 inches; expanse of wing 85—95 inches; wing 24·5 to 29; bill from gape 4 to 4·75; tarsi 7·5.

Female, Length.—36 to 38 inches; wings 20 to 22; legs and feet creamy yellow; irides yellow; bill yellowish at tip, dusky at the base.

Hab.—Sind (Thurr and Parkur), Punjab, N.-W. Provinces, Kutch, Rajputana, N. Guzerat, Kattiawar, Jodhpore, Hyderabad (Deccan), Poona, Satara, Berars, and the Central Provinces. According to Mr. Doig, (*Hume, Game Birds*), it is a permanent resident and breeds in the Thurr and Parkur districts. It is said to wander occasionally in the cold weather to the plains along the edge of the desert, sometimes going even as far as the Indus. It feeds on grain and insects, and frequents the cultivated districts at other than in the breeding season. Jerdon has an excellent description of its habits, &c. Breeds from July to September, laying from one to two eggs in a depression in the ground behind tufts of grass or small bushes, lined very sparingly with thin grass,

Gen. *Houbara*.—*Bonap.*

Legs shorter than in *Eupodotis*; bill rather lengthened and depressed at the base; males with a ruff; no hind toe.

1247. *Houbara Macquennii*, Gray, *Ill. Ind. Zool.* pl. 47; *Gould, B. As.* pl. 8; *Jerd., B. Ind.* iii. p. 612; *Murray, Hdbk., Zool., &c., Sind*, p. 204. *id., Vert. Zool. Sind*, p. 218; *Hume and Marsh., Game Birds Ind.* i. p. 17. (*Tilloor, Sind.*)—The HOUBARA BUSTARD.

Male.—Head crested; forehead minutely speckled with greyish brown and white; crown with a crest of elongate feathers, which are white at the base and tipped black; the feathers behind the crest resting immediately on the crown entirely white; head behind, ear coverts and neck pencilled with pale brown and white. The ruff begins immediately behind the ear coverts with elongated feathers, one-half of which are white at the base for more than one-half their length, and the rest shining black; the lower half of the ruff entirely white, the upper half edged behind and in front with black, rather lax feathers; back and scapulars buff or rufous buff, delicately pencilled with dark brown, each feather with two dark bands, the hinder band only being visible externally; upper tail coverts with 3—4 narrow dark bands, which are distant from each other about an inch; tail brighter rufous or buff, with the same pencillings, the feathers with three bluish ashy bands, and the tips white;



under tail coverts white, some of the feathers with transverse bands and brownish mottlings; chin, throat and cheeks white, the feathers of the latter with dark tips; feathers of the lower neck and breast grizzled with pencillings, the elongated feathers on the breast pale bluish white, with dark shafts; rest of the lower surface white, also the axillaries and wing lining; primaries white at their base, and black for the terminal half, except the 1st primary, which in some specimens are dark brown on the outer web; lesser wing coverts whitish with very fine vermiculations; winglet black; bill horny brown; irides bright yellow; legs greenish yellow.

Length.—25 to 32 inches; wing 14 to 15; tail 8·5 to 10. In non-breeding plumage the male has no crest nor the elongated black and white feathers, but the dark lax feathers are well developed in their place.

Hab.—Sind, Persia, Beloochistan and Afghanistan, Punjab, N.-W. and Central Provinces, Rajputana, Kutch and Guzerat, also Kattiawar.

In Sind, this fine bird is extremely common during winter, affecting chiefly the large plains and hill sides covered with *Grewia* bushes, on the fruits of which they principally live. It is usually found in parties of 2, 4, or 6, and, as game, is much sought for by all sportsmen. It is also largely hawked by the Sindees, *Falco sacer*, *Fuggur* and *peregrinus* being used for the purpose. It is found all over the plains of the Punjab, also in Beloochistan, Southern Persia and Afghanistan; breeding in Persia and Afghanistan, where it occurs in the summer. In Rajputana too it has been found, also in Kutch, Northern Guzerat and Kattiawar. The following, extracted from *The Field*, entitled "Oobara shooting in Lower Sind," I think by "an old Sindee," gives a fair account of the mode of shooting this Bustard. He says:—"So far as my experience goes, the Oobara, which may be briefly described as a bird of the Bustard tribe, is chiefly to be found in Sind. I have occasionally come across a solitary one or two in Rajputana and Guzerat, and I also presume they are to be met with in many parts of the Punjab, and, in fact, perhaps anywhere where large sandy plains exist. They are, I believe, seldom, if ever, to be found in black soil.

"The Oobara is a migratory bird, coming in with the cold weather, and disappearing at the first approach of the hot season. They are usually to be found in pairs, and feed early in the mornings and late in the evenings. At these times they are so wary, as seldom to be got at even by careful stalking. They appear, however, to be peculiarly susceptible to heat, as the moment the sun attains any power they retire into the shade of a bush, and, if undisturbed, lie quiet throughout the heat of the day, or if flushed, only take short flights. This is the time to get them, and the usual method is by stalking them on a well-trained camel, driven by an experienced shikaree. The camel is made to circle round and round the bird, and the moment the bird perceives this it



crouches down, trusting to its colour, which is exactly that of the ground, and to being so exactly similar when in this position to the several stones lying around it, to escape observation. The circle gradually becomes smaller and smaller, until the bird is brought within range. Most men shoot it on the ground, but as a rule I have found it better sport and easier to let the bird rise before firing, and then dropping it on the wing. The bird fancying that (like an ostrich) when its head is hidden its whole body is out of sight, seldom, if ever, moves unless the camel stops in its circling, and even then its flight is so slow, as to make it almost impossible even for an ordinary shot to miss.

“As a game bird, the Oobara is perhaps one of the greatest delicacies that can be put upon the table, while its feathers are invaluable to the fishermen for salmon flies; and there is a little tuft of feathers just under the point of the shoulder which is greatly prized by the fair sex as an ornament for hats.

“All about Kurrachee is a very favourite country for Oobara, but, as may be imagined, anywhere within a radius of eight or ten miles they do not get much rest, and, in order to make a really good bag, it is now necessary to go beyond that distance. The nearest good spot I know of, where a day's sport can be had without finding another man stalking over the same plain, is about twenty-five miles by rail.” At Mayting and Jempeer stations, on the S. P. and D. line, this Bustard is numerous, and it is not uncommon to see a bag from these places of from 10 to 12 a day.

Gen. *Sypheotides*.—Lesson.

Bill broad at base and ridged above; nostrils elongate; more than half of tibia bare.

1248. *Sypheotides bengalensis* (Gmel.), *Ferd.*, *B. Ind.* iii. p. 616; *Hume, Nests and Eggs Ind. B.* p. 559; *id. and Marsh., Game Birds* i. p. 4 pl. *Otis deliciosa* (Gray), *Hardw., Ill. Ind. Zool.* i. pls. 61 and 62. *Otis himalayanus*, *Gould, Cent. Him. B.*, pls. 73, 74, 75.—THE BENGAL FLORIKIN.

In breeding dress the male has the whole head, which is fully crested, neck, breast, and lower parts with the thigh coverts glossy black; the breast feathers elongated, and those of the neck in front also elongated; back, scapulars, tertiaries, rump and upper tail coverts rich olive buff, closely and minutely mottled with black zigzag markings, and a black dash in the centre of each feather; shoulders, wing coverts and quills white, the tips, shafts and outer edges of the first three primaries black; tail black, minutely mottled with buff and with a broad white tip. Bill dusky above, yellowish beneath; irides brown; legs pale dirty yellowish. (*Ferd.*)



Length.—24 to 27 inches; wing 14; tail 7; tarsus 6; bill at front 1·25. The female has the whole upper plumage pale fulvous with black and brown mottlings, barrings and vermiculations; ear coverts whitish.

Hab.—Throughout Lower Bengal, parts of the Punjab, N.-W. Provinces, Oudh, Dacca, Hill Tipperah, Sylhet, Assam and northward to the foot of the Himalayas. Breeds in Sikkim and Nepal, from May to July. Eggs two in number, variable in shades of colour—pink, brown and stone colour, blotched and freckled all over with dark brown.

1249. *Sypheotides auritus* (Lath.), *Fard. and Selby, Ill. Orn.* pls. 49, 92; *P. C.* 533; *Ferd., B. Ind.* iii. p. 619, No. 839; *Hume, Nests and Eggs Ind. B.* p. 561; *id. and Marsh., Game Birds* i. p. 5, pl.; *Murray, Hdbk., Zool., &c., Sind*, p. 207; *Str. F.* vol. iv. p. 10; *id., Vert. Zool. Sind*, p. 221. (*Likh, Sind.*)—THE LESSER FLORIKIN.

Male.—Head, neck, breast, ear tufts and entire lower parts black, paler on the vent and under tail coverts; chin white, a few of the elongated feathers under the chin white mesially; lower part of hind neck and large wing patch white; back, scapulars and upper tail coverts fulvous, mottled with buff and dark brown; tail brighter buff, with mottlings and three distinct bands, the last subterminal; first three or four primaries dark or dusky brown, the rest broadly barred with rufous or bright buff, the long narrow tips mottled; ear tufts three on each side, the shafts of the feathers bare for nearly three-fourths their length from their base.

The *female* is pure buff throughout, clouded and barred with deep brown; lower part of the body almost white; chin and throat white; bill pale yellow, the ridge and tip dusky brown; irides yellow.

Length.—17 to 19 inches; wing 7 to 7·8; tail 4 to 4·5. *Female* slightly larger.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Central and Southern India, Kutch, Kattiawar, Rajputana, Concan and the Deccan during September and October. Eggs, 4–5 in number, greenish of various shades in colour, everywhere pitted with minute pores, but smooth and glossy. In Sind it occurs only in the vicinity of Kurrachee during August and September, chiefly at Mulleer, affecting the high grass. It breeds in the Deccan. In Sind a single egg was found on the Hubb plains by Mr. F. C. Constable.

Family, CURSORIDÆ,—COURIER PLOVERS.

Tarsi long, slender; bill slender, arched beyond the nostrils, which are in a short triangular groove; wings long and pointed; tail short of 12 feathers; toes three; no hind toe.

Gen. **Cursorius**.—*Lath.*

Bill moderately long; tarsi long and slender, scutellated; 1st and 2nd quills longest; tail short.

1250. *Cursorius coromandelicus*, Gmel., *Syst. Nat.* i. p. 781; Bodd., *Pl. Enl.* 892; Gould, *B. As.* pl. 37; Jerdon, *B. Ind.* iii. p. 626, No. 840; Hume, *Str. F.* iv. p. 19; *id.*, *Nests and Eggs Ind. B.* iii. p. 564; Murray, *Hdbk., Zool., &c., Sind*, p. 207; *id.*, *Vert. Zool. Sind*, p. 221.—THE INDIAN COURIER PLOVER.

Forehead and top of head bright chestnut, a small patch of black on the nape; supercilium white, extending to and meeting behind the nape; a black streak from the base of the nostril and through the eye, also extending and meeting behind; chin and throat white or pale buffy white; neck all round pale ferruginous, darkening into deep ferruginous on the breast and upper abdomen; a dark patch in the middle of the abdomen; primaries and their coverts black; under tail coverts white; back, scapulars and wing coverts earthy brown; upper tail coverts the same; tail with the outer feathers on each side white, with a black edge subterminally on the inner web; rest, except the middle tail feathers, ashy brown at base, with a subterminal dark band and a white tip; bill black; irides brown; legs creamy white.

Length.—9 to 10 inches; wings 6; tail 2.37; tarsus 2.25.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Beloochistan, N. Guzerat, Rajputana, Kutch, Kattiawar, Concan and Deccan, also Southern India, affecting open grassy plains, feeding on grass seeds, insects, &c. They are extremely shy, and run with great speed, now and again stopping dead to look back, and when pressed do not fly far. Breeds from March to July, under some tuft of grass or bush, laying 3–4 eggs of a cream or bright buff colour with patches, spots, blotches and smears of pale inky grey either all over or on only some portion of the egg; the markings above this are narrow scratches and streaks of blackish brown.

1251. *Cursorius gallicus*, Gmel., *Syst. Nat.* i. p. 784; Naum., *vogt.* t. 171; Gould, *B. Eur.* pl. 266; *Jerd.*, *B. Ind. App.* vol. iii. p. 874; Hume, *Str. F.* i. p. 228; iv. 11; *id.*, *Nests and Eggs Ind. B.* p. 566; Murray, *Hdbk. Zool., &c., Sind*, p. 207; *id.*, *Vert. Zool., Sind*, p. 221.—THE CREAM-COLOURED COURIER PLOVER.

Forehead and crown rufescent or pale orange buff, shading on to the back of head into grey or ashy grey, below which, on the nape, is a small black patch; supercilium white, extending to and meeting behind the nape, also a black streak from behind the eye; lores pale white; chin and throat pale white; breast isabelline brown, fading on the abdomen to albescent, and white on the under tail coverts; back, scapulars, tertials and wing coverts warm rufous buff, brighter on the tail, the outer feathers of which on each side have a



subterminal black band on the inner web only; the others on both webs, and all, except the central tail feathers, broadly tipped white; primaries black; secondaries with their outer webs concolorous with the back, the inner web, and subterminally on both webs also black, the edges of the tips white.

Length.—10·5 to 11 inches; wing 6·5 to 7; bill black, 1·06 in length in front; irides brown.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Beloochistan, Persia, Afghanistan, Kutch, Guzerat and Rajputana. Breeds in similar situations as *C. coromandelicus* from May to July. Eggs broad ovals, slightly compressed towards one end. In colour they are not unlike those of *C. coromandelicus*. In size they vary from 1·1 to 1·28 in length and from 0·9 to 1·04 in breadth. Extremely common on bare or open grassy plains.

Gen. *Rhinoptilus*.—Strickland.

Bill shorter and more robust than in *Cursorius*, straight, the tip slightly widened and curved; orbits feathered; 2nd and 3rd primaries sub-equal and longest; tarsus long, scutellate; feet short; outer toe joined by web.

1252. *Rhinoptilus bitorquatus*, *Ferd*, *Birds. Ind.* iii. p. 628, No. 841; *Blyth*, *J. A. S. B.* xvii. p. 254.—THE DOUBLE-BANDED PLOVER.

Above sandy brown with a faint pink gloss; the feathers of the back slightly margined with rusty brown, and the wing coverts with pale rufescent and rusty lateral margins to the feathers; supercilium white, continued round the occiput; ear coverts streaked dusky and ferruginous; throat white, a broad rufous band below it, bordered by a white demi-collar, and followed by a broad brown gorget and another white collar margined above and below with dusky; this again is succeeded by brown, forming an ill-defined band on the lower part of the breast; rest of the lower parts isabeline; upper and lower tail coverts white; primaries and their coverts black, the first two obliquely marked with white, which on the 3rd primary is reduced to a large subterminal spot on the inner web; tail white at base, black terminally; all, except the middle feathers, with a small white spot at the tip on the inner web. Bill yellow at base, horny at tip; irides dark brown; legs pale fleshy yellow. (*Ferd*.)

Length.—9·5 to 10 inches; wing 6·75; tail 3; tarsus 2·6.

Hab.—Eastern Ghauts, off Nellore and in Cuddapah. Frequents rocky and undulating ground with thin scrub jungle.

Family, GLAREOLIDÆ.—SWALLOW PLOVERS.

Bill short, convex, broad at the base, compressed to tip; wings long, first quill longest; tail even or forked; tarsi short, reticulated; three toes in front, one behind, very small; gape large.

Gen. *Glareola*.

Tail short and even, or long and forked; other characters as in the family.

1253. *Glareola orientalis*, Leach., Lin. Tr. xiii. 132; Gould, B. As. vi. pl. 23; Schiel., Handlist Dierk. t. 7, 79; Jerdon, B. Ind. iii. p. 631; Str. F. ii, pp. 284, 465; viii. p. 371; Murray, Hdbk., Zool., &c., Sind, p. 208; Hume, Nests and Eggs Ind. B. p. 568; Legge, B. Ceylon, p. 980; Bingham, Str. F. ix. p. 196; Oates, Str. F. x. p. 237; Kelham, Ibis, 1882, p. 6; Oates, B. Burm. ii. p. 361; Murray, Vert. Zool., Sind, p. 222.—THE LARGE SWALLOW PLOVER.

Forehead, crown, back of head, sides of neck, ear coverts, back, scapulars and wing coverts hair brown; upper tail coverts white; tail forked, basally white, the feathers broadly tipped with dark brown; chin and throat rufescent, a few of the feathers in some specimens tipped dark brown; a dark line from each side of the mandible to below the neck, enclosing the rufous chin, throat and breast; upper abdomen and flanks earthy brown, with a tinge of rufescent; lower abdomen, vent and under tail coverts white; axillaries and under wing coverts behind chestnut; primaries dark brown, almost black; the shaft of the first primary white; a few of the upper secondaries tipped white; irides dark brown; bill black; gape reddish; legs and feet dusky brown.

Length.—10 to 10·5 inches; wing 7·5; tail 4·25 to 4·5.

Hab.—Sind, Bengal and the Deccan, and throughout Burmah in suitable localities from February to June. Occurs in Mongolia and China, also Cochin-China, the Malay Peninsula, and Ceylon. Affects fields and open or cultivated land in small flocks. It has, like its congeners, a very rapid and swallow-like flight. Breeds in Sind. Mr. S. Doig, in an article in *Stray Feathers*, vol. viii., p. 375, gives an account of its nidification in company with *Glareola pratincola*. "The breeding ground," he says, "was about 15 acres in extent, and was a salt plain with patches of coarse sedge here and there on it, the whole being surrounded by dense tamarisk and rush jungle, and was situated about half a mile from the bank of the 'Narra.' The nests were slight hollows scraped in the ground, and the greatest number of eggs in any nest was three, which seemed to be the normal number, but some contained only two eggs, of a light dirty green or drab colour, covered all over with dark purple blotches, dense at the broader end, and forming a zone. In shape they are from broad ovals to nearly spherical, and vary in size from 1·1 to 1·35 in length, and from 0·8 to 1·05 in width."

The distribution of the *Glareolidæ* in India is not perfectly known.

1254. *Glareola pratincola*, Linn., Syst. Nat. i. 345; P. E. 882; Naum. vogt. t. 234; Gould, B. E. pl. 265; Leach, Linn. Trans. xiii. pl. 12., 1, 2; Str. F. viii. p. 371; Murray, Hdbk., Zool., &c. Sind, p. 207; id.,

GLAREOLIDÆ.

Vert. Zool. Sind. p. 223. *Glareola torquata*, *Meyer*, ii. 404.—The COLLARED PRATINCOLÆ.



Glareola pratincola.

Head, nape, back, scapulars and wing coverts greyish brown; throat and front of the neck white, slightly tinged ferruginous, encircled by a narrow, black band from the base of the bill; lores black; breast whitish brown; under wing coverts chestnut; lower surface of the body white, tinged with reddish; upper and under tail coverts white; tail forked, basally white, tipped with dark brown; bill black, red at the gape; irides red brown.

Length.—9 inches; wing 6·75 to 7.

Hab.—Sind, Arabia, Persia, Afghanistan and the Deccan. Breeds in Sind; eggs similar to those of *G. orientalis*.

1255. *Glareolalactea*, Tem., *Pl. Col.* 399; *Jerd.*, *B. Ind.* iii. p. 632; *Hume, Nests and Eggs Ind. B.* p. 568; *Str. F.* iii. p. 179; *Blyth, B. Burm.* p. 154; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon*, p. 984; *Oates, Str. F.* x. p. 237; *id.*, *B. Br. Burm.* ii. p. 363; *Murray, Hdbk., Zool., &c., Sind*, p. 208; *id.*, *Vert Zool. Sind*, p. 223.—The SMALL SWALLOW PLOVER.

Forehead, crown, back, scapulars and wing coverts pale earthy or grey brown, orbital feathers white; chin, throat and breast much paler than the back; lower abdomen, vent and under tail coverts white; tail basally white, the central feathers broadly dark brown subterminally and tipped with white; the lateral or outer ones on each side narrowly tipped with dark brown, and edged with white; upper tail coverts white; primaries dark brown, the first 3—4 distinctly white shafted and basally whitish on their inner webs; secondaries white, broadly edged on their outer webs and at the tip with brown; primary coverts dark brown, also the under wing coverts; bill black; gape reddish; irides deep brown.

Length.—6·5 to 6·75 inches; wing 5·5 to 5·75; tail 2 to 2·06; bill at front 0·37, at gape 0·56.

Hab.—Sind, Punjab, N.-W. Provinces and the Deccan, also British Burmah, affecting the same situations as the last. Oates says that it is found abun-



dantly on the larger rivers in Burmah, except in the southern part of Tenasserim. It breeds in Burmah on sandbanks, also on the banks of the Indus, Ganges, Chenab, Brahmaputra, Nerbudda and Mahanuddy. March to April appears to be the breeding season. Eggs, 4 in number, from pale green to stone colour, and marked with dark lines, blotches and spots.

Sub-Family. CHARADRINÆ.—PLOVERS.

Bill slender, straight, flattened at the base, compressed and grooved; wings long and pointed; tarsi moderate, 1st quill usually longest; hind toe small or wanting.

Gen. *Squatarola*.—Cuv.

Nasal groove short; bill bulged at the tip; a very minute clawed hind toe present.

1256. *Squatarola helvetica* (Linn.), *Ferd.*, *B. Ind.* iii. p. 635, No. 144; *Dresser*, *B. Eur.* vii. p. 455; *Salvad.*, *Ucc. Born.* p. 313; *Blyth*, *B. Burm.* p. 153; *Scully*, *Str. F.* iv. p. 184; *Armstrong*, *Str. F.* iv. p. 338; *David et Oust.* *Ois Chine*, p. 424; *Hume and Dav.*, *Str. F.* vi. p. 455; *Hume*, *Str. F.* viii. p. 112; *Legge*, *B. Ceylon*, p. 929; *Oates*, *Str. F.* x. p. 237; *id.*, *Burm.* ii. p. 365; *Murray*, *Vert. Zool.*, *Sind*, p. 224. *Tringa helvetica*, *Linn.*, *Syst. Nat.* 1, p. 250.—The GREY PLOVER.

Winter Plumage.—Forehead, lores, supercilia, chin, abdomen and entire lower surface, including the under tail coverts, white; foreneck, sides of the breast and flanks white, the feathers with sub-triangular or sub-quadrate brownish markings; feathers below the wing from the axilla long and black; head dusky brown, the feathers with narrow tips; rest of the upper plumage dusky brown, the feathers edged and tipped with white or greyish white; tail basally white, with a slightly rufescent tinge terminally, and with 6—7 transverse brown bands or bars. In summer the entire lower surface from the chin, except the vent and under tail coverts, is black, also the lores and sides of the neck; forehead, supercilia and sides of the breast white; back and rump, scapulars and wing coverts black, broadly tipped with brown and white; top of head and nape grey brown, the feathers tipped with white; tail white, banded dark brown; primaries dark brown, their inner webs white.

Length.—11 to 12 inches; wing 8; tail 3.25; bill at front 1.25, black; irides dusky; feet dark brown, or dusky brown; weight 7.5 oz.

Hab.—Sind, Beloochistan Coast, Kutch, Kattiawar, and nearly all over the Indian Coast; also Burmah. Occurs in flocks along the Sind sea-coast during winter, especially on the mud flats. In the Kurrachee harbour it is numerous on the large island-like flats, especially about Baba Island, associated with the larger and smaller Kentish Plovers.

Gen. **Charadrius**.—*Gmel.*

Bill short and strong; first quill longest; hind toe wanting; other characters as in the sub-family.

1257. *Charadrius fulvus*, Gm., Syst. Nat. i. p. 687; Dresser, B. Eur. vii. p. 443, pl.; Hume, Str. F. i. p. 228; ii. p. 287; id., Nests and Eggs, p. 570; id., Str. F. iii. p. 179; Blyth, B. Burm. p. 153; Salvad., Ucc. Born. p. 313; David et Oust. Ois Chine, p. 424; Hume and Dav., Str. F. vi. p. 455; Hume, Str. F. vii. p. 482; Scully, Str. F. viii. p. 350; Legge, B. Ceylon, p. 934; Oates, B. Br. Burm. ii. p. 364. *Charadrius longipes* (Temm.), Bonap., Rev. Crit., 1850, p. 180; Ferd., B. Ind. ii. p. 636, No. 845; Murray, Vert. Zool., Sind, p. 224.—THE EASTERN GOLDEN PLOVER.

Winter Plumage.—Head dark brown, the tips of the feathers yellow; forehead white or yellowish white, as are also the lores, supercilia, chin, foreneck and the under tail coverts; back, scapulars, rump, upper tail coverts and wing coverts dusky brown, the edges of the feathers with triangular or sub-triangular yellow spots; tail lighter in colour, the feathers also similarly edged with yellow spots; the neck behind, on the sides, and in front buffy, with a dusky tinge and yellow edgings and spots to the feathers; flanks pale brown, spotted with soiled white. In the summer plumage, the upper plumage is much darker, nearly black, the yellow spots less numerous and smaller, the forehead is white, and the cheeks, throat, neck, and entire under parts are black; primaries black, shafts of the first three white; secondaries tipped with white; also the median wing coverts; tail brownish with transverse bands of black.

Length.—10 to 10·5 inches; wing 6·75; tail 2·75; bill at front 0·87; tarsus 1·75; bill dusky at base, black at the tip; irides deep brown.

Hab.—Sind, Punjab, Kutch, Kattiawar, Deccan and India generally, also Burmah, in open plains or in the vicinity of rivers and ploughed fields.

1258. *Charadrius pluvialis*, Linn., Syst. Nat. i. p. 251; Dresser, B. Eur. vii. p. 460; Hume, Str. F. v. p. 247; id., vii. pp. 186; Murray, Vert. Zool., Sind, p. 225.—THE EUROPEAN GOLDEN PLOVER.



Charadrius pluvialis.



Winter Plumage.—Forehead yellowish white, streaked and spotted with pale brown and grey; head on the sides greyish brown; the crown, back of neck and nape greyish brown with purple reflections and yellow angular spots on the edges and tips of the feathers; chin and throat whitish; breast dusky greyish white, tinged yellow, and spotted with darker grey; axillary plumes white; greater and lesser wing coverts greyish black, the spots paler and the feathers of the greater coverts tipped with white; the tail is deep brown, and barred obliquely with yellowish or yellowish white; upper tail coverts like the back. In summer it undergoes the same change as *longipes*, but the yellow becomes brighter, and the lower parts intense black, except the sides of the neck, breast and body, which are yellowish white, with dark and dusky patches or marblings; primaries and secondaries dusky brown, the shafts of the first five white anteriorly.

Length.—10·5 to 11·5 inches; wing 7·5; bill black; irides deep brown.

Hab.—Sind, Punjab, and Beloochistan.

This species was first entered in the Sind list by Mr. Hume with a query. Since then all the specimens obtained by myself and others were *longipes*. In my *Handbook* mention was made that *pluvialis* would be found to occur, Mr. Blanford having recorded it from only 200 miles further west at Gwadur. Mr. Brooks, *Stray Feathers*, viii., 489, has since then recorded it from near Sehwan. Mr. Hume, in vol. i., p. 229 of *Stray Feathers*, points out the difference between *fulvus* = *longipes* and *virginicus* from America. He says, "*pluvialis* is at once distinguished by its pure white axillary plumes, which in *fulvus* are brownish or smoke grey. *Fulvus* and *virginicus* differ chiefly in their relative proportions, the former being always smaller." The following are the dimensions of the three given by Harting:—

	Bill.	Wing.	Tarsus.
<i>C. virginicus</i>	1·0	7 to 7·4	1·6
<i>C. fulvus</i>	0·8 to 0·9	6·4 to 6·6	1·5
<i>C. pluvialis</i>	0·9	7·5.	1·4

Gen. *Ægialitis*.—*Boie*.

Bill slender, grooved on upper mandible for two-thirds its length; front of bill raised; upper mandible slightly the longer; 1st quill longest. All the Sand Plovers are more or less gregarious in their habits, and feed either on ploughed lands, meadows, edges of marshes and ponds, sandbanks, mud lagoons and banks of rivers and tanks. They run with some speed, making a dead stop now and again to pick up a worm, mollusc, small crustacea or other insects on which they feed. Nearly all are migratory. Eggs, generally 4 in number, are of a stone yellow or greenish colour, richly blotched.

1259. *Ægialitis Geoffroyi*, Wagl., *Syst. Av. Charadrius* sp. 19; *Ferd.*, *B. Ind.* iii. p. 638; *Harting*, *Ibis*, 1870, p. 378, pl. xi.; *Salvad.*, *Ucc. Born.* p. 318; *David et Oust. Ois. Chine.* p. 426; *Dresser*, *B. Eur.* vii.

p. 475, pl.; *Hume and Dav., Str. F.* vi. p. 455; *Hume, Str. F.* viii. pp. 112, 200; *Legge, B. Ceylon*, p. 939; *Oates, B. Br. Burm.* ii. p. 366; *Kelham, Ibis*, 1882, p. 9; *Murray, Vert. Zool., Sind*, p. 226. *Cirrepidesmus Geoffroyi, Hume, Str. F.* i. p. 229; ii. p. 288; *id., Nests and Eggs Ind. B.* p. 571.—The LARGE SAND PLOVER.

In winter plumage, head, neck, nape, back, sides of the breast, scapulars and wing coverts greyish brown; a streak from the base of the mandible under the eye to the ear coverts slightly darker; forehead, a streak above the eye, chin, throat, sides of the neck and rest of the lower parts white; upper tail coverts dull white or pale grey brown; primaries and their coverts dark brown; outer web near the tips and the tips of the secondaries white; longest tertial reaches to between the 3rd and 4th primaries. In summer plumage, the forehead, lores, ear coverts and beneath the eye are black; on each side of the forehead is a white spot; the neck and breast rufous; the throat and chin white; head tinged with rufescent, and the upper parts margined with the same; the shafts of the feathers of the back, scapulars and wing coverts in both stages are dark; primaries dark brown; the outer webs of the inner ones white, also the tips of the secondaries.

Length.—8 to 9.25 inches; expanse 17 to 19 inches; wing 5.4 to 5.98; tail 2; bill at front 1; tarsus 1.5; legs greenish; bill black; irides brown.

Hab.—Sind, Beloochistan Coast, Persian Gulf, Bengal, Rajputana, Kutch, Kattiawar and India generally during winter; also Burmah. Extremely common along the sea coast and at the mouths of the Indus in large flocks, where they may be seen running along the sandbanks for small crustacea, insects, molluscs, &c.

Eudromius veredus, Gould, and *Ægialitis placida*, G. R. Gray, also *Æ. nigrifrons*, Cuv., are species entered in the Avifauna of India of which there is no precise information or corroboration of the fact of their having been found in India. I have therefore not included them in this work.

1260. *Ægialitis mongolica* (Pall.), Harting, *Ibis*, 1870, p. 384; *Salvad., Ucc. Born.* p. 316; *Hume, Str. F.* iii. p. 170; *Blyth, B. Burm.* p. 153; *Armstrong, Str. F.* iv. p. 339. *Legge, B. Ceylon*, p. 942; *Kelham, Ibis*, 1882, p. 10. *Charadrius mongolus*, Pall., *Reis. Russ. Reichs.* iii. p. 700. *Charadrius mongolicus*, Pall., *Zoogr. Rosso-Asiat.* ii. p. 136. *Charadrius pyrrhorthorax*, Temm. in Gould, *B. Eur.* pl. 299. *Ægialitis pyrrhorthorax*, Ferd., *B. Ind.* iii. p. 639, No. 847; *Murray, Hdbk., Zool., &c., Sind*, p. 209; *id., Vert. Zool., Sind*, p. 226. *Cirrepidesmus mongolicus*, *Hume, Str. F.* i. p. 230; ii. p. 289; *id., Nests and Eggs Ind. B.* p. 571. *Ægialitis mongolus*, *Hume and Dav., Str. F.* vi. p. 455; *Oates, Str. F.* x. p. 237.—The LESSER SAND PLOVER.

In both winter and summer plumage similar to *Æ. Geoffroyi*, but smaller in all measurements.



Length.—7 to 7.25 inches; expanse 15 inches; wing 5 inches; tail 1.87; bill at front 0.75; tarsus 1.25. The tertials reach to between the first and second primaries; bill black; irides brown; legs dusky plumbeous.

Hab.—Sind, Beloochistan Coast, Persian Gulf, Afghanistan, and India generally, also Burmah, along the sea shore and banks of rivers, not far inland.

1261. *Ægialitis cantiana* (Lath.). *Jerd.*, *B. Ind.* iii. p. 647, No. 848; *Armstrong*, *Str. F.* iv. p. 340; *Dresser*, *B. Eur.* vii. p. 483, pl.; *Hume and Dav.*, *Str. F.* vi. p. 456; *Legge*, *B. Ceylon*, p. 947; *Oates*, *Str. F.* x. p. 237; *id.*, *B. Br. Burm.* ii. p. 368; *Murray*, *Vert. Zool.*, *Sind*, p. 226. *Charadrius cantianus*, *Lath.*, *Ind. Orn. Suppl.* pl. lxvi. *Ægialophilus cantianus*, *Hume*, *Str. F.* i. p. 230; *id.*, *Nests and Eggs*, p. 571.—The KENTISH PLOVER.

Male in Winter Plumage.—Forehead, streak over the eye, extending to the ear coverts, chin, throat, ring round the neck, breast, abdomen and under tail coverts white; outer tail feathers on each side also white, with a subterminal dusky spot on the inner web; crown, nape, neck behind, a streak from the base of the bill under the eye, cheeks, back, scapulars, sides of breast and tertials earthy or greyish brown, the feathers with darker shafts; in some (February specimens) the feathers are tinged with rufous, and those on the fore part of the crown, very slightly (absent in most) white tipped; tail earthy or grey brown, darker subterminally, and all, except the central feathers, tipped pale fulvous or white; primaries dusky brown, 4th, 5th and 6th with a patch of white on their outer webs; secondaries edged and tipped terminally with white; edge of the wing and under wing coverts white.

In nuptial plumage, the white of the forehead extends broadly over the eye and beyond it, behind which on the forecrown is a patch of black followed by a reddish or reddish brown patch, tinged with grey. The streak from the base of the bill through the eye to the ear coverts is black, and there is a large patch of black on each side of the breast; back, scapulars and tertials greyish brown; the 1st primary is the longest; primaries dusky brown; wing coverts grey brown, the greater series tipped with white; secondaries white at their bases and tips; under wing coverts, chin, throat and under parts white; the tail is like the back, the middle feathers longest and dusky brown near the tip, the outer ones on each side white.

Length.—6.75 inches; wing 4.3; tail 2; bill at front .75; bill black; irides brown; feet dusky greenish.

Hab.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, South India and Ceylon. Abundant along the coast about the Delta of the Irrawaddy, and also at various points in Tenasserim. It is also recorded from Arracan. In Ceylon, Major Legge found it breeding in June and July on the banks of salt lagoons, in the south-east portion of the Island.



1262. *Ægialitis dubia* (Scop.), Salvad., Ucc. Born. p. 316; Blyth, B. Burm. p. 153; David et Oust. Ois. Chine, p. 429; Anderson, Yunnan Exped. p. 676; Hume, Str. F. vii. p. 227 (note); Oates, Str. F. x. p. 237; id., B. Br. Burm. ii. p. 370. Charadrius dubius, Scop., Del. Flor. et Faun. Insul. ii. p. 93. Charadrius curonicus, Gm., Syst. Nat. i. p. 692. Charadrius phillipinus, Lath., Ind. Orn. ii. p. 745. Charadrius fluviatilis, Bechst., Gemeinn Naturg. Deutschl. iv. p. 422. *Ægialitis phillipensis* (Scop.), apud. Ferd., B. Ind. ii. p. 640, No. 849. *Ægialitis fluviatilis*, Hume, Str. F. i. p. 230; ii. p. 289; id., Nests and Eggs Ind. B. p. 572. *Ægialitis curonica*, Wald. in Blyth's B. Burm. p. 154; Dresser, B. Eur. vii. p. 491; Legge, B. Ceylon, p. 952.—THE LESSER RINGED PLOVER.

A narrow streak above the base of the bill continued behind, under, and through the eye to the ear coverts black; crown of head and ring round the neck black; a patch of white on the forehead above the black frontal streak; chin, throat, and under parts from below the black collar, including the under coverts, white; nape and upper plumage cinereous or greyish brown; primaries dusky brown; tail with the middle feathers paler than the lateral ones, except the outermost on each side, which are white, with a dusky spot on the inner web; under wing coverts white.

Length.—7 to 7.25 inches; wing 4.5; tail 2.5; bill at front 0.56; bill black; irides brown; legs yellowish.

Hab.—Sind, Beloochistan, Persia, Aghanistan, E. Turkestan, Nepaul, Cashmere, and throughout India, also throughout Burmah. Extremely common in rice fields and along the banks of the Indus. Breeds in the Deccan and Central Provinces during April and May. Eggs, three in number, broad ovals, elongated and pointed towards one end; of a fawn, drab or buffy stone colour, speckled and spotted with hieroglyphic-like lines and figures of brownish purple, blackish brown or black. Size 1.1 to 1.23 × 0.8 to 0.87.

1263. *Ægialitis Jerdoni*, Legge, P. Z. S. 1880, p. 39; id., Birds Ceylon, p. 956. *Ægialitis minutus* (Pall.), apud. Ferd., B. Ind. ii. p. 641; Legge, Str. F. iii. p. 372; Hume and Davison, Str. F. vi. p. 456; Hume, Str. F. viii. pp. 112, 199; Oates, Str. F. x. p. 238; id., B. Br. Burmah, ii. p. 371. *Ægialitis phillipinus* (Lath.), apud. Hume, Str. F. p. 179.—THE LITTLE INDIAN RINGED PLOVER.

Similar to *Æ. dubia* from which it differs in being smaller, in having the edges of the eyelids swollen and protuberant, and in having the basal half of the lower mandible yellow. Another point of difference, according to Mr. Hume, is that in summer the legs of *Æ. Jerdoni* do not become yellow as in *Æ. dubia*.

Length.—6 inches; tail 2.2; wing 4.1; tarsus 9; bill from gape 5.5. The female is rather larger, approaching in size the male of *Æ. dubia*.

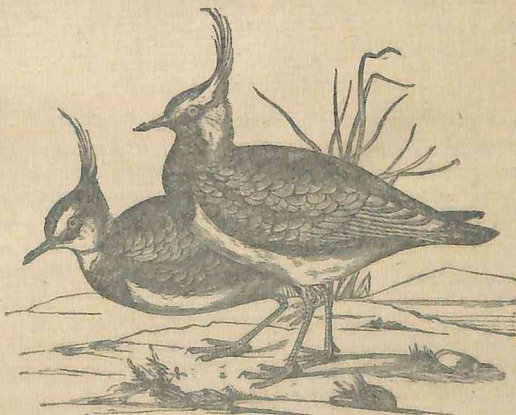
The Little Indian Ringed Plover is generally distributed over Burmah, but is nowhere very abundant. Oates procured it near Thayetmyo and also in Southern Pegu, along the banks of the canal. Capt. Wardlaw-Ramsay got it at Tounghoo, and Mr. Davison observed it in Tenasserim about the latitude of Moulmein. It occurs in suitable localities over the whole of India and Ceylon, the Indo-Burmese Countries, and Cochin-China, where Dr. Tiraud procured many specimens near Saigon. Oates says it is probably 'a constant resident in Burmah, notwithstanding the fact that all his specimens were procured in the winter season. In the rains, when sandbanks are submerged, its area of distribution must become very restricted, and it is likely at this time of the year to escape observation. Major Legge found it breeding in Ceylon.

Sub-Family, VANELLINÆ.—LAPWINGS.

Bill rather compressed, straight, convex at the tip; nostril in a long lateral groove; wings pointed and long; tail broad; hind toe short. Generally very active and lively birds. Nearly all winter visitants in India. Feed on worms, slugs, molluscs, &c., either along the sea shore, or river banks, or the edges of tanks and marshes; also in ploughed fields.

Gen. *Vanellus*.—Linn.

Bill straight; 2nd and 3rd quills longest; shoulder of wing with a small (not prominent) tubercle.



1264. *Vanellus cristatus*, Meyer, P. E. 242; Gould., B. Eur. pl. 291; Jerd., B. Ind. iii. p. 643; Hume, Nests and Eggs, Ind. B. p. 573;



Str. F. i. 231; *Murray, Hdbk., Zool., &c., Sind*, p. 210; *id.*, *Vert. Zool. Sind*, p. 228.—The CRESTED LAPWING or PEEWIT.

Entire head, crest, chin, a line below the eye, breast and foreneck black, glossed with greenish; lores, supercilia and behind the eye, also sides and back of the neck, and from the termination of the black breast to the belly, white; the sides of the head in some immature specimens speckled with brown or dusky; upper tail coverts pale reddish chestnut; under tail coverts slightly paler; back and scapulars olive green, glossed with coppery and purple; golden green on the lower back and rump; primaries black, the first three broadly terminated with greyish white; 1st quill shortest, third longer than the second or nearly equal; greater and lesser wing coverts like the back; tail white basally, and broadly black terminally, with narrow white tips to all the feathers; the outermost feather entirely white, except a dusky spot subterminally on the inner web.

Length.—12 inches; wing 9; tail 4; tarsus 2; bill black; irides hazel brown; legs orange brown. In winter plumage the chin and throat are white, and there is much brown specklings on the sides of the face and nape. The female is like the male in winter plumage, and throughout of a duller tint.

Hab.—Sind, Punjab, N.-W. Provinces, Beloochistan, Persia, Afghanistan, and E. Turkistan, also Nepaul and Cashmere. It is said to breed in Yarkand. In Sind it is a winter visitant, and is found in open places, marshy ground, and the banks of canals. In England, the Vanellinæ are considered by some good for food, and their eggs a delicacy. In India, however, it is not the case, though some persons think them not amiss at any time. After October they are very fat and tender, and for the table are said to be undistinguishable from the Plovers.

Gen. *Chettusia*.—Bp.

Head not crested; plumage ashy; otherwise as in *Vanellus*.

1265. *Chettusia gregaria*, Pallas, Zoogr. ii. t. 56; Gould, B. Eur. pl. 292; *Ferd., Birds Ind.* iii. p. 644, No. 852; *Str. F.* i. 231; iv. 13; *Murray, Hdbk., Zool., &c., Sind*, p. 210; *id.*, *Vert. Zool. Sind*, p. 229.—The BLACK-SIDED LAPWING.

Forehead, supercilium extending to the occiput, lower belly, vent and under tail coverts white; top of head, a narrow band from the base of the bill through the eye, and the middle of the abdomen black; back of neck, back, and scapulars olivaceous brown, tinged greyish; sides of head and neck pale rufous, passing to greyish or brownish on the breast; primaries black; secondaries white; tail and upper tail coverts white, with a broad subterminal black band, tipped with white; outermost feathers white.

Length.—12.5 to 13 inches; wing 8.5; tail 3.5; tarsus 2.3; bill at front 1.2. In the young the black abdominal patch is wanting. The females are much duller than the males in colour.



Hab.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Oudh, the Concan, Deccan, Kutch, Kattiawar, Rajputana and Central India. Frequents grassy plains in parties of from five to twenty. Its flesh is said to be very delicate.

1266. Chettusia leucura (*Licht.*), *Ferd.*, *B. Ind.* iii. p. 646, No. 853. *Chettusia flavipes*, *Savigny, desc. d'l'Egypt. Zool.* p. 6, fig. 2. *Chettusia Villotæi*, *Audoin., Hume, Str. F.* i. p. 232; *id.*, iv. p. 13; *Murray, Vert. Zool., Sind.* p. 229.—The WHITE-TAILED LAPWING.

Head and neck brown, very pale, almost fulvous on the forehead; a small whitish patch behind the eye; chin and throat white; back and scapulars brown, glossed with reddish purple; upper tail coverts and tail white; breast pale greyish brown, bluish ashy on the lower part; lower abdomen and under tail coverts white, the former tinged of a roseate hue; primaries black; secondaries white, broadly tipped on their outer webs with black; median and greater wing coverts basally ashy, broadly edged subterminally on the outer web with black and tipped with white.

Length.—11 to 11.5 inches; wing 7; tail 2.75; bill at front 1; bill black; irides brown red; legs bright yellow.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Beloochistan, Afghanistan, Persia, Kutch, Kattiawar, and North Guzerat, also in Central India, and probably the Deccan; common in the vicinity of jheels, tanks, &c.

1267. Chettusia cinerea (*Blyth*), *Hume, Str. F.* iii. p. 180; *Blyth, B. Burm.* p. 152; *David et Oust Ois. Chine*, p. 422; *Hume and Dav., Str. F.* vi. p. 456; *Cripps, Str. F.* vii. p. 300; *Hume, Str. F.* viii. p. 112; *Oates, Str. F.* x. p. 238; *id.*, *B. Br. Burm.* ii. p. 372. *Pluvianus cinereus*, *Blyth, J. A. S. B.* i. p. 587. *Lobivanellus inornatus*, *Temm. et Schleg, Faun. Jap. Aves*, p. 106, pl. 63. *Chettusia inornata*, *Ferd.*, *B. Ind.* iii. p. 646.—The GREY-HEADED LAPWING.

Head and neck all round grey; back, rump, lesser and median wing coverts and scapulars, also the tertiaries, greyish brown, with a faint vinous tinge; upper tail coverts white; tail white, with a broad black band near the tip, diminishing in width towards the lateral feathers and absent on the outermost; primary coverts and primaries black; greater wing coverts and secondaries white; breast greyish brown, bounded below by a broad black band; rest of under surface white; edges of the eyelids, lappets and basal two-thirds of the bill deep yellow; terminal third of bill black; irides red; legs dull yellow.

Length.—14.5 inches; tail 4.5; wing 9.8; tarsus 3; bill from gape 1.6.

Hab.—Northern India, Punjab, N.-W. Provinces, Oudh, Kumaon; also British Burmah in Southern Pegu, Bassein, Tongoo, the low-lying parts of Northern Tenasserim and Bengal, affecting swamps and marshy ground. It is a winter visitant to these parts, leaving India during April.

Gen. **Hoplopterus**—*Bonap.*

Shoulder of wing with a stout spur. No hind toe in the Indian species.

1268. *Hoplopterus ventralis* (*Wagl.*), *Jerd.*, *B. Ind.* iii. p. 650; *Hume, Nests and Eggs Ind. B.* p. 578; *id.*, *Str. F.* iii. p. 181; *Blyth, B. Burm.* p. 153; *David et Oust. Ois. Chine.* p. 423; *Anderson, Yunnan Exped.*, p. 675; *Hume and Dav.*, vi. p. 457; *Cripps, Str. F.* vii. p. 300; *Hume, Str. F.* viii. p. 112; *Scully, Str. F.* viii. p. 352; *Oates, Str. F.* x. p. 238; *id.*, *B. Br. Burm.* ii. p. 373; *Murray, Hdbk., Zool. &c., Sind.* p. 211; *id.*, *Vert. Zool., Sind.*, p. 231.—The SPUR-WINGED LAPWING.

Head, crest, lores, sides of the face as far as the middle of the eye, chin, throat, and foreneck black; a white streak from behind the eye on each side meeting on the nape, bordering the black feathers of the hind crown and nape; cheeks white, the white extending on to the upper breast all round, enclosing the black of the foreneck and forming a pectoral patch; breast below black; scapulars and tertials pale brown; shoulder of the wing black; primaries black; secondaries basally white, tipped and edged with black, the black decreasing in extent on the hinder feathers; greater wing coverts white, forming a conspicuous wing band; upper and under tail coverts and entire under surface white, except a patch on the middle of the abdomen; tail white, broadly terminated with black.

Length.—12 inches; wing 7·75 to 8; tail 4 to 4·2; bill at front 1·1; bill black; irides deep brown; legs blackish, tinged with reddish.

Hab.—Northern India generally, Punjab, N.-W. Provinces, Oudh, British Burmah, Bengal, and Central India, along the sandy banks of rivers; also in Pegu and Nepaul. It is rare in Sind. A single specimen was got by Mr. W. Wallinger on the banks of the Indus near Buggatora, who also mentions having seen it on the Aral near Sehwan. Breeds on the banks and in the beds of most of the larger rivers of India and Pegu, penetrating the hills to 2,000 feet. March and April are the months in which it lays. Eggs, four in number, from a stone to olivaceous drab colour, profusely spotted with dark and purplish brown. In size they vary from 1·42 to 1·78 in length, and in breadth from 1·12 to 1·3 inches.

Gen. **Lobivanellus**.—*Strickl.*

A lappet of skin in front of the eye extending to the base of the bill; hind toe very small.

1269. *Lobivanellus indicus*, *Bodd.*, *P. E.* 807; *Gould, C. B. E.* pl. 78; *Str. F.* iii. 648; vii. 67; *Hume, Nests and Eggs Ind. B.* p. 574; *Lobivanellus goensis, Jerd.*, iii. p. 648, No. 855; *Murray, Hdbk., Zool., &c. Sind.*, p. 211; *id.*, *Vert. Zool. Sind.*, p. —The RED-WATTLED LAPWING or "DID HE DO IT."



Head, nape, back of the neck, chin, throat, neck in front and breast black ; a broad streak from behind the eye along the sides of the neck, abdomen and upper and lower tail coverts white ; tail white, with a subterminal dark band and broadly tipped white ; back, scapulars and tertials pale brown ; primaries and their coverts black ; greater wing coverts like the back basally, and broadly edged and tipped with white, forming a conspicuous wing band.

Length.—12·5 to 13 inches ; wing 9·5 ; tail 4·75 ; bill at front 1·27 ; wattles red.

Hab.—Throughout India, Beloochistan, Persia, and Afghanistan. In India it is everywhere common, during both winter and summer, and breeds from April to July. It is an extremely noisy bird, and especially so during the breeding season. Its vulgar name, "Did he do it," is very appropriately given, being its continuous cry, with "Pity to do it," the place resounding with its almost endless echoes, till the intruder is out of reach of its nest. The nest is usually a small depression in the earth, with or without lining of any kind, and made in the vicinity of a marsh. The eggs are generally of a deep green colour, irregularly marked with blotches and streaks of a brownish black.

1270. *Lobivanellus atronuchalis* (Blyth), *Ferd.*, *B. Ind.* ii. p. 648 ; *Hume, Nests and Eggs Ind.* B., p. 376 ; *id.*, *Str. F.* iii. p. 181 ; *Blyth, B. Burm.* p. 152 ; *Hume and Davison, Str. F.* vii. p. 457 ; *Hume, Str. F.* viii. p. 112 ; *Oates, Str. F.* x. p. 238 ; *id.*, *B. Br. Burm.* ii. p. 374 *Sarcogramma atrogularis*, *Blyth, J. A. S. B.* xxxi. p. 345 (note).—THE BURMESE LAPWING.

Entire head, neck and breast black ; a band over the ear coverts white, also a collar on the hind neck, upper tail coverts, the tail, except a broad black band and under plumage from the breast ; back and rest of upper parts, including the wing coverts, grey, glossed with purplish on the coverts and green elsewhere ; greater coverts grey, broadly tipped with white ; primaries and secondaries black, the bases white, increasing in extent to the last secondary, which is nearly wholly white. Bill black on the terminal half ; eyelid and wattles red ; legs and feet pale yellow.

Length.—13 inches ; tail 4·5 ; wing 8·15 ; tarsus 3 ; bill from gape 1·3.

Hab.—British Burmah and Karenne, extending northwards as far as Bhamo ; eastwards to Cochin-China and southwards down to Singapore. Breeds in April and May, in paddy fields and grass lands. Eggs, usually four in number, buff, thickly spotted and blotched with blackish brown.

Gen. *Sarciophorus*.—*Strickl.*

Wattles yellow ; bill rather slender ; hind toe absent.

1271. *Sarciophorus bilobus* (Gmel.), *Ferd.*, *B. Ind.* ii. p. 649 ; *Blanf., Ibis*, 1870, p. 470 ; *Blyth, B. Burm.* p. 153. *Charadrius malabaricus*,



Bodd. Tabl. Pl. Enl. p. 53. *Charadrius bilobus*, *Gmel., Syst. Nat.* i. p. 691. *Lobipluvia malabarica*, *Hume, Nests and Eggs Ind. B.* p. 477; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon*, p. 966; *Parker, Str. F.* ix. p. 482; *Hume, Str. F.* x. p. 238 (note); *Oates, B. Br. Burm.* ii. p. 375; *Murray, Vert. Zool., Sind*, p. 230.—The YELLOW-WATTLED LAPWING.

Breeding Plumage.—Head and nape black; earcoverts white, extending behind the nape; chin and throat black; neck in front and behind, also the back, scapulars and tertiaries pale brown; breast slightly darker, edged with dark brown; rest of the under surface including the upper and lower tail coverts white; tail white, with a black band subterminally and white tip, except three of the lateral tail feathers, which are white, with a subterminal dusky spot on the outer web of the third feather; primaries and their coverts black; the inner webs of the primaries white, decreasing in extent to the inner ones; secondaries basally white, and terminated with black; greater wing coverts like the back, but broadly tipped and edged with white, forming a conspicuous white wing band.

Length.—11 to 11·75 inches; wing 8·25; tail 3·25; bill at front 1; irides brown; bill yellow at the base, the rest black; wattles yellow.

Hab.—Nearly throughout India, Burmah and Ceylon. In India it is a resident, frequenting dry stony or grassy plains usually in company with *Cursorius isabellinus* or *gallicus*. Breeds in August on the edges of cultivated land. The eggs are not unlike those of *L. indicus*, but are smaller, and have a stone colour ground, with deep brown and nearly black blotches. In the winter plumage, the chin and throat and the black edges to the feathers of the breast below are wanting, and the upper plumage is duller or paler brown.

Sub-Family, ÆSACINÆ.—STONE PLOVERS.

Bill strong and thick; no hind toe; nostrils linear, in a groove near the base of the bill; gonys strongly angulated.

Gen. *Æsacus*.

Bill long, sub-curved, the lower edge of the under mandible wide in the middle, then curving to a point.

1272. *Æsacus recurvirostris* (*Cuv.*), *G R. Gray, M. G. B.* pl. 142; *Ferd., B. Ind.* iii. p. 652, No. 858; *Hume, Nests and Eggs Ind. B.* p. 579; *id., Str. F.* ii. p. 182; *Blyth, B. Burm.* p. 152; *Str. F.* vol. v. p. 121; *Hume, Str. F.* vi. p. 458; *Oates, Str. F.* vii. p. 50; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon* p. 974; *Oates, B. Br. Burm.* ii. p. 357; *Murray, Hdbk., Zool., &c., Sind*, p. 211; *id., Vert. Zool. Sind.* p. 231. (*Karwanak : Chota Taloor, Sind*).—The LARGE STONE PLOVER.

Forehead and a broad line down the sides of the face white; a broad dark streak on each side from the base of the lower mandible; feathers round and behind the eye white, broadly bordered with dark brown; chin, throat, abdomen, and under tail coverts white; top of head, neck behind, back, scapulars

ÆDICNEMUS.

and tertials pale brown, the feathers distinctly dark-shafted; neck in front white, in some specimens obtained in April greyish brown; the breast ashy, contrasting with the pure white of the rest of the under surface; primaries black, the first three quills with a patch of white on their terminal thirds, and the last three basally and at tip white, with a subterminal black band; lesser wing coverts dark brown; median and greater coverts pale greyish brown, the latter white tipped; secondaries dark brown, their inner webs white; tail pale brown at base, with a subterminal white band and a broad black tip, except the outermost feather, which is white at the base and more broadly tipped with black; bill black, greenish at the base; irides yellow; legs yellow.

Length.—20 inches; wing 10.5; tail 4.37; tarsus 3.5; bill at front 3, at gape 3.75.

Hab.—Nearly throughout India, along the sea coast and banks of large rivers. From the stomach of a specimen got in the Kurrachee harbour ten calling crabs (*Gelasimus annulipes*) were extracted. *Æ. magnirostris*, an Australian species, is said to have occurred in the Andaman Islands and probably also occurs along the Burmese sea coast. There is however no precise information. It is distinguished from this species by being a little larger, and by the colour of the *sixth primary being all white* with only a brown band on the outer web.

Gen. **Ædicnemus**.—*Cuv.*

Bill longer than the head, straight and slightly depressed at the base; culmen raised near the point; mandible angulated beneath; nostrils in the middle of the bill in a longitudinal slit; toes three; tail graduated.



Ædicnemus crepitans.

1273. *Cedienemus crepitans*, Temm., Man. d' Orn. p. 348; Jerd., B. Ind. iii. p. 654; Hume, Str. F. i. p. 232; id., Str. F. iii. p. 182; Blyth, B. Burm. p. 152; Oates, Str. F. xi. p. 238; Murray, Vert. Zool. Sind, p. 232. *Charadrius cedienemus*, Linn, Syst. Nat. i. p. 255. *Charadrius scolopax*, S. G. Gmel., Reisse Russ. iii. p. 87, pl. 16. *Cedienemus indicus*, Salvad., Ass. Soc. Ital. Sc. Nat. viii. p. 380; Hume, Nests and Eggs Ind. B. p. 581. *Cedienemus scolopax*, Dresser, B. Eur. vii. p. 401, pl.; Legge, B. Ceylon, p. 969; Oates, B. Br. Burm. ii. p. 356.—THE STONE PLOVER OR BASTARD FLORIKEN.

Lores white, with a few brown spots; chin and throat white; a distinct narrow moustachial stripe from the base of the lower mandible; head, neck, back, scapulars and upper tail coverts reddish ashy, each feather with a mesial dusky streak; breast the same as the back; belly white; under tail coverts reddish ashy; tail white basally, all the feathers except the middle ones tipped with black; thigh coverts white; primaries black, the first three quills with a patch of white at their terminal third, and the last three white basally and at tip with a subterminal dark band; edges of the greater wing coverts white, forming a wing band.

Length.—16 inches; wing 9; tail 4·5; bill at front 1·5; irides and orbits yellow; also the legs and feet.

Hab.—Throughout India, including Burmah, also Ceylon and Persia. Affects stony places, waste land, grassy plains, dry river beds and the sides of sloping banks; runs very swiftly, especially when first surprised, stops short now and again after the manner of *Cursorius isabellinus*, and squats close to the ground, depending for safety on the colour of its plumage, which is like that of the ground. Its flight is strong and steady, but it seldom uses its wings, except when hard pressed; usually turns out in the evening in quest of food, which consists chiefly of worms. The young are said to run from the nest within three hours of their birth. It is not uncommon to meet with parties of this bird in looking for Oobara (*H. Macqueenii*) among Grewia bushes, and perhaps from this circumstance and its lineated plumage it is called the “*chota* or small Taloor.” It is, as Jerdon says, a favourite quarry for the Sparrow Hawk and the Besra. Its flesh is as much esteemed almost as that of the Houbara, being highly flavoured. Breeds in Sind from February to April. It makes no nest, the eggs being laid in a small depression in the ground, usually sheltered by a stone.

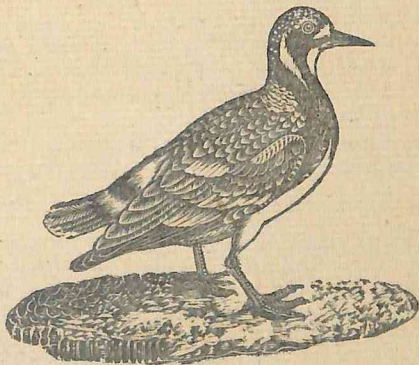
Family, HÆMATOPODIDÆ, Bp.—SEA PLOVERS.

Feet with three toes, and a very small hind toe; bill long, strong, front half compressed, tip blunt; wing long and pointed.

Sub-Family, STREPSILINÆ.—Bp.

Characters those of the Family; bill slightly curved upwards.

1274. *Strepsilas interpres* (Linn.), *Ferd., B. Ind.* ii. p. 656; *Salvad., Ucc. Born.* p. 320; *Blyth, B. Burm.,* p. 154; *Dresser, B. Eur.* vii. p. 555, pl.; *Hume, Str. F.* iv. p. 464; *Murray, Vert. Zool., Sind,* p. 233; *Legge, B. Ceylon,* p. 987; *Oates, Str. F.* x. p. 238; *id., B. Br. Burm.* ii. p. 376. *Cinclus interpres, Hume, Str. F.* i. p. 233; ii. p. 292. *Tringa interpres, Linn., Syst. Nat.* i. p. 248.—The TURNSTONE.



Strepsilas interpres.

In winter the crown and hinder part of the head are dusky, edged very narrowly with greyish brown; the lores pale brown, or in some specimens greyish brown; the chin and throat are white, also a patch on each side of the neck, bordered in front along the sides of the white throat patch with dusky or dark brown; upper back, scapulars, rump, breast and sides of the breast dusky or dark brown, according to season, edged with rusty or brownish red; some of the scapulars partly edged with white; tertials long, reaching beyond the fifth quill, edged and tipped with rufous or red brown; lesser wing coverts, like the upper back, white at the shoulder; the secondary or greater coverts tipped with white, forming a conspicuous wing bar; primaries and secondaries black, the inner webs of the former and tips of the latter white; back, lower surface of the body from below the breast, also the thigh and upper and lower tail coverts white; a patch of black on the rump; tail feathers white, with a subterminal black band, except the central ones, which are entirely black. In the summer or breeding plumage, the forehead, a band over the eye, lores and a patch behind the eye are white; the crown of the head is also white, broadly streaked with black. There is also a black streak behind the white frontal patch, continued



to the front and below the eye on each side joining the black streak from the lower mandible, and getting lost on the neck, whence springs a black demicollar not extending on the upper surface of the neck, which, like the head, is white with dark streaks; back of neck white, extending down the sides between the black demicollar and sides of the breast; chin white; throat and breast deep black; upper back and scapulars black, the feathers broadly edged and tipped with red rust colour; some wholly so, especially the scapulars; lesser and median wing coverts black, broadly edged and tipped with bright rust colour; the tips of the greater or secondary coverts white, forming a wing band; quills black, the inner webs, and part of the outer webs of the last two or three basally white; secondaries like the quills, but broadly white on their inner webs, and also narrowly tipped white; tertials dark brown, edged and tipped with rusty; back, entire lower surface below the breast, and upper tail coverts white; rump with a patch of black; tail as in the winter plumage; irides deep brown; legs orange yellow.

Length.—8 to 8·5 inches; wing 6; tail 2·5.

Hab.—India generally, and Ceylon along the sea shores, and sometimes inland along the banks of large rivers. Its geographical range is very wide, being found in Europe, America, and Africa, and throughout Asia, in suitable localities. In Sind it is extremely common in the Kurrachee harbour and at the mouths of the Indus. It occurs also on the Sambhur lake, and on the banks of the river at Poona, in the Deccan; also on the Beloochistan Coast and in the Persian Gulf.

Gen. *Dromas*.—Payk.

Bill long, lower mandible strongly angulated; tarsus long; wings reach beyond the tip of the tail; feet webbed; hind toe long and slender.

1275. *Dromas ardeola*, Paykl., *Handlist Ac. Vet. Stockhlm.* t. 8; *Jard. and Selby, Ill. Orn.* pl. 157; *Ferd., B. Ind.* iii. p. 658; *Str. F.* ii. p. 293; vii. p. 186; viii. p. 383; *Murray, Hdbk., Zool., &c., Sind*, p. 212; *id., Vert. Zool. Sind*, p. 234; *Legge, B. Ceylon*, p. 986.—The CRAB PLOVER.

Whole head, neck all round, chin, throat, breast, entire lower parts, back, upper and lower tail coverts and upper tertials white; generally a dark loreal spot; mantle and interscapulars black; primaries and secondaries black, their inner webs white; greater wing coverts black; tail reddish ashy, as also are some of the tertials near their tips; bill black, 2·5 inches in length; irides brown.

Length.—15 to 15·5 inches; wing 8·75 to 9; tail 2·5.

Hab.—Indian coasts, Ceylon, Africa, Red Sea, Seychelles, Madagascar, Beloochistan Coast and the Persian Gulf. Common in Sind in the Kurrachee



harbour. Breeds in the Persian Gulf near Bushire. Mr. Hume has given an account of its nidification in vols. vii. and viii. of *Stray Feathers*. There is no nest, and the eggs are laid in a burrow about 4 feet deep in the loose sand; but whether this is dug by the bird, or is that of a crab, is still a question, the holes being, it is said, too narrow to admit the bird.

Gen. *Hæmatopus*—Linn.

Bill straight, long, very slightly bent upwards; nostrils linear in a long cleft; toes three, all placed forward; no hind toe.

1276. *Hæmatopus ostralegus* Linn., *Syst. Nat.* i, p. 257; *Ferd.*, *B. Ind.* ii. p. 659; *Hume, Str. F.* i. p. 234; *Blyth, B. Burm.* p. 154; *Dresser, B. Eur.* vii. p. 567; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon* p. 987; *Murray, Vert. Zool. Sind*, p. 235. *Hæmatopus osculans, Swinh.*, *P. Z. S.* 1871, p. 405; *Dav. et Oust. Ois Chine*, p. 432.—The OYSTER CATCHER.

Entire head, neck, breast, upper back, scapulars and tail black; lower orbital feathers white; lower back, and entire lower parts white, also a ring round the throat; primaries black, the inner webs and part of the outer webs of all, except the first two quills, white; the white on the outer webs of the innermost primaries spreading to the edges; secondaries basally and narrowly at tip white, with a subterminal black band; greater coverts and some of the secondaries and lower tertiaries white, forming a large wing patch; lesser and primary coverts black; bill orange yellow, or bright scarlet, 3·5 to 3·75 inches long; irides lake red; orbits orange.

Length.—16 to 17 inches; wing 10·5; tail 4; tarsus 2·25.

Hab.—Europe, Siberia, India, Ceylon, Afghanistan, Beloochistan, Persian Gulf, Sind, the Eastern and Western Coasts of India; in fact has a very wide distribution. Inhabitant of the sea shores, being seldom found inland. It lives chiefly on molluscs, worms, &c., and is said to easily disengage limpets from the rocks, and to pluck out the oysters from their half-opened shells, with its admirably adapted wedge-shaped bill. Oyster-Catchers feed in the mornings and evenings, and also at night, and are at all times watchful and shy in their habits.

Family, GRUIDÆ.

Bill long; mandibles equal; nostrils in a deep groove; wings long; tertials long; tail short, even; tarsi long, scutellated.

1277. *Grus antigone*, Linn., *Syst. Nat.* p. 235; *Ferd.*, *B. Ind.* ii. p. 662; *Hume, Nests and Eggs Ind. B.* p. 584; *Blyth, B. Burm.* p. 157; *Oates, Str. F.* v. p. 164; *Hume and Dav, Str. F.* vi. p. 458; *Murray, Vert.*



Zool., Sind, p. 235; *Hume and Marsh., Game Birds* ii. p. 1, pl.; *Oates, B. Br. Burm.* ii. p. 354.—The SARUS CRANE.

Head and neck naked, covered behind with numerous crimson papillæ, and clad with a few black hairs, which accumulate below on the neck, and form a sort of mane down the nape of the neck; ear coverts white; below this the neck is whitish grey, which gradually passes into a blue or French grey, which is the colour of the whole plumage, the quills and inner webs of the tail feathers being dusky slaty; seasonally it assumes a pure white collar immediately below the crimson papillose skin of the neck, and some of the tertiaries and scapulars become white, lengthened, hang over gracefully and exceed the tail in length; bill pale sea green, brownish at the tip; irides orange red; legs and feet pale rosy red.

Length.—52 inches; wing 26; tail 9·25; bill at front 6·25, tarsi 12·5 to 13. (*Ferdon*.)

I have not a satisfactory specimen.

Hab.—Throughout the greater part of India. It is rare in Sind. In the Punjab it is found in the Delhi and other district, also in the N.-W. Provinces, Rajputana, Kutch, Concan and Deccan. It has also been found occasionally in Khandesh. Throughout the Central Provinces, also the Madras Presidency, north of the Godavery, Chota Nagpur and Lower Bengal it is common in suitable localities. Breeds over the whole of the N.-W. Provinces, Upper Bengal, British Burmah, Assam, Oudh and Guzerat; also Central India and Khandeish, during August and September, laying 2 eggs, of a pale green colour, speckled with yellowish brown purple or purplish pink. Many are quite unspotted.

1278. *Grus leucogeranus*, Pall, It. t. i; P.C. 467; Ferd., B. Ind. iii. p. 663; Str. F. i. p. 235; vii. p. 437; Murray, Hdbk., Zool., &c., Sind, p. 213; id., Vert. Zool. Sind, p. 236.—The LARGE WHITE, SNOW-WREATH, or SIBERIAN CRANE.

Plumage wholly white; primaries black; tertiaries white, much lengthened and reaching to or beyond the end of the tail; nude parts of the face and legs red; hind head subcrested. In the young Mr. Hume (*Game Birds of India*) says: "There is no bare space about the face, the whole head and upper half of the neck are of a somewhat rusty buff, which is deepest on the head and cheeks, and pale on the chin and throat."

Length, Male.—53 to 56 inches; wing 23 to 26; expanse 90 to 99·5; tarsi 11 to 12; bill from gape 7·75 to 8. *Females* are smaller; irides pale yellow; bill brown; nasal membrane red.

Hab.—A winter migrant to India; occurs in the N.-W. Provinces, Punjab, Sind, parts of the Central Provinces and the Himalayas; also in Afghanistan,

GRUS.

Eastern Turkistan and Siberia. Uncommon in Sind. I have never met with it. Mr. Hume has however seen and recorded it.



Grus cinerea.

1279. *Grus cinerea* (Bechst.), *Bodd. Pl. En.* 769; *Gould, B. Eur.* pl. 270; *Ferd., B. Ind.* iii. p. 865; *Str. F.* i. p. 235; iv. p. 15; *Murray, Hdbk., Zool., &c., Sind,* p. 213; *id., Vert. Zool. Sind,* p. 237; *Hume and Marsh., Game Birds* ii. p. 92 (*Koonj, Sind; Kulling, N. India*).—The COMMON CRANE.

Forehead to the middle of the crown covered with black hairy down, through which the red skin shows; behind this nearly bare and entirely so for about two inches on the nape, which is ash grey; chin, throat and foreneck black; a broad white streak from behind the eye, extending along the back of the neck from below the nape and partly on the sides; lores and cheeks black; upper and lower surface of the body dark bluish ashy; greater wing coverts dull black; secondaries and tertiaries grey and tipped with black, the latter in texture resembling the plumes of the ostrich, narrowing to a point, forming an elegant tuft of loose feathers, curled at the ends and falling grace-



GRUIDÆ.

CSL

fully over the tail ; legs and bare part of the thighs black ; bill greenish brown at the base, tinged blackish in the middle, with the tip dark horny ; irides yellowish, orange red or reddish brown in some.

Length.—43 to 46 inches ; wing about 24 ; tail 7 ; tarsus 8·75 to 9 ; bill 4·3 to 4·8.

Hab.—Europe, India, N. Africa. In India it is a winter visitant everywhere. Besides occurring in Sind, it is recorded from Rajputana, Kutch, Kattiawar, Deccan, N. Guzerat, Rajputana, Central India, Khandeish, Punjab, N.-W. Provinces, Oudh and Bengal. It has also been found in Afghanistan, Beloochistan and Persia.

When feeding the Common Crane has always a sentinel posted to give the alarm of danger, and hence it is extremely difficult to get within gunshot of the flock. The ordinary procedure is to walk alongside a bullock or horse, as if passing by them, and to fire immediately they rise ; a duck gun with large shot usually brings down 2 or 4 out of a flock. In Sind and probably in other parts of India too, the food of this Crane consists of grain of all kinds ; when in large parties they commit great havoc in wheat fields.

Gen. *Anthropoides*.—*Vieill*.

Bill shorter than in *Grus* ; head and neck feathered ; breast feathers lanceolate and hackled ; tarsi long.

1280. *Anthropoides virgo* (Linn.), *Bodd. Tab. Pl. Enl.* 241 ; *Edw. B.* pl. 134 ; *Ferd., B. Ind.* iii. p. 666 ; *Murray, Hdbk., Zool. &c., Sind ; Hume, Str. F.* iv. p. 15 ; *Murray, Vert. Zool. Sind*, p. 237.—The DEMOISELLE CRANE.

Forehead, lores, sides of the face, chin, throat, neck in front, and breast plumes deep black ; ear tufts white, issuing from behind the eye ; primaries black ; secondaries grey, black tipped ; back, scapulars, tertials, upper tail coverts and entire lower surface pale blue grey ; tertials elongated and drooping over the primaries and tail feathers ; most of them with a broad black tip.

Length.—31 to 35 inches ; wing 19 to 20 or more ; tail 6 to 7·5 ; tarsus 7 ; bill from gape 2·7 to 3·05 ; tertiaries project about 6 inches beyond the primaries.

Hab.—Throughout the greater part of India ; rare in Sind. Occurs in Rajputana, Kutch, Kattiawar, N. Guzerat, Deccan, the Nizam's dominions, where it is rare ; also in Assam, N.-W. and Central Provinces, Central India, Khandeish and Oudh. Occurs also in Afghanistan and Beluchistan and probably also in Persia. In the Deccan, about the Satara and Belgaum districts, as well as in the Concan and South India, it is said to be fairly common, arriving about December.

Tribe. LONGIROSTRES.—Cuv.

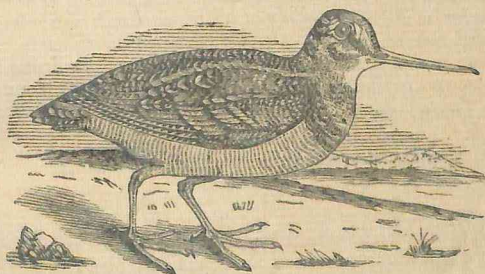
A family of wading birds, in which Cuvier includes the snipe, godwits ibises, curlews, phalaropes, &c., at the end of which come the avocets. These are nearly all migratory birds, and associate in flocks during winter. The characters by which this tribe is chiefly distinguished are the long slender bill, and long and pointed wings; the hind toe is usually present but wanting in some.

Family, SCOLOPACIDÆ.

Bill long, straight, compressed, soft, the point enlarged; the mandibles furrowed for half their length; upper mandible slightly longer than the lower; nostrils lateral, situated basally in a groove and covered by membrane; feet moderate, slender, three toed, not webbed; hind toe present; plumage varied and rich.

Gen. Scolopax.—Linn.

Characters same as those of the Family; lower mandible channelled only to the middle; wings long, 1st quill longest; tibia feathered to the knee.



1281. Scolopax rusticola Linn., *Syst. Nat.* i. p. 243; *Jerd.*; *B. Ind.* iii. p. 670; *Blyth, B. Burm.* p. 157; *Anders., Str. F.* iii. p. 356; *Dresser, B. Eur.* vii. p. 615, pl.; *Hume and Dav., Str. F.* vi. p. 458; *Hume, Str. F.* viii. p. 112; *Bingham, Str. F.* viii. p. 196; *Hume and Marsh., Game Birds* iii. p. 311, pl. *Scolopax rusticula*. *Dav. et Oust. Ois. Chine*; *Legge B. Ceylon*, p. 806; *Oates, B. Br. Burm.* p. 380; *Murray, Vert. Zool., Sind*, p. 238.—The WOODCOCK.

The peculiar shape of the head of this esteemed bird is almost a sufficient character to identify it among others. The head is more obtusely triangular than round; the eyes are placed above its middle, near the top, and the ears are nearly on a level with the corner of the mouth. Crown of the head ashy, or ashy grey; the nape and back part of the head with four transverse alternate bands of black and rusty red or chestnut brown; a dark streak from the



gape to the eye; the orbital feather pale buff; back, scapulars, wing coverts, and upper tail coverts, marbled, spotted, barred, streaked and variegated with black, white, grey, red, brown, rufous and yellow, that it is not possible to describe them with accuracy; chin pale yellowish brown, or nearly white; throat and breast pale brown, barred transversely with dark brown; primaries blackish, with triangular spots of pale reddish brown on both webs; secondaries and tertiaries blackish, but with the markings more elongated and reaching to the shaft. The whole under parts are yellowish white, numerously barred with transverse dark undulating lines; tail black, with spots and bars on both webs, the tips ashy grey above and silvery white below; tibia feathered to the knee. The female is larger, and only differs from the male in this respect and its duller tints.

Length.—14 to 16 inches; wing 8 to 8.25; tail 3.25; bill at front 3 to 3.2 (upper mandible); tarsi 1.5 to 1.8; irides dark brown; legs livid fleshy, as also is the bill with a tinge of grey.

Hab.—Europe, Egypt, India, including Burmah, Ceylon and Java. In India it is a summer resident on the wooded ranges of the Himalayas, and a winter visitant to the Neilgherries and the higher ranges of Southern India, parts of the Punjab, Nepaul, Sylhet and Bengal, frequenting damp situations, and feeding on worms, snails, slugs, &c. In Sind it is extremely rare, and is known only by two specimens obtained at Kurrachee. It is also said to occur in North Canara and the Concan, also in Persia, Beloochistan and Afghanistan. It breeds in the Himalayas during June, laying buff-coloured eggs blotched with reddish brown.

Gen. *Gallinago*.—*Steph.*

Characters the same as in *Scolopax*. Tibia not feathered to the knee; tail of 16—18 feathers.

1282. *Gallinago nemoricola* (Hodgs), *Jerd., Ill. Ind. Orn.* pl. 9; *id.*, *B. Ind.* iii. p. 672; *Hume, Str. F.* vi. p. 459; *id. and Marsh., Game Birds*, p. 325.—The WOOD SNIPE.

Top of the head black, with rufous yellow longish markings; upper part of the back black, the feathers margined with pale rufous yellow and often smeared bluish; scapulars the same, some of them with zigzag markings; long dorsal plumes black with zigzag marks of rufous grey, as are most of the wing coverts; winglet and primary coverts dusky black, faintly edged whitish; quills dusky; lower back and upper tail coverts barred reddish and dusky; tail with the centre feathers black at the base and chestnut, with dusky bars towards the tip; laterals dusky with whitish bars; beneath the chin white; the sides of the neck ashy, smeared with buff and blackish; breast ashy, smeared with buff and obscurely barred; the rest of the lower plumage,



with the thigh coverts, whitish, with numerous dusky bars; lower tail coverts rufescent, with dusky marks, and the under wing coverts barred black and whitish. Bill reddish brown, paler at base beneath; irides dusky brown; legs plumbeous green. (*Ferd.*)

Length.—12·5 to 13 inches; wing 5·75; tail 2·5; bill at front 2·6; tarsus 1·75.

Hab.—The Himalayas, Neilgherries, Coorg, Wynaad and other elevated regions in Southern India, affecting brushwood in swampy ground.

1283. *Gallinago solitaria* (*Hodgs.*), *J. A. S. B.* vi. p. 491; *Ferd.*, *B. Ind.* iii. p. 673, No. 869; *Hume and Marsh.*, *Game Birds* iii. p. 333.—The EASTERN SOLITARY SNIPE.

Head above brown, with pale mesial and superciliary lines; a dark band from the base of the bill extending towards the ear coverts; upper plumage as in *G. scolopacinus*, except that the feathers are more spotted and barred with rufous; a pale buff stripe along scapulars and inner edge of the wing; primaries brown, with a narrow pale edging externally and the innermost tipped with white; secondaries and tertiaries broadly barred with dark brown and pale rufous; tail deep black at base, with a broad subterminal band of bright ashly rufous, tipped brown, and the extreme tip pale; outermost rectrices finely barred; breast olive brown, with white dashes of white and brown bars, passing into white on the abdomen and vent, with some olivaceous bands on the upper belly and flanks; sides of the vent and under tail coverts whitish. Bill reddish brown; irides dark; feet greenish yellow.

Length.—12·5 inches; wing 6·25; tail 3·2; bill at front 2·75; tarsus 1·2.

Hab.—Throughout the Himalayas from Gilgit to Central Bhootan. During the summer it is said to be confined to the higher ranges from elevations of 9,000 feet and upwards to at least 15,000 feet, where they breed during May and June.

1284. *Gallinago stenura* (*Kuhl.*), *Ferd.*, *B. Ind.* iii. p. 674; *G. F. L. Marshall*, *Str. F.* i. p. 423; *Cripps*, *Str. F.* i. p. 456; *Hume*, *Str. F.* ii. p. 294; *Hume and Dav.*, *Str. F.* vi. p. 459; *Murray*, *Vert. Zool. Sind*, p. 239; *Legge*, *B. Ceylon*, p. 816; *Oates*, *B. Br. Burm.* ii. p. 383. *Scolopax stenura* *Kuhl.*, *Bonap. Osserv. Sulla, sec. Ediz. Regn. Anim. Cuv. Monog. Scolopax*, p. 121.—The PIN-TAIL SNIPE.

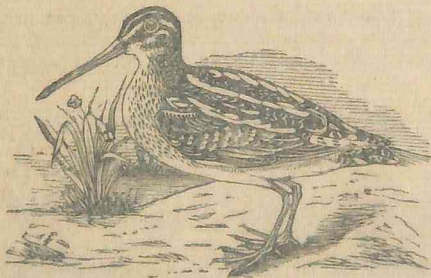
Crown dark brown or black, with a mesial longitudinal pale line; face white, divided by a dark line from the nostrils to the eye and extending to the ear coverts; there is also in some specimens a faint line from the ear coverts to in front of the neck on each side, but not meeting; chin and throat white; neck in front and behind pale fawn brown, barred, streaked or spotted with brown or dark brown; sides of the abdomen like the breast, and transversely barred; middle of abdomen white, barred in some specimens; upper back,

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scapulars and wing coverts brown, darker on the mantle and scapulars, the feathers of which are broadly edged with yellow and spotted and streaked with rusty; the scapulars, tertials and wing coverts barred with the same; lower back, rump and upper tail coverts rufescent brown, barred with dusky; under wing lining and axillaries white, distinctly and richly barred with blackish brown; tail basally dark brown, followed by a large oval rufous or rufous buff patch, and a narrow subterminal dark band, tipped pale rufous or the colour of the oval patch; primaries and their coverts, also the secondaries, pale brown or dusky, narrowly margined at the tip with white, both webs unicolorous.

Length.—9·75 to 10 inches; wing 4·8 to 5·4; tail 2 to 2·5; tarsus 1·12 to 1·25. Females are larger. Legs and feet plumbeous with a greenish tinge; irides deep brown; bill 2·2 to 2·6; gape and base of bill greenish; rest of bill pale horny, with a dusky tip for about one-third its terminal length. In the females the bills average from 2·45 to 2·7.

Hab.—Nearly throughout India, rare in the Punjab, N.-W. Provinces and Sind, also in Rajputana, Kutch and Kattiawar; fairly common in N. Guzerat, Central India and Khandeish. In Bombay, Concan generally, and the Deccan, as well in the Nizam's Provinces, it is plentiful, also in Lower Bengal, east and west of the Brahmapootra. It is recorded from Arracan, Pegu, Tenasserim, the Andamans and Nicobars, where it is most commonly met with. This snipe is a migrant; arrives in Sind about the middle of August, and leaves about the end of March or middle of April. Rice fields, mud swamps, and the vicinity of large rivers, jheels and tanks, where there are sedges and rushes, are the selected spots of the Pin-tail, at least in Sind.



1385. *Gallinago scolopacina*, Bonap., *Comp. list*, B. Eur. and N. Amer. p. 52; *Ferd.*, B. Ind. iii. p. 674, No. 871; Hume, *Nests and Eggs Ind. B.* p. 586; Hume and Dav., *Str. F.* vi. p. 459; Legge, B. Ceylon, p. 820; Murray, *Vert. Zool.*, Sind, p. 240. *Scolopax gallinago*, Linn., *Syst. Nat.* i. p. 244. *Scolopax celestis*, Frenzl., *Beschr. der Vogel und ihrer Eier in der*



Legend Von Wittenberg p. 58. *Gallinago gallinaria* (Gm.), *Cripps, Str. F.* vii. p. 302; *Hume, Str. F.* viii. p. 112; *Bingham, Str. F.* viii. p. 112. *Gallinago coelestis*, *Dresser, B. Eur.* vii. p. 641, pl.; *Hume and Marsh., Game Birds* iii. p. 359; *Oates, B. Br. Burmah*, p. 381.—THE COMMON SNIPE.

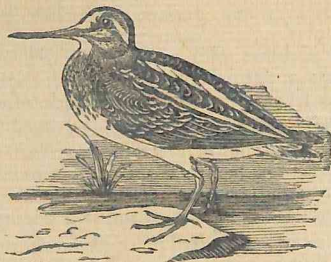
Crown of the head black, with a mesial longitudinal white, yellowish, or rusty white line; a superciliary on each side from the base of the upper mandible of the same colour, and a dark streak below it to the eye; sides of the head spotted with dusky grey, tinged ferruginous brown; chin and throat white, or nearly white; neck on the sides and in front yellowish white, spotted with brown; breast white, brown, pale yellowish or ferruginous on the upper part, and spotted with dusky; the sides greyish white, barred with dark brown; back and scapulars velvety black, the feathers broadly edged with yellow, and barred and spotted with chestnut brown; the yellow edges to the feathers forming four conspicuous lines on the back; upper tail coverts barred with alternate bars of dusky black and pale yellowish brown, somewhat rufescent; the under tail coverts pale yellowish fawn, also barred with dusky or dark brown; the middle of the abdomen is white, in some specimens tinged with pale buffy fawn; axillaries and flanks white, barred with dusky or dark brown, but not so broadly, close and numerous as in *Stenura*; under wing lining white, a few bars only on the edge of the wing; a white patch always conspicuous in the centre of the wing; greater and lesser wing coverts dusky or dark brown, barred with rufescent, and edged and tipped with pale white or cream colour; primaries dusky or dark brown, the first with its outer web white; secondaries dusky or dark brown, broadly tipped with white; the outer edges of their inner webs white, and treated with dusky; the inner webs of the primaries also whitish basally and mottled minutely with dusky; tertiaries rufescent, barred with dark brown; tail black at the base, with an oval patch of rusty orange or ferruginous, then a subterminal narrow band, and tipped with buffy or pale reddish yellow, in some specimens white; legs pale green; bill terminally for one-third or more of its length deep brown, the rest basally horny brown with a green and yellowish tinge; its length from gape, of males 2.39 to 2.7; at front 2.43 to 2.75; of females 2.62 to 3.0 at front, rather flat at the tip.

Length, Male.—9 to 11 inches; wing 4.9 to 5.5; tail 2.5 to 2.8. *Females* larger.

Hab.—Throughout India and Burmah as a winter visitant, also Persia, Beloochistan and Afghanistan. Arrives in Sind about the beginning of September and leaves in April, and with the Jack Snipe is tolerably abundant everywhere. It is a very vigilant bird, and in consequence difficult to shoot, especially in bogs and moist localities where rushes are present. In such retreats, three, four or half-a-dozen may be seen at a time, walking leisurely, with head erect, and constantly on the alert; and at the first note of alarm,

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they rise, and soon get out of gunshot. This species, it need hardly be mentioned, is held in much esteem for the table.



Gallinago gallinula. The Jud-Cock.

1286. *Gallinago gallinula* (Linn.), *Ferd.*, *B. Ind.* iii. p. 676; *Hume, Str. F.* iii. 182; *Blyth, B. Burm.* p. 157; *Dav. et Oust. Ois. Chine*, p. 479; *Dresser, B. Eur.* vii. p. 653; *Hume and Dav., Str. F.* vi. p. 459; *Cripps, Str. F.* vii. p. 302; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon* p. 828; *Hume and Marsh., Game Birds* iii. p. 373, pl.; *Hume, Str. F.* x. p. 239 (note); *Oates, B. Br. Burm.* ii. p. 384; *Murray, Vert. Zool., Sind*, p. 241. *Scolopax gallinula*, *Linn., Syst. Nat.* i. p. 244.—The JACK SNIFE or JUD-CKOCK.

Crown of the head with a mesial longitudinal black streak from the top of the upper mandible; on each side of this a yellowish or cream-coloured streak extending above the eye as a superciliary, and in some specimens separated from the orbital region by a dark streak; a dusky line from the gape to the eye, and another from below it curving downwards to the ear coverts; the space between the two streaks white or cream colour; chin and throat white, greyish, or pale brown; sides of the head greyish, greyish white, or brownish white, spotted with brown and pale red; neck behind and nape ferruginous or greyish brown, streaked or spotted with dusky; breast pale yellowish brown or dusky, spotted or dashed with darker brown; abdomen white; flanks dashed with brown and pale ferruginous; axillaries pure white, with faint, almost obsolete dusky markings; back and scapulars rich black, with bronze green and purple reflections, the feathers of the upper back and scapulars edged on their outer webs broadly with rich cream yellow, forming two conspicuous longitudinal bands along each side; lower back and rump glossy blue black (specimens in August very narrowly margined with albescent); primaries dusky, the basal half of the first paler, *not white*; inner primaries narrowly margined at the tip with albescent; secondaries dusky, broadly tipped with white; tertiaries dusky on their inner webs, spotted and

streaked with reddish or yellowish brown on their outer webs; tail dusky or dark brown, edged near the tips with pale ferruginous; under tail coverts white; legs and feet pale greenish; irides deep brown.

Length.—8.5 inches; bill dark brown at the tip, 1.6 to 1.8 inches in length at front; wing 4 to 4.6 inches; tail 1.8 to 2.2.

Hab.—Everywhere in India, and more plentiful than the common snipe, with which it is generally associated. In Sind small parties begin to arrive about the 26th August, or a few days earlier than the common snipe. It is a difficult bird to flush, seldom rising until nearly trampled upon. It prefers deep cover at all times, but I have often seen them on the oozy, semi-fluid mud of back waters, where there was not even a stubble for cover.

Gen. *Rhynchæa*.—*Cuv.*

Bill shorter than in *Gallinago*, curved downwards at the tip; wings rounded; tarsi long; tibia nearly entirely bare.

1287. *Rhynchæa capensis*, Linn., *Syst. Nat.* 1, p. 246. *Rhynchæa Bengalensis*, *Ferd., B. Ind.* ii. p. 677; *Hume, Nests and Eggs Ind. B.* p. 586; *Salvad., Ucc. Born.* p. 335; *Blyth, B. Burm.* p. 157; *Butler, Str. F.* iv. p. 15; v. p. 223; *Dav. et Oust. Ois. Chine.* p. 480; *Wardlaw-Ramsay, Ibis*, 1877, p. 469; *Hume and Dav., Str. F.* vi. p. 459; *Cripps, Str. F.* vii. p. 302; *Hume, Str. F.* viii. p. 112; *Legge, B. Ceylon* p. 800; *Bingham, Str. F.* ix. p. 197; *Hume and Marsh., Game Birds* iii. p. 381, pl.; *Oates, Str. F.* x. p. 239; *Murray, Vert. Zool., Sind*, p. 242; *Oates, B. Br. Burm.* ii. p. 386.—The PAINTED SNIPE.

Crown of the head with a broad mesial longitudinal line, bordered by dark brown, nearly black feathers, which form a line from the sides of the upper mandible to the nape, where it is broader than in front; a yellowish buff circle round the eye, and a line behind it; chin and throat whitish, the feathers with some faint dusky spots; neck in front and breast olive brown, the feathers with white spots and bars; the feathers on the lower part of the sides and middle of the breast nearly dark brown, forming a dark pectoral band, another similar band below this with a white interspace, but not meeting on the breast; hind neck olivaceous, finely marked with dark transverse striæ; mantle and scapulars dark brown, with dark margined buffy yellow and white bars; wing coverts and tertiaries pale olive, with black margined transverse bands or bars of rufous buff, broader and more conspicuous on the tertiaries; outer web of the first primary grey brown, the rest paler, and all with 5—6 buff or rufous buff ocelli; the interspaces between the basal three ocelli deep black, and between the terminal ones greyish brown; inner webs of primaries with white bars and dark wavy lines and marblings; secondaries ashy grey, ocellated with buff on their outer webs, the interspaces basally black, and terminally with dark brown wavy lines; their inner webs, like the



primaries, with white bars and wavy lines, and the tips margined with white, the patterns showing through paler on the under side of the wing; tail ashy grey, with buff ocelli on both webs, and tipped with buff; abdomen, vent and under tail coverts white. The female has the lores, sides of the face, upper breast and back of neck chestnut, the feathers edged whitish on the upper breast; back, scapulars and wing coverts, also the tertiaries, dark olive with narrow, close, black striæ, the outermost tertials white, otherwise as in the male. Bill reddish brown; irides deep brown; legs and feet greenish.

Length.—9 to 10 inches; wing 4·9 to 5·2; tail 1·5 to 1·8; bill at front 1·8 to 2 inches.

Hab.—Sind, Kutch, Kattiawar, Rajputana, Central India, Punjab, N.-W. Provinces, British Burmah and Ceylon. Breeds in Sind during May and June, and in nearly all localities where it occurs.

Gen. *Limicola*.—Koch.

Characters same as *Rhynchœa*; bill broad and depressed.

1288. *Limicola platyrhyncha* (Temm.), *Salvad.*, *Ucc. Born.* p. 322; *Dresser*, *B. Eur.* viii. p. 3, pl.; *Hume and Dav.*, *Str. F.* vi. p. 461; *Hume*, *Str. F.* viii. p. 113; *Legge*, *B. Ceylon*, p. 896; *Oates*, *Str. F.* x. p. 240; *id.*, *B. Br. Burm.* ii. p. 387; *Murray*, *Vert. Zool.*, *Sind*, p. 252. *Tringa platyrhyncha*, *Temm.*, *Man d'Orn.* p. 398; *Ferd.*, *B. Ind.* ii. p. 692, No. 886; *Blyth*, *B. Burm.* p. 156.—THE BROAD-BILLED SANDPIPER.

In winter, the crown of the head, back, scapulars and wing coverts are ashy brown, tinged with rufous; neck and cheeks white, spotted with brown; primaries and tail brown, the latter edged with pale reddish ashy; lower parts white; the flanks, breast and under tail coverts tinged with rufous. In summer dress the Broad-billed Sandpiper has the crown of the head brownish black, varied with greyish; the neck on the sides and in front greyish white, with black spots, and tinged with buffy; chin white, with a few dark spots; lower back black, with fulvous white or rufous margins to the feathers.

Length.—6·5 to 6·75 inches; wing 3·9 to 4·32; bill at front 1·27 to 1·37; tarsi 0·94; irides deep brown; legs and feet dusky black.

Hab.—The Indian Coast generally. Occurs commonly at Kurrachee and along the Mekran Coast, also at Kutch and in Bengal. Recorded from Arracan, also from Pegu, and Amherst in Tenasserim. Frequents sea-coasts and tidal rivers.

Sub-Family, TRINGINÆ.—STINTS, &c.

Bill rather long, flat and wide, keeled near the tip, somewhat flexible; nostrils in a groove, extending two-thirds the length of the bill; wings long; toes divided or narrowly webbed.

Gen. **Eurynorhynchus**.—*Nilsson*.

Bill much depressed, broad, flat, ridged in the centre at the base, and ending in a flat somewhat obcordate, expanded tip, which terminates in a deflected point; nostrils basal; toes cleft, with a small web between the outer and middle toes. (*Ferd.*)

1289. Eurynorhynchus pygmæus (*Linn.*), *Harting, Ibis*, 1869, p. 427, pl. xii.; *Blyth, B. Burm.* p. 156; *Dav. et Oust. Ois. Chine*, p. 474; *Hume and Dav., Str. F.* vi. p. 463; *Hume, Str. F.* viii. p. 113; *Oates, B. Br. Burm.* ii. p. 395. *Platalea pygmæa, Linn., Syst. Nat.* i. p. 231. *Eurynorhynchus griseus* (*Nilss.*), *Temm., Man d'Orn.* ii. p. 594; *Ferd., B. Ind.* iii. p. 693, No. 887.—The SPOON-BILLED STINT.

In summer the head and upper parts are ferruginous, the feathers with dark brown centres; breast ferruginous; throat and breast margined with white; under surface of the body from below the breast becoming whiter towards the tail; primaries dark brown; legs and feet black; bill black; irides deep brown.

Length.—6·5 to 6·7 inches; wing 4·1; tail 1·7; tarsus 0·8; bill from gape 1.

In winter plumage the forehead, crown and hind neck, white; back and scapulars are hair brown, each feather with a darker shaft streak; lores ashy white; cheeks, ear coverts and sides of the neck whitish, streaked with brown; rump and upper tail coverts dusky brown, the feathers edged paler; tail brown, the inner webs of all the feathers except the central pair white; shafts of the lateral feathers whitish; lesser wing coverts uniform hair brown; median and greater coverts dark brown, broadly edged with white; quills dark brown, with white shafts; under surface of the body, including the axillaries and under wing coverts, white; the sides of the breast streaked with brown.

Length.—6·5 inches; wing 3·7; tail 1·5.

Hab.—Arracan, Pegu, Tenasserim, and the mouth of the Ganges, usually found in the company of other Stints.

Gen. **Tringa**.—*Linn.*

Toes edged by membrane; wings with the first quill longest; bill straight or slightly bent and obtuse at the extremity.

1290. Tringa minuta, *Leisl. Nacht., zu Bechst. Naturg. Deutsch i.* p. 74; *Ferd., B. Ind.* ii. p. 690, No. 884; *Dresser, B. Eur.* viii. p. 29, pl.; *Hume, Str. F.* i. p. 242; *Legge, Str. F. i.* p. 491; *id., B. Ceylon*, p. 884; *Murray, Vert. Zool., Sind*, p. 257; *Oates, B. Br. Burm.* ii. p. 389.—The LITTLE STINT.

In winter the upper parts are ashy or pale earthy brown, the feathers of the back, scapulars, tertials and lesser and median wing coverts mesially dusky or dark brown, and in some very narrowly edged with whitish. There is a

dark spot in front of the eye, and a pale white supercilium; the chin, throat, centre of the breast and rest of the under surface, including the vent, axillaries and under tail coverts, are white; sides of the breast ashy brown; primaries mostly white shafted, dusky brown, slightly paler on their inner webs; secondaries white, basally and also narrowly tipped with white; greater wing coverts tipped with white, forming a conspicuous wing band; rump, upper tail coverts and two central tail feathers dusky or dark brown; lateral tail feathers pale ashy.

Length.—6·6 inches; expanse 13·1; tail 2·3; tarsus 0·9; wing 3·8; bill at front 0·6; irides deep brown; legs black.

Hab.—Nearly throughout Europe and India, also Java, Formosa, Australia and China. In Sind, along the coast; also in the Kurrachee harbour; inland on the large pieces of water and on the Munchur Lake, this Little Stint is extremely common, also on the Mekran Coast, the Punjab, N.-W. Provinces, Oudh, Bengal, Burmah, and Ceylon. Occurs in Persia, Beloochistan (Quetta), Afghanistan, and in fact has a very wide distribution. In the Concan, Deccan and Southern India generally it is equally abundant.

1291. *Tringa subminuta*, Midd., Sib. Reise. Vog. p. 222. Taf., xix. p. 6; Legge, B. Ceylon, p. 889; Oates, B. Br. Burm. ii. p. 391. *Tringa damacensis* (Horsf.), apud Hume, Str. F. i. p. 243. *Tringa salina* (Pall.), apud Legge, Str. F. i. p. 491; Dresser, B. Eur. viii. p. 33; Blyth and Wald., B. Burm., p. 156. *Tringa ruficollis* (Pall.), apud. Wald. Trans. Zool. Soc. ix. p. 234; Hume, Str. F. viii. p. 113; Oates, Str. F. x. p. 240.—The LONG-TOED STINT.

Summer Plumage.—Forehead, top of head and nape dark brown, each feather with an edging of rich rufous on the terminal half; lores, cheek and ear coverts the same; an albescent patch in front of the eye above the lores; upper part of the throat pure white; lower throat streaked with small marks of pale rufous brown; sides of throat, neck, upper breast and sides of body pale rufous brown, each feather with a central dark brown streak; lower breast, abdomen and vent pure white; under tail coverts white, each feather with a long, narrow central brown streak; thighs rufescent; upper neck mixed brown and pale rufous; whole upper plumage, including the scapulars and tertiaries, rich blackish brown, each feather broadly tipped with bright rufous; rump and upper tail coverts glossy black, few of the feathers of the latter obsoletely tipped white; centre tail feathers black, edged with rufous, the others pale brown, tipped and margined internally with white; axillaries white, a little brown at their bases; under wing coverts pale brown, edged with white; shaft of first quill sordid whitish brown, those of the others dark hair brown; primaries and secondaries dark brown, all tipped with white except the first six primaries; all the primaries except the first three with a median narrow margin of white on the outer web; upper coverts brown, all



more or less tipped and margined with dull white. In winter it resembles *T. minuta* in general appearance, but the upper plumage is darker; the forehead and face where white in *T. minuta* are streaked with brown in *T. subminuta*; the greater wing coverts and secondaries are very narrowly tipped with white, and the sides of the neck and the chest are thickly marked with brown streaks. Iris brown; bill olive-brown; legs and toes pale brown; claws nearly black.

Length.—6·2 inches; tail 1·4; wing 3·7; tarsus 0·8; middle toe and claw nearly an inch; bill from gape 7·5. The female is of the same size. This Stint may be recognized by the great length of its toes, the middle one, including its claw, measuring frequently little short of an inch in length. It resembles *T. minuta* in having the outer tail feathers brown, but differs in having the shafts of all the primaries brown, except that of the first quill, which is dull white. From *T. Temmincki* it may be separated by the colour of its outer tail feathers as well as by its long toes. (*Oales*.)

Hab.—Arracan, Pegu and Tenasserim. Found also seasonally in N.-E. Siberia through China and Mongolia to Burmah, extending on the west to Bengal, the Eastern Coast of India and Ceylon, and ranging southwards to the Malay Peninsula, Java, Borneo, Celebes, and the Phillipines.

1292. *Tringa Temmincki*. *Leisler, Nacht. 'zu Bechst. Naturg. Deutsch.* i. p. 63; *Jerd., B. Ind.* iii. p. 691; *Dresser, B. Eur.* viii. p. 45, pl.; *Hume, Str. F.* i. p. 244; iii. p. 183; *Blyth, B. Burm.* p. 156; *David et Oust. Ois. Chine*, p. 43; *Hume and Dav., Str. F.* vi. p. 461; *Hume, Str. F.* viii. p. 113; *Legge, B. Ceylon*, p. 892; *Murray, Vert. Zool., Sind*, p. 251; *Oales, B. Br. Burm.* ii. p. 392.—*TEMMINCK'S*, or the WHITE-TAILED STINT.

Upper parts as in *minuta*; chin, throat and supercilia white; a dark spot in front of the eye; breast and lower neck ashy brown; belly, vent and under tail coverts white; four central tail feathers dusky brown, the rest white; legs pale horny green, or greenish olive.

Length.—6 to 6·25; inches; wing 3·8; bill at front 0·7; irides deep brown.

Hab.—As the last and associated with it everywhere.

1293. *Tringa crassirostris*. *Temm. et Schleg., Faun. Jap., Aves*, p. 107, pl. lxiv.; *Hume, Str. F.* i. p. 240; *Salvad., Ucc. Born.* p. 325; *Wald., Ibis*, 1874, p. 147; *Armstrong, Str. F.* iv. p. 341; *David et Oust. Ois. Chine*, p. 468; *Hume, Str. F.* viii. p. 113; *Murray, Vert. Zool. Sind*, p. 249; *Oates, Str. F.* x. p. 240; *id., B. Br. Burm.* ii. p. 393.—*THE THICK-BILLED STINT*.

The following is Mr. Hume's description of the species.

"In the winter plumage the upper surface reminds one not a little of that of *Totanus stagnatilis*. The whole lower parts are white, but the base of the neck in front and the sides are marked with numerous small brown striae, and



the upper breast, besides having more or less of these striations, is mottled with larger pale brown spots, here and there interspersed with conspicuous heart-shaped blackish brown spots, which are the first traces of the coming summer plumage. Lores, top, back and sides of the head and neck very pale greyish brown, all the feathers narrowly streaked along the shaft with dark brown; the upper back and whole mantle is a mixture of pale brown and ashy, most of the feathers with blackish shafts, more or less darkly centred, and all conspicuously, though narrowly, margined and tipped with white. Lower back and rump brown, the feathers narrowly and regularly margined with white; upper tail coverts similar, but the white margins much broader, and the brown more or less obsolete on many of them. Tail feathers greyish brown, greyer and somewhat darker on the central ones, and paler and browner on the external ones; all are excessively, narrowly, in fact almost obsoletely, bordered with white. The primaries and their greater coverts are hair brown, most of the latter tipped white; the secondaries and their greater coverts are a pale, somewhat greyish brown, all of them narrowly, but the coverts less narrowly of the two, margined with white. The wing lining, except just at the margin of the wing, which is mottled with brown, pure white; the axillaries white with traces of irregular, wavy pale brown bars. There are a few elongated triangular pale brown dashes on the flanks, and in some specimens one or two larger blackish brown spots pertaining to the summer plumage."

According to Schlegel, the summer plumage is as follows:—

"Feathers of the head and neck each with a large dark brown longitudinal streak or spot on an albescent ground, which is tinged with brownish rufous on the nape. Feathers of the breast and nape brownish black, each with a whitish transverse band, often tinged with brownish red towards the middle. The rest of the lower parts and the rump pure white, spotted, except towards the middle of the abdomen, with broader or narrower dark spots. Back and wings brownish black, lighter on the wing coverts; all the feathers spotted and bordered with a bright brownish rufous, gradually disappearing towards the edge of the wing. Lower wing coverts white, becoming black at the base.

"Bill black, sometimes paler at the base of lower mandible; legs and feet dusky, greenish dusky, yellowish plumbeous or pale plumbeous, according, I suppose, to age or seasonal progress.

"Length.—11·35 to 12 inches; expanse 23·5 to 24; tail from vent 2·7 to 2·8; wing 7·1 to 7·3; bill at front 1·6 to 1·85; tarsus 1·4 to 1·55; wings when closed reach from 0·3 to 0·4 beyond end of tail."

Hab.—Kurrachee (Sind) and the Beloochistan Coast. Common during winter in the Kurrachee harbour and along the Mekran Coast. In Arracan and the delta of the Irrawaddy, as well at the Andamans. Recorded also from Australia and Java.



1294. *Tringa subarquata*, Gould, Nov. Comm. Petrop. xix. p. 471, t. xviii.; *Ferd.*, *B. Ind.* ii. p. 689; *Blyth*, *B. Burm.*, p. 156; *Dresser*, *B. Eur.* viii. p. 59; *Hume and Dav.*, *Str. F.* vi. p. 460; *Legge*, *B. Ceylon*, p. 879; *Oates*, *Str. F.* x. p. 240. *Pelidna subarquata*, *Oates*, *B. Br. Burm.* ii. p. 394; *Salvad.*, *Ucc. Born.* p. 322.—The CURLEW STINT.

Winter Plumage.—Bill curved downwards. Head, on the crown and sides, back of the neck and nape light greyish brown, streaked with darker brown and dusky black, with an olivaceous gloss; face and supercilia white, and a dark streak from the gape to the eye; sides of the neck and in front greyish, streaked with brown; breast the same; abdomen and upper and lower tail coverts white; back, scapulars and wing coverts ashy brown, the shafts darker; tail ashy grey, edged with white; primaries dusky brown, also the secondaries, which are tipped with white; axillaries white; lesser coverts grey, the shafts darker. Bill black; irides brown; legs dusky grey.

Length.—8 to 10 inches; wing 5; tail 1.75; bill at front 1.6. In summer plumage the forehead is whitish, mixed with pale reddish brown; supercilia pale yellowish white; chin white; head, neck and nape ferruginous with dark margins; throat, breast and upper abdomen chestnut; in a specimen obtained on 20th May the feathers are all narrowly edged with white; back, scapulars and tertiaries black; also the lesser coverts, the feathers edged with chestnut.

Hab.—India generally, and Ceylon, also Beloochistan, Persia and Afghanistan. Recorded from Cashmere and Egypt, also from Australia and Java. Common also in the low tidal portions of the plains between the Pegu and Sittang rivers and in the Irrawady delta. Recorded also from Arracan and the Tenasserim Coast. Found commonly along the Sind and Mekran Coasts and on the large dhunds, not far inland. It occurs in Kutch and Kattiawar and on the Bombay Coast in some numbers, also in the Kurrachee harbour.

1295. *Tringa cinclus*, Linn., *Syst. Nat.* p. 246; *Bodd.*, *Tab. Pl. Enl.* 852; *Gould*, *B. Eur.* pl. 329; *Ferd.*, *B. Ind.* iii. 690; *Str. F.* i. p. 242; *Dresser*, *B. Eur.* viii. p. 86, pl.; *Murray*, *Hdbk.*, *Zool.*, &c., *Sind*, p. 220; *id.*, *Vert. Zool. Sind*, p. 247. *Tringa alpina*, *L.*—The DUNLIN.

Crown of the head, lores and cheeks ashy brown; a pale white supercilium from the base of the bill over each eye; back and scapulars pale ashy brown, the feathers dark shafted and edged paler; lesser and median coverts brown, edged paler, tipped with whitish; throat, breast, belly, vent and under tail coverts pure white, the breast with a few brown streaks; tail with the two central feathers dusky or deep brown, the rest ashy and edged whitish.

Length.—6.5 to 7.5 inches; wing 4.5; tail 1.87; bill at front 1.25, black; legs greenish dusky; irides brown.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Guzerat, Kutch and Kattiawar Coast. A winter visitant, arriving about the middle of September.

In the Kurrachee harbour the Dunlin is simply numerous, also on the Mekran Coast, where they may be seen running nimbly near the edges of the sea or skimming along near the surface in fairly large flocks.

Gen. **Machetes**—*Cur.*

Bill straight; first and second quills of wing longest; outer toe united as far as the first joint; hind toe short and elevated.

1296. Machetes pugnax (Linn.), *Dresser, B. Eur.* viii. p. 87, pl.; *Hume and Dav., Str. F.* vi. p. 460; *Hume, Str. F.* viii. p. 112; *Scully, Str. F.* viii. p. 357; *Legge, B. Ceylon* p. 873; *Oates, Str. F.* x. p. 240. *Tringa pugnax*, Linn., *Syst. Nat.* i. p. 247. *Philomachus pugnax*, *Ferd., B. Ind.* ii. p. 687; *Murray, Vert. Zool., Sind*, p. 248.—The Ruff.

In winter the plumage of these birds is very variable, the upper parts are from pale earthy to rich brown, the feathers with black or dark brown central spots and fulvous edges; the head, nape and neck behind paler; chin and throat white; neck in front and breast pale earthy or grey brown, the feathers margined at the tip with white; abdomen, vent and under tail coverts white; primaries dark brown; secondaries paler, edged and margined at the tip with white; greater coverts tipped white, forming a wing band; the lesser and median ones black, edged with rufous or reddish brown, also the greater coverts in some stages. The plumage is so variable, that out of 50 skins or more, no two birds would be found alike. During summer or in their breeding plumage the males acquire a ruff, which is very variously coloured and stands erect behind the head, the face is covered with reddish tubercles and the upper parts and breast marked with transverse bars. Bill dusky; irides brown; legs fleshy yellow.

Length.—12 to 12·5, inches; wing 7·25; tail 2·5; bill at front 1·3; tarsus 2.

Hab.—Throughout India and Ceylon, and in great numbers during winter. Occurs also in Beloochistan, Persia and Afghanistan. Breeds in Europe. During spring on their return to the breeding grounds, generally the fens, they become very pugnacious, the females being "*causa terrima belli.*" Being polygamous, the Ruffs, on hearing the cry of a female or seeing one, immediately rouses itself, and begins a fight with others; their combats are described as being both desperate and long; at the end of the fight the female, it is said, becomes the mate or prize of the victor. Buffon says—"They not only contend with each other in a single rencounter, but they advance to combat in marshalled ranks." "Their actions in fighting," according to Selby, "are very similar to those of a game cock, with the head lowered, and the beak held in a horizontal position; the ruff and every feather distended, the former sweeping the ground as a shield;" and he adds "that in such feuds their contests are often attended by fatal consequences."

Gen. **Calidris**.—*Cuv.*

Hind toe wanting, otherwise as in *Tringa*.

1297. *Calidris arenaria* (Linn.), *Ferd.*, *B. Ind.* iii. p. 694; *Hume*, *Str. F.* i. p. 244; *Salvad.*, *Ucc. Born.* p. 322; *Armstrong*, *Str. F.* iv. p. 343; *Hume*, *Str. F.* iv. p. 465; *Dresser*, *B. Eur.* viii. p. 101, pl.; *Hume*, *Str. F.* viii. p. 113; *Legge*, *B. Ceylon*, p. 1220; *Oates*, *Str. F.* x. p. 240; *Murray*, *Vert. Zool., Sind.*, p. 252; *Oates*, *B. Br. Burm.* ii. p. 398.—The SANDERLING.

In winter the forehead, lores, cheeks, chin, throat, breast, neck in front, belly, thighs, vent and under tail coverts white; crown of the head, sides of the neck and breast, back and scapulars cinereous or ashy brown, the feathers with dark shafts; shoulders and edge of the wing dark brown; median and greater coverts like the back, dark shafted and tipped white; primaries dark brown, all white shafted; their inner webs ashy, and the four middle ones white on their outer webs, forming in the closed wing a wedge-shaped spot; secondaries brown or dusky, tipped with white; rump and upper tail coverts brown, edged with white; tail brownish ash, edged with white, the two central feathers darker than the rest; bill black, 0·93 to 1 inch in length.

Length.—7·5; wing 4·75; tail 2; tarsus 0·92; irides deep brown; legs black.

Hab.—Kurrachee (Sind), Beloochistan Coast, Persia, Ceylon, Kutch, Guzerat, Concan and South India, also the Laccadives, the West Coast, and the Irrawaddy delta. In the Kurrachee harbour extremely abundant, associated with the Stints on the sea-shore.

Sub-Family PHALAROPINÆ.

Bill straight, curved at the tip; tarsi short; toes lobed on the sides, united at the base; hind toe edged with narrow membrane.

Gen. **Phalaropus**.—*Briss.*

Bill long; 1st and 2nd quills of wing longest.

1298. *Phalaropus hyperboreus* (Linn.), *Edw. B.* pl. 143; *Bodd.*, *Tab. P. E.* 766; *Gould*, *B. Eur.* pl. 336; *Ferd.*, *B. Ind.* iii. p. 696; *Str. F.* i. 246; ii. 338; v. 290; vii. 487; *Murray*, *Hdbk., Zool., &c., Sind.*, p. 221; *id.*, *Vert. Zool., Sind.*, p. 253.—The LESSER COOT-FOOTED STINT or the RED-NECKED PHALAROPE.

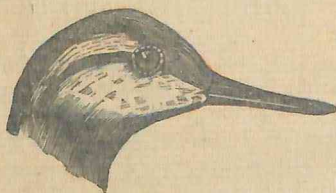
Crown, back of neck and nape dark lead or slaty; in winter the forehead is white, tinged with grey; the streak over the eye, and the crown and nape are blackish grey; the neck on the sides is fine yellowish red, which in winter wears away into white, with sometimes a tinge of purple; in front dark grey

with a white edging ; chin white ; throat fine yellowish red, and in winter white, with a slight tinge of pink ; breast white, with some streaks below on the sides of a pale ash colour, and in winter with a faint blush of purple red ; back dark or blackish lead colour, the feathers with a margin of ash grey and brownish yellow ; greater wing coverts dark lead colour, tipped with white, forming a distinct bar across the wing in winter ; lesser wing coverts dark lead colour ; primaries very dark brown, black in winter ; secondaries margined with reddish yellow on the outer web, which in the winter plumage is white ; tail brownish grey margined with white, the two middle feathers darkest, nearly black ; under tail coverts white ; legs and toes dusky greenish grey ; claws black ; lores dusky greenish.

Length.—7·25 ; *wing* 4·25 ; *expanse* 14·0 ; *tail* 2·19 ; *bill at front* 0·81.

Hab.—Kurrachee, Mekran Coast and Persian Gulf, also Afghanistan. On the Continent of Europe it occurs in France, Holland, Germany, Italy and Sweden.

1299. *Phalaropus fulicarius*, Linn., *Syst. Nat.* 1. p. 737 ; *Jerd.*, *B. Ind.* iii. p. 695 ; *Str. F.* i. p. 245 ; vii. p. 487.—The COOT-FOOTED STINT.



Head of *Phalaropus fulicarius*.

Winter Plumage.—Forehead and crown white ; occiput, ear coverts, and a streak from the nape of the neck, dusky grey ; back, scapulars and rump bluish ashy, the shafts of the feathers dusky ; wing coverts tipped with white, forming two bars across the wing ; tail dusky grey, the feathers edged with cinereous ; throat, sides of the neck, middle of breast and all the under parts white ; the sides of the breast ashy ; a black patch under the eye. Bill yellowish red at base, dusky brown at tip ; irides reddish yellow ; legs greenish grey.

Length.—8·5 inches ; *wing* 5 ; *tail* 2·5 ; *bill at front* 0·8 ; *tarsus* 0·8.

In Summer the crown of the head and throat are black, the sides of the head white, a black streak behind the eye, neck, breast and belly, also the vent, ferruginous, with vinous reflections ; back dusky, with reddish yellow webs ; lesser wing coverts dark ash, slightly edged with white ; greater coverts the



same, broadly tipped with white, forming an oblique double bar across the wing; tertiaries black, with pale edges; primaries and tip of tail black; legs and toes dingy yellow.

Hab.—Europe and Asia. In India only found as yet in Bengal along the coast.

Sub-Family, TOTANINÆ.—SAND-PIPERS.

Bill grooved as far as, or beyond, the middle, moderately long, the tip hard and pointed; nostrils narrow; hind toe long and slender, barely reaching the the ground.

Gen. *Actitis*.—III.

Groove of the bill extending quite to the tip; 1st quill of wing longest.

1300. *Actitis hypoleucos* (Linn.), *Ferd.*, *B. Ind.* iii. p. 699, No. 893; *Blyth*, *B. Burm.* p. 155; *Murray*, *Vert. Zool.*, *Sind*, p. 253. *Tringa hypoleucos*, *Linn.*, *Syst. Nat.* i. p. 250. *Tringoides hypoleucos*, *Hume*, *Nests and Eggs Ind. B.* p. 588; *id.*, *Str. F.* ii. p. 299; iii. p. 183; *Salvad.*, *Ucc. Born.* p. 326; *Hume*, *Str. F.* viii. p. 113; *Legge*, *B. Ceylon*, p. 867; *Oates*, *Str. F.* x. p. 241. *Totanus hypoleucos*, *Dresser*, *B. Eur.* viii. p. 127; *Bingham*, *Str. F.* ix. p. 197.—The COMMON SAND-PIPER.

Forehead, crown, nape and back of the head ashy brown, streaked with dark narrow lines; supercilium white, also the orbital ring, chin and throat; sides of the face pale ashy with brown streaks; middle of the breast white, the sides mottled or streaked with brown, or entirely brown; back, scapulars, tertiaries and lesser wing coverts ashy brown, glossed with green, and with fine transverse dark lines; greater wing coverts ashy brown, tipped with white, which with the white bases of the secondaries form a conspicuous wing band; primaries and their coverts dark brown, the latter tipped with white, and all, except the first primary, and sometimes the second also, with a large white spot on their inner webs; lower back, rump and upper tail coverts ashy brown, with dark transverse bars; four central feathers of the tail like the back, the rest tipped with white and with dark spots along their edges; beneath white. Bill dusky; irides brown; legs pale green.

Length.—7 to 8 inches; wing 4·5; tail 2·4; tarsus 0·97 to 1; bill 0·97.

Hab.—Less common than the two preceding; affects the sea coast as well as lakes, &c., inland. Occurs throughout India, Burmah, Malacca, Ceylon, &c.; also Beloochistan, Persia and Afghanistan.

1301. *Actitis ochropus* (Linn.), *Ferd.*, *B. Ind.* iii. p. 698, No. 892; *Blyth*, *B. Burm.* p. 155; *Murray*, *Vert. Zool.*, *Sind*, p. 254. *Tringa ochropus*, *Linn.*, *Syst. Nat.* i. p. 250. *Totanus ochropus*, *Hume*, *Str. F.* iii. p. 183; *Dresser*, *B. Eur.* viii. p. 135, pl.; *David et Oust.* *Ois. Chine*, p. 465; *Hume and Dav.*, *Str. F.* vi. p. 462; *Legge*, *B. Ceylon* p. 862. *Helodromas*



ochropus, *List.*, *Br. B. Brit. Orn. Union.*; *Oates, B. Br. Burm.* ii. p. 400.—The GREEN SAND-PIPER.

In winter plumage the forehead, crown, nape and back of the neck are deep or dusky brown, the feathers streaked with white; a dark streak from the base of the bill to the eye and a white one above it; chin and throat white; back and scapulars olive brown, or brown glossed with greenish, each feather edged with small roundish spots, the spots on the scapulars distinctly margined behind with deep brown; primaries and their coverts and secondaries deep brown, none of them white-shafted; wing coverts dusky brown; *axillaries dusky or dark brown, with narrow oblique white bars*; abdomen, vent and upper and under tail coverts white; tail white, broadly barred with deep brown, the middle feathers having four bars, and those next to them decreasing in number, the outer feathers on each side being pure white with sometimes a dusky subterminal spot on the outer web; legs and feet greenish grey; bill black; irides brown.

Length.—9·5 to 10 inches; wing 5·5 to 6; tail 3; bill 1·37; tarsus nearly 1·5.

Hab.—Throughout India, Ceylon, Beloochistan, Persia and Afghanistan, frequenting the banks of rivers, edges of lakes and large sheets of water; a winter visitant, seldom seen along the sea coast. Occurs throughout Europe, Asia and Africa, extending to Burmah and the Malay Peninsula.

Gen. *Totanus*.—*Bech.*

Bill slightly curved at tip, groove half the length of the bill; tarsi with narrow scales in front, otherwise as in *Actitis*.

1302. *Totanus glareola* (Gm.), *Salvad., Ucc. Born.* p. 327; *Hume, Str. F.* iii. p. 183; *Dresser, B. Eur.* viii. p. 143, pl.; *Legge, B. Ceylon* p. 857. *Tringa glareola*, Gm., *Syst. Nat.* i. p. 677. *Actitis glareola*, *Ferd., B. Ind.* iii. p. 697; *Blyth, B. Burm.* p. 155. *Rhyacophila glareola*, *Hume and Dav., Str. F.* vi. p. 462; *Hume, Str. F.* vii. p. 488; viii. p. 113; *Oates, Str. F.* x. p. 240.—The WOOD SAND-PIPER.

Winter Plumage.—Crown of the head, forehead, nape and back of the neck dusky brown, the feathers with narrow white or greyish edgings; a dark streak from the base of the bill to the eye, and a white one above it; chin and throat rather sullied; foreneck and breast the same, but suffused with ashy brown, darker on the sides, where the feathers are indistinctly dark shafted; back, scapulars and tertials dusky, the feathers edged with white or greyish white spots; *axillaries* white, with transverse oblique dusky brown spots; primaries, secondaries and their coverts dusky brown, the shaft of the first quill and the tips of the later inner ones white; the greater wing coverts margined and tipped with white; rump, upper and lower tail coverts and abdomen white; tail with the central feathers longest and barred with black and white alternately,



the barrings oblique, the rest less broadly barred and decreasing on the outer ones to dusky markings on the outer webs only; legs pale olive green; irides deep brown.

Length.—8·5 to 9 inches; wing 5; tail 2; bill at front 1·2; tarsus 1·5.

Hab.—Common nearly throughout India and Ceylon, also in Beloochistan, Persian Gulf, and Afghanistan during winter.

1303. *Totanus canescens* (Gmel.), Dresser, B. Eur. viii. p. 173, pl.; Hume, Str. F. i. p. 247; iii. p. 183; Armstrong, Str. F. iv. p. 344; Oates, B. Br. Burm. ii. p. 402. *Scolopax totanus*, Linn., Syst. Nat. i. p. 245. *Scolopax canescens*, Gmel., Syst. Nat. i. p. 668. *Totanus glottis* (Linn.), Jerd., B. Ind. iii. p. 700; Blyth, B. Burm. p. 155; Legge, B. Ceylon, p. 840; Murray, Vert. Zool. Sind, p. 255.—The GREEN SHANKS.

In winter the forehead, except a few brown streaks in the middle, sides of the face, chin, throat, neck in front, and entire lower parts, including the under tail coverts, are white, also the lower back, rump and upper tail coverts; a dark streak from the base of the bill to the eye; crown of the head, sides of the neck and nape dusky, the feathers streaked whitish or greyish white; sides of the breast white, mottled with ashy brown; upper back and scapulars brown, the feathers edged whitish; scapulars distinctly dark shafted, also the tertiaries; primaries dark brown, the shaft of the first quill white, and the edges and tips of the inner ones also white; secondaries ashy brown, tipped white; tail white with narrow transverse dark bars, the outer ones nearly pure white; bill slightly curved upwards, dusky greenish, 2·2 in length; irides brown.

Length.—14 to 14·5 inches; wing 2·2; tail 3·75; tarsus 2·75.

Hab.—India generally during winter, also Burmah and Ceylon, along the sea coast, lakes, rivers, &c. Widely distributed. Recorded from N.-E. Europe, Red Sea, Africa and Australia. Like all the *Totaninae* it is excellent eating.

1304. *Totanus stagnatilis*, Bechst., Orn. Taschenb. ii. p. 292; Jerd., B. Ind. iii. p. 701; Dresser, B. Eur. viii. p. 151, pl.; Blyth, B. Burm. p. 155; Hume, Str. F. viii. p. 113; Murray, Vert. Zool. Sind, p. 255; Legge, B. Ceylon p. 844; Oates, B. Br. Burm. ii. p. 403.—The LITTLE GREEN SHANK.

In winter the plumage of the upper parts are the same as *Totanus glottis*; shoulder of the wing black; entire under parts white; sides of the breast not so much spotted or streaked with dark brown; bill not curved upwards as in *glottis*; tail banded white and dusky.



Length.—10·5 inches; wing 5·25; tail 2; bill 1·62; tarsus 2·25; legs pale green; irides brown.

Hab.—The same as *glottis* and usually associated with it.

1305. *Totanus calidris* (Linn.). *Ferdon, B. Ind.* ii. p. 702; *Hume, Str. F.* i. p. 248; ii. p. 299; *Blyth, B. Burm.* p. 155; *Dresser, B. Eur.* viii. p. 157, pl.; *Hume, Str. F.* viii. p. 113; *Legge, B. Ceylon* p. 852; *Murray, Vert. Zool. Sind,* p. 256; *Oates, B. Br. Burm.* ii. p. 404. *Scolopax calidris, Linn., Syst. Nat.* i. p. 245.—The RED SHANK.

Winter Plumage.—Forehead, crown, nape, back of the neck, upper back and scapulars cinereous or glossy olive brown, the feathers on the back and scapulars dark shafted; supercilium and orbital ring white; chin and throat white; sides of the face greyish white, with narrow brown streaks; neck in front and breast greyish white, with dusky or greyish brown linear markings; primaries dusky, their inner webs white; the first quill white shafted, and some of the inner ones white tipped; secondaries white; tertials like the back; wing coverts olive brown, the greater ones tipped with white; axillaries, under wing coverts, abdomen, vent and under tail coverts white; lower back white; upper tail coverts and tail white, barred with dusky.

Length.—11·5 inches; tail 2·7; wing 6·45; bill at front 1·7 to 1·9, reddish at the base, its terminal half dark brown; tarsus 2; irides brown; legs red.

Hab.—India generally and Ceylon during winter. Sind, Persia, Beloochistan and Afghanistan, Southern and Western India, N.-W. Provinces, Oudh, and Burmah generally. Breeds in the North of Europe.

1303. *Totanus fuscus* (Linn.). *Ferd., B. Ind.* iii. p. 702, No. 896; *Hume, Str. F.* i. p. 248; *Dresser, B. Eur.* viii. p. 165, pl.; *Cockburn, Str. F.* iv. p. 509; *Hume, Str. F.* viii. p. 113; *Legge, B. Ceylon* p. 848; *Murray, Vert. Zool. Sind,* pp. 255, 256.—The SPOTTED RED SHANK.

In winter the forehead, crown, nape, back of neck and upper back ashy grey, finely streaked with dusky; supercilium white, and a dusky streak from the base of the bill to the eye; chin and throat white, sides of face white with some fine dusky streaks; breast and under parts mottled and barred with dingy ash brown and dull fulvous, or greyish white; upper back, scapulars, shoulder of wing and lesser coverts a glossy olive brown, darker on the upper back and tertiaries, all the feathers spotted on the edges with white; the wing coverts also tipped with white; lower back white; rump barred with undulating lines of ashy brown and white; tail also barred the same; primaries dark brown, the inner ones pale brown, tipped and mottled with white; secondaries barred white and pale brown; legs deep orange red; bill blackish, orange at the base beneath.

Length.—13 inches; wing 6·75; tail 2·5; tarsus 2·8; bill 2·4.



Hab.—Throughout India during winter, also the Province of Burmah and Ceylon; usually solitary or in very small parties. It is a sea shore bird, but is also found on the edges of rivers, lakes, mud banks, &c. It is said to swim well, and also to dive when in danger.

1307. *Totanus Haughtoni*, Str. F. iv. p. 344; Hume and Dav., Str. F. vi. p. 463; Harting, Ibis, 1883, p. 133, pl.; Oates, B. Br. Burm. ii. p. 466. *Pseudototanus Haughtoni*, Hume, Str. F. vii. p. 113; Hume and Marsh., Game Birds iii. p. 404 pl.; Oates, Str. F. x. p. 241.—ARMSTRONG'S YELLOW SHANK.

In winter plumage, resembles generally *Totanus canescens*, but has a much broader and more massive bill, a much stronger tarsus (male 1·85; female 1·65), and the webs between the three anterior toes very much more developed. It differs from *T. canescens* in its smaller size, more robust bill, with the lateral groove slightly more prolonged in proportion to the length of the bill, and in having a palmation on both sides of the middle toe instead of on one side only; the tail does not extend beyond the end of the closed primaries. (*Hume and Harting.*)

Hab.—Sea coast near Elephant Point and at Amherst in Tenasserim. One was seen in the Calcutta market.

1308. *Totanus dubius*, Murray, Vert. Zool. Sind, p. 256.—THE ALLIED YELLOW SHANK.

Female.—Frontal zone greyish white, the feathers with mesial narrow brown streaks; crown of the head cinereous, the feathers edged with greyish white; an indistinct dusky spot between the base of the bill and the eye, and a white supercilium; chin and throat white; neck in front and on the sides greyish white, the feathers with narrow mesial dusky streaks; back of the neck ashy grey, also with mesial narrow dusky streaks; breast greyish white with dusky spots, which become linear lower down and on the sides and flanks, forming interrupted lines; abdomen and under tail coverts white; upper back, scapulars and tertials ashy brown, the feathers dark shafted; the tertials reach beyond the fourth quill, and are edged and tipped with fulvous white; primaries dark brown, nearly black, paler on their inner webs, and all white shafted, except at their tips; secondaries ashy grey, white-shafted and margined and tipped with white; greater, median and lesser coverts ashy grey, the feathers dark-shafted and edged and tipped with white, more broadly on the median and lesser wing coverts; first two rows of feathers on the shoulder earthy brown, edged rufescent; axillaries and thigh coverts white; lower back and rump dusky brown, the feathers edged and tipped with white; upper tail coverts the same, but the brown very much paler; tail pale earthy brown, the feathers with distinct pale margins and tips, the central feathers very slightly darker; tarsi short, 1·37 inches; toes slender, fringed on the sides and webbed



about $\frac{1}{8}$ inch; mid-toe and claw 1·12; tail from vent 2·62; bill at front 1·62; upper mandible slightly the longer and bent over at the tip; wing 7·12, 1st quill longest; irides dark brown.

Length.—About 11·5 inches (mounted specimen); legs and feet greenish yellow. This is either a new species or an aberrant form of *Totanus*. It is quite unlike any of the other species, except *Totanus Haughtoni*, with the figure of which in the April number of the *Ibis*, 1883, pl. iv., it agrees in a few characters. The markings of the breast and upper parts agree very well, but the lower back, rump and upper tail coverts are not white as in that species or form. These are dusky with whitish edges and tips. Again in the webbing of the toes, this Kurrachee specimen differs from *T. Haughtoni* in having only one-eighth inch of a web, the fringe however is quite apparent. The palatal recurved horny papillæ referred to by Mr. Hume are also present.

In measurements however there is a wide difference. Mr. Hume gives:—

	Length.	Expanse.	Wing.	Tail.	Tarsus.	Bill at gape.	Bill at front.
Male.....	13·2	22·25	7·3	3·0	1·85	2·5	2·1
Female ...	12·9	22·3	7·0	3·0	1·65	2·2	1·92

The Kurrachee specimen is a female and measures—

11·5	7·12	2·6	2·37	1·75	1·62
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These measurements, it will be seen, will not fit any of the other species of the genus.

Hab.—Kurrachee (Sind) in the harbour during winter. The single specimen was obtained in November 1882.

Gen. *Terekia*.—Bonap.

Bill recurved, long, slender; tarsi short; toes narrowly webbed; hind toe less than half the size of the outer one.

1309. *Terekia cinerea*, Guldensl., N. Comm. Soc. Imp. Petrop. xix. p. 473, t. xix; Ferd., B. Ind. iii. p. 682, No. 876; Dresser, B. Eur. viii. p. 195, pl.; Hume, Str. F. i. p. 237; ii. p. 296; Armstrong, Str. F. iv. p. 341; Hume and Dav., Str. F. vi. p. 460; Legge, B. Ceylon p. 836; Murray, Vert. Zool., Sind, p. 246.—The TEREK SAND-PIPER OR PIGMY CURLEW.

Forehead, chin, throat, sides of the head and neck in front greyish white with ashy striæ; back, scapulars, tertials, rump and upper tail coverts ashy brown, the feathers with dark shafts; feathers of the median wing coverts narrowly tipped with white; primaries dark brown, the 1st quill with a white shaft; secondaries dusky, broadly terminated with white; shoulder and edge of the wing dark brown; tail concolorous with the back, the tips bordered with white; sides of the breast ashy grey, the feathers mesially darker; lower breast, abdomen, vent and under tail coverts white. In an advanced stage of plumage—March—the entire upper parts are darker, the scapulars are



terminated with black, the chin and throat become pale ashy grey, and there is a distinct fulvous orbital ring, the forehead and face become fulvescent, and the inner primaries tipped with white.

Length.—10 inches; wing 5 to 5·2; bill at front 1·9 to 2, orange at the base, the rest dusky or dark brown; tail 2 to 2·5; legs and feet pale orange; irides brown.

Hab.—Sind, the Mekran Coast, Kutch, Kattiawar, N. Guzerat, Northern and Southern India, Burmah and Ceylon generally, affecting the sea coast, creeks and channels during winter, found also in N.-E. Europe and New South Wales. According to Jerdon it breeds in Northern Asia, and is extensively distributed over Europe, Asia and Australia.

Sub-Family, LIMOSINÆ.—Godwits.

Bill much lengthened, curved or straight from the base, or turned upwards; tail short and even; toes long, united at the base.

Gen. *Pseudoscolopax*.

Bill much lengthened, soft at the tip, straight or slightly turned upwards, mostly of large size; a distinct web between the toes; lower part of tibia bare; scapulars long; tail moderate.

1310. *Pseudoscolopax semipalmatus* (Jerd.), Swinh., P. Z. S. 1863, p. 313; 1871, p. 407; *David et Oust. Ois Chine*, p. 474, pl. 121; *Hume, Str. F.* viii. p. 112; *Hume and Marsh., Game Birds* iii. p. 395. pl.; *Oates, Str. F.* x. p. 239; *id., B. Br. Burn.* ii. p. 408. *Macroramphus semipalmatus* (Jerd.), *Blyth, J. A. S. B.* xvii. p. 252; *Jerd., B. Ind.* iii. p. 679, No. 874; *Hume, Str. F.* vii. p. 484.—The SNIPE-BILLED Godwit.

Forehead, crown, nape, hind neck, sides of the neck, back, scapulars and tertiaries brown, each feather margined with greyish white; lores brown; supercilium white; sides of the head, chin, throat, foreneck and breast white, densely marked with short brown streaks; upper wing coverts dark brown, broadly edged with white; primary coverts brown; primaries brown, the tips darker, the shafts white and the outer webs narrowly margined with white; secondaries brown, broadly margined with white and irregularly barred with the same; rump, upper tail coverts and tail white, broadly barred with brown; abdomen and vent white; under tail coverts white, marked with V-shaped brown marks; sides of the body white, irregularly barred with brown; under wing coverts white; axillaries white, with a few irregular short brown bars.

In Summer, according to Messrs. David and Oustalet, the upper plumage is bright rufous with brown streaks on the nape, lores and hind neck, and with



large brown spots on the dorsal feathers; lower plumage more uniform rufous, with a little white on the edges of the feathers of the abdomen and some irregular brown streaks on the flanks and under tail coverts; wing coverts, secondaries and tertiaries greyish brown bordered with white; primaries brown with the shafts white; tail brown, transversely banded with white.

Bill black, turning to plumbeous at base; irides dark brown; legs and toes dark plumbeous.

Length.—13·5 inches; tail 2·5 to 2·9; wing 6·8 to 7; tarsus 2·05; bill from gape 2·9 to 3·25.

Hab.—Burmah, where it was procured at Rangoon and in Pegu.

Gen. **Limosa**, *Briss.*

Bill sub-curved at the tip, inclined upwards; 1st quill longest; outer toe united to the middle as far as the first joint; tibia bare for more than two-thirds its length; tarsi long; hind toe half the length of the outermost.

1311. *Limosa ægocephala* (Linn.), *Ferd.*, *B. Ind.* ii. p. 681; *Dresser*, *B. Eur.* viii. p. 211; *Blyth*, *B. Burm.* p. 155; *Hume*, *Str. F.* vii. p. 356; *Legge*, *B. Ceylon*, p. 832; *Hume and Marsh.*, *Game Birds* iii. p. 409, pl.; *Oates*, *Str. F.* x. p. 239; *Murray*, *Vert. Zool. Sind*, p. 243; *Oates*, *B. Br. Burm.* ii. p. 409.—The BLACK-TAILED GODWIT.

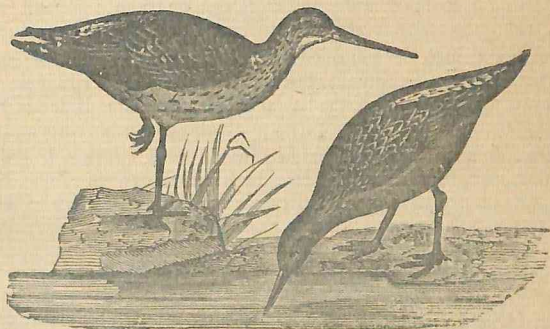
In winter plumage, the entire head, back of the neck, back, scapulars and breast pale earthy grey, darker on the scapulars and back, where each feather is dark shafted; superciliary stripe, chin, throat, also the abdomen and under tail coverts white; rump white, the feathers of the upper tail coverts black for their terminal half; tail white at the base, the terminal two-thirds tipped black, the outer feathers for their terminal third only, and all more or less narrowly tipped white; primaries and their coverts dusky brown, the inner primaries basally white, and all white on their inner webs; secondaries dusky terminally, white basally, and some of the tertials with their outer webs white; greater wing coverts broadly edged with white, also some of the hinder primary coverts; shoulder of wing dusky brown, also the lower back; neck in front and flanks greyish white.

Length.—16 to 18 inches; wing 7·75 to 8·75; tail 3·12 to 3·5; bill at front 3·7 to 4·5, of a dull reddish colour at base and dusky at the tip; legs dusky greenish; irides dark brown.

Hab.—Nearly throughout India and Ceylon during winter. Rare in Southern India, the Concan and the Deccan. Common in Kutch, Kattiawar and Rajputana, also in Beloochistan, Persia and Afghanistan. In Sind this

LIMOSA.

species is numerous, everywhere behind the tall grass, along the edges of the Munchur Lake, in the shallow pools, wading up to their body, and often swimming across deeper spots if beyond its standing depth. It is held in much esteem for the table, being equal to Jack and the Common Snipe, especially those which have been feeding in rice fields.



Limosa lapponica.

1312. *Limosa lapponica* (Linn.), Bodd., P. E. 900; Gould, B. Eur. pl. 306; Hume, Str. F. i. p. 236; Murray, Hdbk., Zool., &c., Sind, p. 216; id., Vert. Zool. Sind, p. 244; Hume and Marsh., Game B. p. 47, pl.—THE BAR-TAILED GODWIT,

“In the winter plumage there is a broad indistinct white superciliary band, and the feathers immediately below the eye are also white; the chin and throat are pure white; forehead, the whole top, back and sides of the head, and the neck all round brownish white, closely streaked with darker brown, the streaks very minute on the sides of the head, somewhat larger on the front of the neck, and darker and stronger on the head and back of the neck, where but little of the white remains visible; upper back pale earthy brown, each feather with a narrow dark brown central shaft-stripe and mostly margined somewhat paler; breast pale greyish brown, more or less obscured by the albescent tippings to the feathers, and some of the feathers with inconspicuous darker shafts; the feathers of the central portion of the breast, if raised, will be found to be not merely tipped whitish, but to be also obscurely barred with white; abdomen, vent, and lower tail coverts pure white, as are also the axillaries and wing lining; the rump is white with a few cuneiform or heart-shaped blackish brown spots; upper tail coverts white, with narrow irregular arrow-head bars; tail feathers grey brown with



SCOLOPACIDÆ.

dark shafts, tipped white and mottled with white on the inner webs of the exterior ones, in some with traces of darker transverse bars; the primaries and their greater coverts black; the shafts of the first two or three white, subsequent ones brownish white; scapulars and tertiaries pale brown, darker shafted, margined paler, and many of them more or less tinged with ashy; the lesser and median coverts like the scapulars, but margined whitish; secondaries brown, paler on their inner webs, and margined on both webs and on the tips with white, as indeed are also, so far as the tips are concerned, the later primaries, though less conspicuously so; the greater secondary coverts are more ashy brown, narrowly margined with white. In one specimen, which appears to be further advanced, the lateral tail feathers are distinctly barred blackish brown and white; the cuneiform barrings on the rump and upper tail coverts are more marked; the axillaries are all strongly barred; the feathers of the sides and flanks, and also the lower tail coverts, exhibit numerous arrow-head bars; and one or two rufous or chestnut feathers with black bars have begun to show themselves on the breast."

The summer plumage is thus described by Temminck:—

"Male.—Upper part of the head and occiput blackish brown, mixed with streaks of reddish yellow; a band of the latter colour over the eyes; lores blackish brown; cheeks and throat of a yellowish red; all the lower parts of the body including the under tail coverts pale yellowish red; upper part of the back and scapulars blackish brown, marbled with reddish yellow and whitish grey; lower part of the back and rump white, marked with longitudinal yellowish red spots; the tail marked with brown and white bars, those of the latter tint irregularly distributed, and disposed more or less longitudinally; quills black at their tips, the remaining part towards the bases blackish brown, with their inner webs whitish grey, marbled with pale brown; the secondaries grey, with the shafts and margins white.

"Female.—The head and lores as in the male; the throat white, marked with reddish grey; cheeks and neck very light reddish, with numerous brown streaks, which become broader, and form small transverse brown and white bars on the sides of the breast; the latter and the belly marbled with white and very pale reddish; the abdominal part white; the lower tail coverts reddish white, with light brown bars.

"Length of Male.—14·5 to 14·8 inches; expanse 27 to 27·75; tail from vent 2·7 to 3·3; wing 7·8 to 8·4; tarsus 2; bill at front 2·8 to 3·1; weight 8 oz.

"Length of Female.—15·75 inches; expanse 28; tarsus 2; tail 3; wing 8·4; bill at front 3·65; weight 9 oz.



"The legs and feet are black, in some dusky plumbeous; irides brown; bill pinkish for about the basal half, black or dusky on the terminal half."—(*Hume, Str. F.*, vol. i. p. 236.)

Affects the same situations as the last, but is less restricted in its range, being found in Sind, Beloochistan, Mekran Coast and the Persian Gulf.

Sub-Family, NUMENINÆ.

Bill very long, slender, arcuate and compressed, with the tip hard and rather obtuse.

Gen. *Numenius*.—*Linn.*

Characters same as those of the Sub-Family; bill curved from the base; upper mandible slightly the longer; tarsi narrowly scutate transversely; hind toe slender with a rudimentary nail.

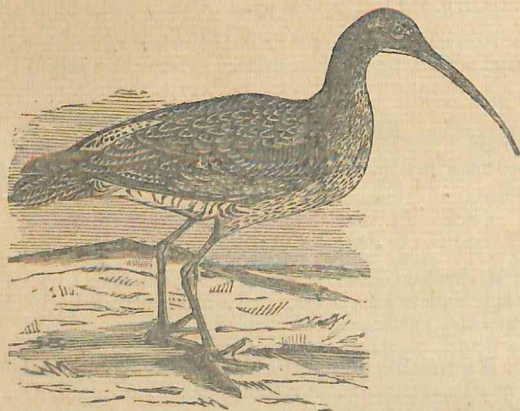
1313. *Numenius phæopus* (*Linn.*), *Jerd.*, *B. Ind.* iii. p. 684; *Dresser, B. Eur.* viii. p. 227, pl.; *Hume, Str. F.* ii. p. 297; iii. p. 182; *Blyth, B. Burm.* p. 155; *Hume, Str. F.* viii. p. 112; *Legge, Birds Ceylon*, p. 910; *Oates, Str. F.* x. p. 240; *Murray, Vert. Zool. Sind.*, p. 247; *Oates, B. Br. Burm.* ii. p. 411. *Scolopax phæopus*, *Linn., Syst. Nat.* p. 243.—
The WHIMBREL.

Forehead and crown dusky brown with a mesial longitudinal streak; lores dark brown; superciliary stripe white, extending from the upper side of the upper mandible; orbital feathers white; chin and throat white; neck in front and behind, and breast, ochreous white, the feathers with a dark central longitudinal streak; flanks, axillaries and under wing coverts white, barred with pale brown, as also are the rump and upper tail coverts; tail brown, brownish white or grey brown, with 6—7 bars of dark brown; lower back white; upper back, scapulars and wing coverts dusky or deep brown, the feathers edged pale white or dirty fulvous; primaries dusky or dark brown, their inner webs as well as both webs of the secondaries with white bars, not reaching the shaft.

Hab.—Throughout most parts of India, Burmah and Ceylon; also Europe, N. Africa, Egypt and Abyssinia.

Affects the same situations as the Curlew, in small flocks. In the Kurrachee harbour it is oftener seen than the Curlew, and is more shy and difficult to approach, but unlike the Curlew it is often seen on open barren tracts, or sandy flats, far inland, in flocks of 3, 4 or half-a-dozen. It is common all along the sea coast, mud banks and sandy islands of estuaries of rivers, or of the sea, and like the Curlew is a fine bird for the table; Jerdon says it is

perhaps better than the Curlew, and has been called the "Woodcock" of Bengal.



Numenius arquatus. The Curlew.

1314. *Numenius arquatus* (Linn.), *Ferd.*, *B. Ind.* iii. p. 683, No. 877; *Dresser*, *B. Eur.* viii. p. 243, pl.; *Hume*, *Str. F.* iii. p. 182; *Murray*, *Vert. Zool.*, *Sind.* p. 247; *Oates*, *B. Br. Burm.* ii. p. 412. *Scolopax arquata*, *Linn.*, *Syst. Nat.* 1, p. 242. *Numenius lineatus*, *Cuv.*, *Regn. Anim.* 1, p. 521; *Blyth*, *B. Burm.* 1, p. 155; *Legge*, *B. Ceylon* p. 906.—The CURLEW.

Head, neck behind and in front, also the breast, rufescent ashy, or rufescent grey brown, the feathers with dark mesial longitudinal shaft-streaks; upper back and scapulars varying from dusky to dark brown, the feathers broadly edged fulvous or pale rufous; upper abdomen white, the feathers with dusky shaft-streaks; lower abdomen, vent and under tail coverts pure white; lower back white; rump and upper tail coverts also white, with dark shafts; tail fulvous white with transverse brown bars; chin and throat white, also a small space above the eye in some specimens; first five primaries and edge of wing dark brown, their inner webs mottled with white; secondaries dusky brown, with transverse white bars on both webs half across only, the dark markings forming a rude saw, the edges and tips of the feathers white.

Length.—21 to 26 inches; wing 12 to 12.5; tail 4.5; bill at front 5 to 7.25; irides dark brown; legs and feet bluish grey.

Hab.—Throughout most parts of Europe, India, Burmah, Ceylon, N. Africa, Egypt, Abyssinia and Palestine. Common along the sea coast and back



waters in great numbers during winter; also along the banks of the Indus and Punjab rivers, and on all large inland sheets of water.

Gen. **Idiorhynchus**.—*Vigors*.

Bill long, slender, well curved, scarcely dilated at tip, upper mandible grooved, tomice inflexed and denticulated; nostrils wide, linear, basal; wings long, 1st quill longest; tail short, of 12 feathers; tarsi short, bare; hind toe wanting.

1315. Idiorhynchus Struthersii (*Vigors*), *Gould, Cent. Him. B.* pl. 19.; *Hodgs., J. A. S. B.* iv. p. 459; *Ferd., B. Ind.* iii. p. 685, No. 879; *Hume, Str. F.* iii. p. 257. *Clorhynchus strophiatius, Hodgs. J. A. S. B.* iv. p. 761.—The RED-BILLED CURLEW.

Whole head as far as the eyes black, the feathers of the forehead edged with greyish white; rest of the upper plumage, including the nape, wings and tail bluish ashy; winglet and primaries slaty blue; a bar of white across the wings; upper tail coverts nearly ashy brown; tail with the feathers barred with dusky black, all except the two central feathers largely tipped with black; outer web of outermost feather white; chin and throat black; neck ashy; a gorget of black on the breast; under surface of body, under wing and tail coverts white.

Bill deep crimson; irides red; legs blood red. (*Ferd.*)

Length.—16½ inches; wing 9·25; tail 4·5; tarsus 2·2; bill 3·75.

Hab.—The Himalayas, on the banks of sandy streams in Nepaul and in Sikkim on the Great Runjeet; also in Ladak.

Sub-Family RECURVIROSTRINÆ.—*Bp.*

Nostrils narrow, membranous; tail short and rounded; tarsi long, covered with reticulated scales; bill long and slender, recurved in one genus.

Gen **Recurvirostra**.—*Linn.*

Bill long, thin, the keel flattened, the tips turned upwards; toes united by webs; hind toe short.

1316. Recurvirostra avocetta (*Linn.*), *Bodd., P. E.* 353; *Gould, B. Eur.* pl. 289; *Ferd., B. Ind.* iii. p. 248; *Murray, Hdbk., Zool., &c., Sind,* p. 222; *id., Vert. Zool. Sind,* p. 258.—The AVOCET, SCOOPER or CROOKED-BILL.

Forehead in some specimens faintly white, otherwise black; crown, lores, nape and back of the neck black; scapulars, lesser wing coverts and upper tertials black; primaries black, some of the inner ones with their inner webs white; secondaries and some of the tertials white; chin, throat, neck in front, lower neck behind, lower back, rump, upper tail coverts and entire under surface white.



Length.—17 to 18 inches; bill 3·5, curved upwards, black; wing 8·5; tail 3; tarsus 3·62; irides red brown; legs pale bluish grey.

Hab.—Throughout India during winter; S.-E. Europe, Lower Egypt, Senegal and Persia. Common in Sind, in large flocks inland, on almost every large sheet of water, especially on the Munchur Lake and along the edges of tanks, &c. Occasionally affects the sea coast and Kurrachee harbour, but by preference the inland waters. Breeds probably in Persia. In Upper India the Avocet is less common; in Kutch, Jodhpore and N. Guzerat rather rare.

Gen. *Himantopus*.—Briss.

Bill long and straight; toes webbed only at the base; nostrils linear; hind toe wanting.

1317. *Himantopus candidus* (Linn.), Bonnat. *Tabl. Encyl. et Meth.*, Orn. i, p. 24; *Ferd.*, B. Ind. ii. p. 704; *Hume*, *Ibis*, 1870, p. 146; *Dresser*, B. Eur. vii. p. 587, pl.; *Hume and Dav.*, *Str. F.* vi. p. 464; viii. p. 113; *Legge*, B. Ceylon p. 919. *Himantopus intermedius*, *Hume*, *Nests and Eggs Ind. B.* p. 589. *Charadrius himantopus*, *Linn.*, *Syst. Nat.* i, p. 255.—The STILT.

In winter plumage, the forehead, lores, chin, throat, entire lower parts, lower back and rump white; crown of the head dusky or dark ash; neck behind ashy grey, the feathers tipped with white; upper back and scapulars brown; the feathers with pale tippings; primaries dark brown, the inner ones tipped white; secondaries also with white tips; central tail feathers very pale grey, the rest white. In the breeding plumage the primaries, secondaries, scapulars, tertiaries and upper back are rich glossy black, with greenish reflections; the crown of the head dusky or dark brown, spreading over and below the eyes.

Length.—15 to 16 inches; wing 8·5 to 9; tail 3; bill black, reddish at the base, 2·75 inches in length; tarsi 4·5 to 5·5; irides blood red; legs and feet lake red.

Hab.—India generally, also Burmah and Ceylon, in large flocks during winter, frequenting margins of lakes and ponds, also banks of rivers. Breeds in Sind during June in the Narra Districts. Eggs 2—4 in number, of a pale blue colour, spotted and speckled with dark brown and olive green. Incubation 18 to 20 days. The young are said to leave the nest immediately they are hatched, and hide themselves among very scanty cover. Found also in Beloochistan, Afghanistan, Persia, and probably Mesopotamia.

Family, PARRIDÆ.

Bill long, one and a half or twice the length of the head; nostrils lateral; wing spurred or with a tubercle; tarsi long; toes long with long claws.



METOPODIUS.

Gen. **Metopodius**.—*Wagl.*

Bill moderate, stout, compressed, thick at the base, the culmen curved at the tip; forehead with a carbuncle; tail short; nostrils small, ovate; 2nd and 3rd quills of wing longest; feet very large; toes slender and long; claws very long, especially of the hind toe.

1318. Metopodius Indicus (*Lath.*), *Ferd., B. Ind.* iii. p. 708; *Hume, Nests and Eggs Ind. B.* p. 591; *id., Str. F.* iii. p. 183; *Blyth, B. Burm.* p. 157; *Butler, Str. F.* iv. p. 19; *Armstrong, t. c.* p. 348; *Oates, B. Br. Burm.* ii. p. 358. *Parra indica, Lath., Ind. Orn.* ii. p. 765; *Salvad., Ucc. Born.* p. 342; *Oates, Str. F.* vi. p. 165; *Hume and Dav., t. c.* p. 464; *Hume, Str. F.* viii. p. 113; *Oates, Str. F.* x. p. 241.—The BRONZE-WINGED JACANA.

Whole head, neck all round, upper back, and whole lower plumage black glossed with green, the upper back glossed with purplish; lower back, scapulars, tertiaries and wing coverts glossy bronze; rump and upper tail coverts, also the flanks, tail and under tail coverts maroon; vent and thigh coverts brown, tinged with maroon and streaked with white; primaries and secondaries black, the later ones bronze on their outer webs; chin and throat whity brown; supercilium reaching to the nape white; bill with the basal half of upper mandible and frontal shield livid blue; rest of upper mandible and whole of the lower one green; irides brown; legs and feet slaty colour.

Length.—10·5 inches; tail 2; wing 6·2; tarsus 2·6; bill from gape 1·3. Females are slightly larger.

Hab.—India generally, also the Indo-Burmese Countries, but not in the drier northern parts as Sind, Punjab, and Rajpootana. Affects jheels marshes, large swamps and weedy tanks. Breeds during the monsoon, making a floating nest in some sequestered part of a jheel or marsh. Eggs 6—7 in number, moderately broad ovals, a good deal pointed towards one end; the ground colour varies from a pale stone colour to a reddish olive brown, highly polished, marked with fine lines of blackish brown.

Sub-Family. PARRINÆ.

General characters of the Family; feet large; toes and claws very long and thin, to enable the species to walk on marshy or oozy ground and aquatic plants.

Gen. **Hydrophasianus**.—*Wagl.*

1st and 2nd quill of wing equal and longest; primaries with lanceolate appendage to the tips; bill more slender than in *Metopidius*; forehead without a frontal shield; tail long; central feathers much elongated in the breeding season.



1319. *Hydrophasianus chirurgus* (Scop.), *Ferd.*, *B. Ind.* iii. p. 709; *Hume, Nests and Eggs Ind.* B. p. 592; *id.*, *Str. F.* iii. p. 185; *Salvad., Ucc. Born.* p. 343; *David et Oust. Ois. Chine*, p. 483; *Legge, B. Ceylon*, p. 914; *Oates, B. Br. Burm.* ii. p. 360; *Murray, Vert. Zool., Sind*, p. 259. *Tringa chirurgus*, *Scop.*, *Del. Flor. et. Faun. Insubr.* ii. p. 92. *Parra sinensis* (Gm.), *Syst. Nat.* i, p. 709. *Hydrophasianus sinensis*, *Blyth and Wald., B. Burm.* p. 157.—The PHEASANT-TAILED JACANA.

In winter plumage, the forehead, crown, a streak from the base of the bill through the eye, extending down each side of the neck on to the breast and forming a pectoral gorget; also the back of the neck dusky or pale hair brown, the feathers on the forehead and crown tipped with white; supercilium white, and a pale golden yellow line from behind the eye; back, scapulars, tertials and lesser wing coverts glossy olive; or pale hair brown; the lower back, rump, upper tail coverts and central tail feathers slightly darker, and the lesser wing coverts mottled and barred transversely with white. Shoulder of wing spurred. First primary with an appendage, the shaft of 2nd, 3rd and 4th in some specimens hair like at the tip, all dark brown, and, except the first and second, broadly white on their inner and outer webs; greater coverts and secondaries, chin, throat, neck in front, abdomen, vent and under tail coverts white; tail 3·5 to 4 inches. In breeding plumage the forehead, crown, entire face, chin, throat and neck in front white. There is a black patch on the nape; and the neck behind is shining golden yellow, edged on the sides with black; back, scapulars and tertiaries dark olive brown, with purplish reflections; rump and upper tail coverts bronzed dark brown; tail black; breast and entire lower parts dark or deep dusky brown; shoulder of wing spurred; wing coverts white; primaries as in the winter plumage.

Length.—18 to 20 inches; irides dark brown; bill plumbeous at the base and tipped greenish, 1·25 in length; tail 10 to 11 inches; wing 8 to 8·5; tarsus 2·12; middle toe and claw 3 inches; hind toe and claw 2 inches.

Hab.—Throughout India, Ceylon and British Burmah. Common in Sind on the Munchur and other Lakes, also in the Punjab and N.-W. Provinces. Breeds in the Province from May to September, making a large floating nest. Eggs, pear-shaped, of a beautiful bronze colour.

Family, RALLIDÆ.

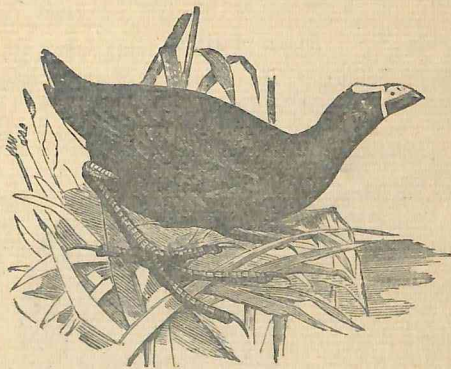
Bill compressed, short, pointed, thick, wedge-shaped; nostrils in a short groove; legs stout; toes long; tarsi moderate; tail short.

Sub-Family, GALLINULINÆ.—WATER-HENS.

Bill with the keel advancing on the forehead, where there is usually a casque; toes long and slender or bordered by a scolloped web; wings short and rounded; hind toe long.

Gen. *Porphyrio*.—*Briss.*

Bill very thick; casque large; mid-toe as long as tarsi, slender, not fringed with web.



Porphyrio poliocephalus. The Purple Coot.

1320. *Porphyrio poliocephalus* (Lath.), *Ferd.*, *B. Ind.* iii. p. 713; *Blyth*, *B. Burm.* p. 161; *Butler*, *Str. F.* iv. p. 20; *Oates*, *Str. F.* vi. p. 165; *Elliot*, *Str. F.* vii. p. 22; *Legge*, *B. Ceylon* p. 795; *Murray*, *Vert. Zool.*, *Sind*, p. 260; *Oates*, *B. Br. Burm.* ii. p. 351. *Gallinula poliocephala*, *Lath.*, *Ind. Orn. Suppl.* p. lxxviii. *Porphyrio neglectus*, *Scheg.* *Mus. P. B.*, *Ralli*, p. 53; *Hume*, *Str. F.* i. p. 249; *Hume*, *Nests and Eggs* p. 594; *id.*, *Str. F.* iii. p. 185.—The PURPLE COOT.

Occiput and nape, lores, and round the eyes greyish, clouded with purple; cheeks, chin and throat the same, but with more of a purple tinge; neck in front and breast pale bluish; lower breast, abdomen, flanks, vent and thigh coverts dark purplish blue; under tail coverts white; back of neck, back, rump, and upper tail coverts purplish blue; scapulars, wing coverts and outer webs of primaries pale greenish blue, the inner webs of primaries, secondaries and tertials dark brown or black; tail black, the feathers on the outer web edged with bluish.

Length.—18 inches; wing 10 to 10·2; tail 4·5; bill at gape 1·62; tarsi 3·62; mid-toe 3·62; casque and spot at base of bill cherry red; bill red; irides red; legs crimson.

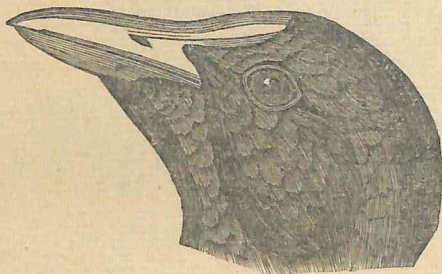
Hab.—Throughout India, Ceylon and British Burmah; also in Persia, Beloochistan and Afghanistan. Common in Sind in suitable localities, but I do

not believe they are anywhere as numerous as on the Munchur Lake, where among the rushes, they are with the Bald Coot simply innumerable.

Breeds in the Province from May to September, making a nest of rushes, &c., in the reedy grass. Eggs prettily marked on a greenish ground with spots, blotches and streaks of a reddish colour, lake red or rich red.

Gen. **Fulica.**

Bill moderate; nostrils lateral; casque small; wing with a tubercle at the shoulder; tail short; toes with lobate membrane.



Fulica atra.

1321. *Fulica atra*, Linn., *Syst. Nat.* 1, p. 257; *Jerd., B. Ind.* iii. p. 715; *Hume, Str. F.* i, p. 249; *id., Nests and Eggs* p. 595; *Blyth, B. Burm.* p. 162; *Wardlaw-Ramsay, Ibis*, 1887, p. 472; *Dresser, B. Eur.* vii. p. 327; *Murray, Vert. Zool., Sind*, p. 261; *Oates, B. Br. Burm.* ii. p. 352.—The BALD COOT.

Upper plumage black; hoary, dark ash, lead colour or dusky brown below; a spot below the eye, and the outer edge of the wings white; frontal disc or casque white; also the bill, which in the breeding season is tinged pale red; irides blood red; legs dull green, with a yellow, green, and red garter in the breeding season.

Length.—15 to 16 inches; wing 7'5 to 7'75; tail 2; bill at gape 1'41.

Hab.—Throughout India, Ceylon and British Burmah; also Europe (central and south), Egypt, Assam, Nepaul, Persia, Beloochistan and Afghanistan. In Sind it is numerous in suitable localities, but on the Munchur Lake, as Mr. Hume says (*Str. F.* vol. i. 249) "they would have to be counted not by thousands, but by hundreds of thousands. * * * You can shoot nothing without knocking over some of these wretched coots." He also adds "that



In no part of the world has he even seen such incredible multitudes of coot as are met with in Sind; in the Munchur Lake *par excellence*."

Gen. **Podica**.—*Less*.

General characters of *Fulica*; bill rail-like; neck more lengthened; toes lengthened and webbed.

1322. Podica personata, *G. R. Gray*, *P. Z. S.* 1848, p. 90; *Aves*, pl. 4; *Hume, Str. F.* iii. p. 185; *Blyth, B. Burm.* p. 162; *Hume and Dav., Str. F.* vi. p. 465; *Hume, Str. F.* viii. p. 113; *Oates, Str. F.* x. p. 241; *id., B. Br. Burm.* ii. p. 353—The MASKED FINFOOT.

Forehead, lores, a supercilium extending to the nape, cheeks, anterior part of ear coverts, chin, throat and front of the neck black; this black patch bordered by a white line, terminating on either side at the posterior corner of the eye; crown, nape and upper neck dark ashy; sides of neck olive brown; back, rump, scapulars, upper tail coverts and the whole of the wing brown, tinged with green; sides of the breast and of the body brown; breast and abdomen white, the latter barred with brown; vent and under tail coverts brown, closely barred with whitish, the longer feathers of the coverts almost wholly brown; wing coverts sooty brown; tail plain brown, tipped paler. (*Oates*.)

The female has the chin, throat, and front of the neck white, with a black margin all round, which extends a little over the lores, and has the same outer border and has the black mask of the males. (*Tickell ex Oates*.) Iris hazel brown; tarsus and toes light green; bill orange yellow, paler at the tips; edges of eyelids yellow.

Length.—22 inches; tail 5·8; wing 10; tarsus 2·1; bill from gape 2·3.

Hab.—Tenasserim. *Oates* says it is an excessively rare bird, of which very few specimens have been procured. Lieut. Lloyd shot a specimen in some part of Karenne. Col. Tickell observed it in Tenasserim, and Mr. Davison procured it at Amherst, Mergui and Bankasoon. It is said to be known to occur in Cachar and Assam.

Gen. **Hypotænidia**.—*Reich*.

Bill moderately long, straight or slightly arched, compressed at the base, cylindrical at the tip; upper mandible grooved for two-thirds of its length; nostrils lateral, linear, and situated in the groove; lower part of tibia naked; tarsi long and robust; toes long and slender, three before and one behind; anterior toes entirely divided; wings short and rounded; 3rd and 4th quills longest.

1323. Hypotænidia striata (*Linn.*), *Wald., Trans. Zool. Soc.* viii. p. 95; *Hume, Nests and Eggs Ind. B.* p. 605; *Blyth, B. Burm.* p. 161;



Hume, Str. F. iii. p. 189; *Hume and Dav., Str. F.* vi. p. 468; *Legge, B. Ceylon*, p. 775; *Hume and Marsh., Game Birds* ii. p. 245, pl.; *Oates, Br. Burm.* ii. p. 339. *Rallus striatus*, *Linn., Syst. Nat.* i. p. 262.—The BLUE-BREASTED BANDED RAIL.

Top of head, nape and hind neck chestnut; upper plumage, including the wing coverts and tertiaries, blackish brown, each feather broadly edged with olive brown and barred with white; primaries, secondaries and tail dark brown, barred with white; lores, cheeks, ear coverts, sides of the neck, foreneck and breast bluish grey, tinged somewhat with rufescent; sides of the body, lower abdomen, vent, under tail and thigh coverts, also the under wing coverts, dark brown, barred with white; centre of abdomen dull white; bill rosy pink on the basal half; remainder horn colour or yellowish green; irides red; legs and feet dull greenish or olive brown. The young has not the chestnut head and bluish breast.

Length.—9·8 to 11·5 inches; wing 4·5 to 5; tail 1·5 to 2·25; tarsus 1·35 to 1·62; bill from gape 1·32 to 1·82.

Hab.—Southern India, along the bases of the Neilgherries, the Wynaad, Malabar Coast, Southern Konkan, in the Rutnagherry districts and Southern Ceylon. It also occurs in Lower Bengal in the deltaic districts, in the neighbourhood of Calcutta too, as well as in Sylhet, Cachar, Khasia Hills, and the Assam Valley to Sadiya. In Arracan it is said to be fairly common, while in Burmah, Oates says, it is found throughout the whole province, Tenasserim included. It breeds in all localities where they occur, from May to October, making a small nest of grass on the ground near water, surrounded by thick vegetation. Eggs, seven in number, of a pinkish stone colour blotched with pale purple. In length they vary from 1·28 to 1·41 inches, and from 0·93 to 1·13 in width.

Hypotaenidia obscuriora, *Hume, Str. F.* ii. p. 302; iv. p. 294; *id. and Marsh., Game Birds* 253, pl., is recorded from the Andamans as a separate race, but to my mind it can scarcely stand as a species, and hence it is suppressed.

Gen. *Rallus*.—*Linn.*

Bill moderately long, straight or slightly curved at tip; shoulder with a small spur; other characters as in *Hypotaenidia*.

1324. *Rallus indicus*, *Blyth, J. A. S. B.* xviii. p. 820; *Ferd., B. Ind.* iii. p. 726; *Hume, Str. F.* iii. p. 416; *Blyth, B. Burm.* p. 162; *David et Oust. Ois. Chine* p. 489; *Legge, B. Ceylon* p. 778; *Hume, Str. F.* viii. p. 113; *Hume and Marsh., Game Birds* ii. p. 257, pl.; *Oates, B. Br. Burm.* ii. p. 342.—The INDIAN WATER RAIL.

Above, including the sides of the neck, scapulars and tertiaries olive brown, sometimes with a ruddy tinge, each feather with a broad black mesial streak;

a dark streak from the lores continued under the eye to the ear coverts; a broad white supercilium from above this to the nape; wing coverts dark olive brown, some of them tipped with whitish, and all broadly edged with ruddy; primaries and secondaries brown, some of the inner ones margined with ruddy; chin and throat plumbeous; cheeks, foreneck, breast and centre of abdomen plumbeous ashy, the feathers more or less fringed with ruddy; sides of the abdomen and of the body, axillaries and vent blackish, barred with white; under tail coverts white, each feather with a large black central patch; under wing coverts black, with white margins. Bill dull red, dusky on the culmen and tip; irides red brown; legs and feet dirty pale green.

Length.—10 to 10.5 inches; tail 2.2; wing 5.2; tarsus 1.6; bill from gape 1.6.

Hab.—From Bengal to Nepaul. Recorded from Arracan by Blyth. Frequent patches of rush and grass at the edges of swamps and ditches. A migrant to India. According to Jerdon it is a rare bird in Central and Southern India, and has chiefly been found in the cold season.

Gen. *Rallina*.—*Reich.*

Base of bill not prolonged over the forehead, feet shorter than in the Rails.

1325. *Rallina euryzonoides* (*Lafresn.*), *Tweedd.*, *P. Z. S.* 1877, p. 767; *Legge*, *B. Ceylon*, p. 772; *Hume*, *Str. F.* viii. p. 113; *Hume and Marsh.*, *Game Birds* ii. p. 237, pl.; *Oates*, *Str. F.* x. p. 242; *Oates*, *B. Br. Burm.* ii. p. 340. *Gallinula euryzonoides*, *Lafresn.*, *Rev. Zool.* 1845, p. 368. *Rallus zeylanicus*, *Gm.*, *Syst. Nat.* 1, p. 716. *Porzana ceylonica*, *Blyth*, *Cat. B. Mus. As. Soc. Beng.* p. 285; *Jerd.*, *B. Ind.* ii. p. 725; *Hume*, *Str. F.* i. p. 440; iii. p. 188; *Bourdillon* in *Blyth's B. Burm.* p. 162. *Rallina ceylonica*, *Wald.* in *Blyth's B. Burm.*, p. 162.—The BANDED CRAKE,

Whole head, neck all round and breast chestnut; upper plumage, wings and tail rich olive brown with a ruddy tinge on the back, rump, scapulars and tertiaries; quills with white bars on the inner webs; chin and throat whitish; abdomen, vent, under tail coverts, sides of the body and under wing coverts broadly barred with dark brown and white. Bill with the base of the upper mandible and the greater portion of the lower green; remainder of bill dark brown; irides blood red; eyelids grey; legs black. (*Oates.*)

Length.—10 inches; tail 2.2; wing 5.5; tarsus 1.75; bill from gape 1.3.

Hab.—Thayetmyo in British Burmah, where Oates had a live specimen sent to him by Colonel Horace Browne. In Ceylon it arrives in October in considerable numbers, coming to that island in an exhausted condition. It remains there till February.

It has been found in Sikkim, Bhootan, Nepaul and in Goomsoor in the Ganjam Districts. Mr. Hume got a specimen from the Assambo Hills, and



Mr. Brooks in Cawnpore. It has also been got near Cuttack and in Mainpuri near Lucknow. About Calcutta, and also near Madras, it has also been obtained, but all these were apparently stragglers during severe winter.

1326. *Rallina fasciata*, Raffl., *Trans. Linn. Soc.* xiii. p. 328; *Salvad., Ucc. Born.* p. 337; *Wald. in Blyth's B. Burm.* p. 162; *id., Trans. Zool. Soc.* ix. p. 231; *Hume, Str. F.* iii. p. 188; *Hume and Dav., Str. F.* vi. p. 467; *Hume, Str. F.* viii. p. 113; *Hume and Marsh., Game Birds* ii. p. 235, pl.; *Oates, B. Br. Burm.* ii. p. 341.—THE MALAY BANDED RAIL.

Whole head, neck all round and breast deep chestnut, rather paler on the chin and throat; back, rump, upper tail coverts and tail ruddy brown; scapulars and tertiaries ruddy brown, with a few obsolete ferruginous bars near the tips of some of the feathers; lesser wing coverts ruddy brown, with a ferruginous spot in the centre of each feather, the remaining coverts and all the quills brown, with rufous white bars on both webs; abdomen, vent, sides of the body, under wing coverts, axillaries, and under wing coverts broadly barred with black and white, the latter part tinged with ferruginous; legs, feet and bare portion of tibia coral red; bill black, dark horny blue or plumbeous blue; irides dull red, cinnabar red or red brown; orbital skin and gape bright vermilion. (*Davison.*)

Length.—10 inches; tail 2'3; wing 5'1; tarsus 1'7; bill from gape 1.

Hab.—Tenasserim, about Amherst and Tavoy. Extends down the Malay Peninsula, and in the Islands of Sumatra, Java and Borneo. Mr. Davison found it frequenting rice fields surrounded by low brushwood.

1327. *Rallina Canningi* (Tytler), *Hume, Str. F.* i. p. 86; ii. p. 500; *Hume and Marsh., Game Birds* ii. p. 241, pl.—THE ANDAMANESE BANDED CRAKE.

Head, neck, breast, wings and tail dark maroon; primaries and secondaries olivaceous brown on the outer webs, but strongly tinged with rufous; inner webs black or blackish brown, with numerous moderately narrow, oblique, transverse rufous white bars, 3 on the 1st primary, 4 on the next, and 5 or 6 on the others; abdomen and flanks, also the sides of the body, black, transversely banded with white; edges of the wing coverts and quills dusky; under tail coverts maroon. Legs and feet olive green; bill delicate pale chrysoprase green; irides red.

Length.—13 to 14'5 inches; wing 5'95 to 6'4; tail 3'25 to 3'6; tarsus 2'05 to 2'3; bill at front 1'1 to 1'22.

Hab.—The Andamans, to which Island it is confined, as far as present knowledge extends. Hume says it is chiefly a woodland Rail, haunting the neighborhood of streams and pools, bordered by dense forests. According to Capt. Wimberley (*Hume*), it is extremely shy, does not take wing unless



hard pressed, and feeds on insects and fresh-water fish. Breeds in the island during July. Eggs, 6 in number, broad, very regular ovals; in colour varying from pinky white to a rich pinky stone colour, or even warm *café au lait* boldly streaked with maroon red and purple.

Sub-Family, RALLINÆ.—RAILS.

Forehead with a nude shield; bill compressed, slender; toes shorter than in the *Gallinules*; shoulder of wing with a tubercle or short spur.

Gen. *Porzana*.—*Vieill.*

Wings moderate, rounded; tail short; toes long, about the length of the tarsus.

1328. *Porzana Bailloni* (Vieill.), *Dresser, B. Eur.* vii. p. 275, pl.; *Legge, B. Ceylon*, p. 766; *Hume and Dav., Str. F.* vi. p. 467; *Scully, Str. F.* viii. p. 358; *Hume and Marsh., Game Birds* ii. p. 203, pl.; *Oates, B. Br. Burm.* ii. p. 344. *Rallus Bailloni, Nouv. Dict. d'Hist. Nat.* xxviii. p. 548. *Crex pygmæa, Naum, Naturg. Vog. Deutschl.* ix. p. 567. *Porzana pygmæa, Jerd., B. Ind.* iii. p. 723, No. 910; *Murray, Vert. Zool., Sind*, p. 264. *Zaporna pygmæa, Hume, Nests and Eggs Ind. B.* p. 603.—The PIGMY RAIL or BAILLON'S CRAKE.

Head and hind neck wood brown; back, scapulars and wing coverts yellowish brown with an olive tinge, the feathers with numerous irregular, white, black-edged spots; supercilium, cheeks, chin and throat grey; breast and upper abdomen bluish grey; the sides, vent and under tail coverts black, with transverse white bars; primaries dusky brown; outer web of 1st quill yellowish white; secondaries with zigzag white lines bordered with black; tertiaries yellowish brown, with a tinge of olive, spotted or streaked irregularly with white, which have edgings of black; tail dusky brown; bill dark green; irides reddish; legs fleshy brown.

Length.—7 to 7.75 inches; wing 3.67; tail 1.75 to 2; bill at front 0.62; tarsus 1.0; mid-toe and claw 1.5.

Hab.—Sind, Punjab, N.-W. Provinces and Oudh, also Bengal, Nepaul, Rajputana, Kutch, Guzerat, Concan and Deccan, and generally throughout India and Burmah, also Ceylon. It is also an inhabitant of Beloochistan and Afghanistan, and probably Persia also. In Central and Southern India it is said to be not uncommon.

Breeds during July and August in the plains of Upper India and in the lower ranges of the Himalayas about rice swamps and marshy pools. Eggs, six in number, oval, slightly pointed towards one end; a pale olive stone colour or greenish drab, thickly freckled and mottled with faint dusky clouds and streaks. In length they vary from 1.1 to 1.22 and in width from 0.83 to 0.91 inch.

The habits of this species is not unlike the other Rails, but as a rule it is more shy and retiring, and when disturbed, runs with great speed on the lotus leaves or other aquatic herbage, and conceals itself among the thickest of the coverts it frequents.

1329. Porzana maruetta (Linn.), *Ferd.*, *B. Ind.* iii. p. 722, No. 906; *Blyth, B. Burm.* p. 161; *Dresser, B. Eur.* vii. p. 267, pl.; *Hume, Str. F.* viii. p. 113; *Hume and Marsh., Game Birds* ii. p. 213, pl.; *Murray, Vert. Zool., Sind*, p. 264. *Rallus porzana*, Linn., *Syst. Nat.* i. p. 262. *Ortygometra maruetta*, *Leach, Syst. Cat. Mamm. H. B. Brit Mus.* p. 34.—The SPOTTED CRAKE.

Forehead ashy brown; crown and nape dusky, streaked with ferruginous; superciliary streak extending behind the eye ashy grey, spotted with white; hind neck dusky, minutely freckled with black and white. Upper back and scapulars dark brown, almost black, the feathers broadly margined and tipped with ochreous olive, and usually the margins of one or both webs with linear spots and streaks of white; lower back and rump dusky brown, the feathers narrowly barred with white; wing coverts like the back, the outer margin of both webs with two pairs of white black-edged spots; tertiaries dark brown on their outer webs, and with 6—7 narrow, oblique white bars; their inner webs rufescent brown; primaries and secondaries pale hair brown, the outer web of the first quill and bastard primary, also the edge of the wing, white; the margins of the outer webs of the other primaries tinged with pale rufescent; axillaries dark brown with transverse white bars; chin and throat greyish white; breast olive brown, the feathers barred with white; abdomen ashy white; flanks olive brown, barred transversely with black and white; tail rufescent brown, mesially dark brown; vent and under tail coverts rufescent white; bill greenish yellow, orange at the base; irides reddish brown; legs bright yellowish green.

Length.—8·8 to 9 inches; wing 4·5 to 4·8; tail 1·82 to 2; bill at front 0·75 to 0·9; tarsus 1·4; mid-toe and claw 1·6.

Hab.—Sind, Punjab, N.-W. Provinces and Oudh, the Himalayas, Bengal, Rajputana, Guzerat, Kutch, Concan, Deccan and Mysore; also Arabia, Beloochistan, Persia, Afghanistan, and Eastern Turkestan. Occurs all over Europe and North Africa. Affects the reedy swamps and feeds on aquatic insects, larvæ, snails and grass seeds.

1330. Porzana fusca (Linn.), *Ferd.*, *B. Ind.* iii. p. 724, No. 911; *Blyth, B. Burm.* p. 161; *Legge, B. Ceylon* p. 769; *Hume and Marsh., Game Birds* ii. p. 217; *Oates, B. Br. Burm.* ii. p. 346. *Rallus fuscus*, Linn., *Syst. Nat.* i. p. 262. *Rallina fusca*, *Hume, Nests and Eggs Ind. B.* p. 604; *Hume, Str. F.* viii. p. 113.—The RUDDY CRAKE.

Forehead as far back as the eyes, the sides of the head and neck, the fore-neck, breast and upper abdomen rich ferruginous; chin and throat whitish;



sides of the body and lower abdomen olivaceous; flanks, vent and under tail coverts dark brown, irregularly and indistinctly barred with white; the whole upper plumage, wings and tail olive brown; under wing coverts brown edged with white. The female has the ferruginous of the lower parts paler and the white of the throat extends lower down; irides crimson; eyelids plumbeous, the edges red; bill greenish brown; legs and toes red; hinder parts of leg fuscous. (*Oates.*)

Length.—8.5 inches; tail 1.75; wing 3.8; tarsus 1.4; bill from gape 1.0.

Hab.—Southern and Central India, Punjab, N.-W. Provinces, and Rajpootana (rare). Common in Lower and Eastern Bengal, also in British Burmah. Breeds during July and August on the Woolar Lake in Cashmere, also in Burmah, where, according to Oates, it is a permanent resident. It is also recorded from Arracan, Ceylon and the Malay Peninsula.

1331. *Porzana minuta* (Pall.). *Naum. Vog. t.* 239; *Gould, B. Eur.* pl. 345; *Hume, Str. F. i.* p. 251; *Murray, Hdbk., Zool., &c., Sind,* p. 224. *Porzana parvus, Scop.*—The LITTLE CRAKE.

Crown of the head deep brown; sides of the head, both above and below the eye, ash or slate colour; chin and throat dull or greyish white, the forepart of the neck pale ash; under parts ashy or grey blue in the males, light rufous buff in females; lower abdomen and vent deep or olive brown, spotted with white; neck behind and shoulder of the wing olive brown; back deep olive brown, the feathers with broad mesial dark stripes, their inner margins pale, with some white linear spots and streaks; primaries and secondaries deep brown with pale edges; lesser wing coverts plain dull olive brown; tail dusky olive brown; under tail coverts slaty grey with spots and bars of white.

Length.—7 to 8 inches; bill 0.7; wing 3.8; tail 1.5 to 1.75; irides red; bill and legs yellowish green.

Mr. Hume in *Str. F. i.* p. 251, says:—" *Bailloni* (pygmæa) may always be distinguished at a glance from *minuta* by its smaller size, shorter, and in proportion deeper bill, and by having the back, scapulars and greater wing coverts all more or less profusely variegated with bluish white, whereas in *minuta* the white markings, which are somewhat broader and purer white, are confined as a rule to the centre of the back, though occasionally some of the longer scapulars are also faintly edged with bluish white. In *minuta* the wing varies from 3.75 to 4.1; the bill at front 0.7 to 0.76; in *Bailloni* (pygmæa) the wing varies from about 3.45; to 3.62, and the bill 0.6 to 0.62.

Hab.—Sind, Eastern Turkistan and Cashmere. Not known to occur anywhere else in India. It is abundant in all the large inland pieces of water or dhunds.

1332. *Porzana akool* (Sykes), *Ferd., B. Ind.* iii, p. 722, No. 908; *Hume, Str. F. iv.* p. 21; *id. and Marsh., Game Birds, Ind.* ii, p. 226.—The BROWN AND ASHY CRAKE.

RALLIDÆ.

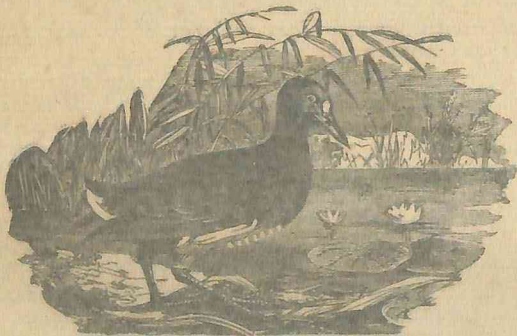
Above olive brown; the rump ashy brown; wings and tail dusky; wing and lower tail coverts deep brown; chin white; throat, breast, and belly ashy brown; flanks olive brown. Bill greenish; irides red brown; legs and feet livid purple.

Length.—11 inches; wing 7; tail 3'5; bill at front 1'75; tarsus 2.

Hab.—Central Provinces, in Sumbalpoor and Raipoor; also Guzerat, Chota Nagpoor, Bengal, N.-W. Provinces, Oudh and the Punjab Cis-Sutlej. It also occurs in the south-eastern portions of Rajputana (Bhurtpore), the Sambhar Lake, Ajmere, and Mount Abu. In Upper India, Hume says, it is common in the Duns, Terai's and Bhabars that skirt the mountain bases of the Himalayas. It is less aquatic in its habits than any of the other Crakes, being often seen on stony ground in the open, though not very far from water; does not affect swamps so much as it does thin grass along the margins of clear water streams. Breeds from May to August, nesting in bushes, grass, or bulrushes, along the margins of small streams or ditches. Eggs, 6—8 in number, a pale salmon white ground covered with blotches, spots and specks of reddish brown. They average from 1'4 to 1'6 inches in length and 0'99 to 1'15 in width.

Gen. *Gallinula*.—*Briss.*

Bill moderate, curved slightly at the tip; nostrils in a groove, placed about the middle of the upper mandible; bill extending on to the forehead and forming a small shield; shoulder of wing with a tubercle or spur; toes very narrowly edged by membrane.



Gallinula chloropus. The Water or Moor Hen.

1333. *Gallinula chloropus* (Linn.), *Ferd.*, B. Ind. iii. p. 716, No. 905; *Hume*, *Nests and Eggs Ind. B.* p. 397; *id.*, *Str. F.* i. p. 250; iii.



p. 187; *Blyth, B. Burm.* p. 162; *Dresser, B. Eur.* vii. p. 313, pl.; *Hume and Dav., Str. F.* vi. p. 466; *Legge, B. Ceylon* p. 781; *Murray, Vert. Zool., Sind*, p. 262; *Oates, B. Br. Burm.* ii. p. 347. *Gallinula Burnesi, Blyth, J. A. S. B.* xiii. p. 736.—The MOOR HEN

Top of head, nape and back of neck dusky olive brown; back, scapulars, tertiaries, wing coverts and upper tail coverts shining olive brown; primaries, secondaries and tail dusky brown, the outer web of the 1st quill white; a pale fulvous brown streak from behind the nostril on each side to the eye, and a patch of the same colour on the side of the head including the ear coverts; under each eye a white spot; chin and throat white; breast dark bluish ashy, the feathers tipped with pale or dirty fulvous; lower abdomen white; vent feathers black; under tail coverts white; feathers on the flanks long and lax, those falling on the thighs pale brown with a mesial white streak; bill reddish at base, greenish yellow at tip; irides red; an orange garter above the knee.

Length.—12 to 13 inches; wing 6.75; tail 3; bill at gape 1.1. In mature plumage the entire head and neck are dark brown, almost black, and the upper plumage darker olive brown.

Hab.—Diffused throughout India and parts of Burmah, Central and South Europe, Africa and Java. Occurs also in Beloochistan, Persia, Afghanistan, Eastern Turkistan, Nepaul and Cashmere, affecting small rivers and marshes. In the dhunds and jheels in Sind, also in the Deccan, Guzerat and Rajputana, it is extremely common, swimming about freely. During the day, on retreating to the edges of the tanks or dhunds, it lives concealed among the reeds and rushes. It is less shy towards evening when it creeps along the margins of the waters among the long reeds in quest of aquatic insects, worms and seeds; breeds from June to August. The nest is a large structure of withered reeds and rushes, placed near the brink of the water; the female lays from 4 to 6 eggs; in shape they are long, oval or ovate pyriform, of a stone colour, with a pinkish tinge, speckled, spotted and blotched with reddish brown or red. It is said that the female never quits its nest without covering her eggs with the leaves of the surrounding herbage. The young are able to swim immediately they are hatched.

1334. *Gallinula phoenicura* (Penn.). *Ferd., B. Ind.* ii. p. 720, No. 907; *Hume, Nests and Eggs Ind. B.* p. 599; *Murray, Vert. Zool. Sind*, p. 263. *Rallus phoenicurus, Pennant in Forst. Zool. Ind.* p. 19, pl. ix. *Erythra phoenicura, Wald., Trans. Zool. Soc.* viii. p. 94; *Salvad., Ucc. Born.* p. 340; *Legge, B. Ceylon*, p. 786; *Oates, B. Br. Burm.* ii. p. 348.—The WHITE-BREADED WATER HEN.

Forehead, lores, entire face, chin, cheeks, throat, neck, breast and abdomen white; crown of the head, nape, neck behind, back, scapulars, wings, flanks and tail black, with greenish reflections; outer web of first quill white; lower



abdomen, vent and under tail coverts deep chestnut; bill yellow with a tinge of green; irides blood red.

Length.—12 to 13 inches; wing 6·5; tail 2·5; bill at front 1·5.

Hab.—Sind and throughout the Indian Peninsula, Ceylon and Burmah. In Sind not uncommon along the canals and the Indus. Breeds from May to August. Eggs greyish, with a light reddish tinge, spotted and blotched with various shades of red and bluish grey; affects generally the heavy undergrowth along the edges of canals.

Gen. Gallierex.—*Blyth.*

Bill as in *Gallinula*, with the base of the bill extending on to the forehead and forming a fleshy protuberance; toes long; hind toe and claws about half the length of the mid-toe; claws curved.

1335. *Gallierex cinereus* (Gm.), Hume, *Nests and Eggs Ind. B.* p. 596; *Wald.*, *Trans. Zool. Soc.* ix. p. 229; *Oates, Str. F.* v. p. 165; *Wardlaw-Ramsay, Ibis*, 1877, p. 477; *Legge, B. Ceylon*, p. 791; *Murray, Vert. Zool. Sind*, p. 261; *Oates, B. Br. Burm.* ii. p. 349. *Fulica cinerea*, *Gmel., Syst. Nat.* i. p. 702. *Gallinula cristata, Lath., Ind. Orn.* ii. p. 779. *Gallierex cristatus, Ferd., B. Ind.* iii. p. 716; *Blyth and Wald., B. Burm.* p. 161.—The WATER COCK.

Male in Breeding Plumage.—Dull black, the feathers of the back, wing coverts, rump and upper tail coverts more or less edged with light brown; tertials dark brown, edged with pale whitey brown; edge of the wing white; quills dusky, the shaft of the 1st quill white; tail blackish brown, the outer feathers edged with pale brown; lower wing coverts dusky with whitish edges; bill greenish yellow, fine red at the base; the crest about one inch long, fleshy red; irides red; legs dull red.

Length.—16 to 17 inches; extent 23; wing 8·5; tail 3·5; tarsus 3. (*Ferd.*)

Female.—Top of head dull black or dusky brown; back of neck, back, scapulars, wing coverts and tertiaries the same, the feathers edged with fulvous, more broadly on the back and wings; tail the same; sides of the face including a broad supercilium fulvous, in some with a rufescent tinge; chin and throat fulvous white; neck in front, breast and entire under parts brownish fulvous, the feathers with narrow transverse bars; thigh-coverts the same; primaries and secondaries dusky brown; outer web of first quill fulvous.

Length.—13 to 14 inches; wing 7; tail 2·5; bill at gape 1·25; tarsus 2·5.

Hab.—Sind, Lower Bengal, Tennaserim, South and Central India, Burmah and Malayana. Affects large swamps and marshes, also the vicinity of rivers. On the Aaral, at Sehwan, several may be seen in the early morning, issuing from the thick cover of tamarisk, fringing the banks, and running along the edge of the water.

**ORDER, HERODIONES.**

Bill large, long, stout and strong, pointed and in some slightly curved; tarsi generally long and scutellate; tail short; tibia bare for a considerable space. The Order comprises the Storks, Herons and Ibises.

Family, CICONIDÆ.—STORKS.

Bill long and stout, compressed to the tip; nostrils narrow, pierced through the bill and situated near the base of the culmen; tail moderate; front toes united at the base.

Gen. *Leptoptilos*.—Less.

Bill very large, high at base, much thickened; keel straight; head and neck more or less naked. Under tail coverts composed of long, lax, decomposed feathers, known as *marabou*.

1336. *Leptoptilos argala* (Lath.), *Ferd.*, *B. Ind.* iii. p. 730, No. 915; *Blyth and Wald.*, *B. Br. Burm.* p. 158; *Murray, Vert. Zool., Sind*, p. 266; *Oates, B. Br. Burm.* ii. p. 262. *Ardea argala*, *Lath., Ind. Orn.* ii. p. 676. *Leptoptilos dubius*, *Salvad., Ucc. Born.* p. 357; *Hume, Nests and Eggs Ind. B.* p. 605. *Leptoptilus giganteus* (*Forst.*), *Oates, Str. F.* vii. p. 50.—The ADJUTANT.

In Breeding Plumage.—Head, neck and gular pouch bare, except a few short scattered hair-like feathers varying in colour from yellowish red to fleshy red; ruff white; back, lesser and median wing coverts, primaries and secondaries black with a greenish gloss; the greater coverts and tertiaries silvery grey, forming a wing band; under parts white. In non-breeding plumage the white wing band is absent and the black plumage much duller.

Bill pale dirty greenish; irides greyish white.

Length.—60 inches; wing 30; tail 11; bill at front 12 inches; tarsus 11; pouch 16 to 18 inches in length.

Hab.—Sind and throughout the greater part of India; rare in the South; absent in Malabar, where it is replaced by *L. javanicus*; spread throughout North and N.-E. India to Burmah and the Malayan Peninsula. In the Deccan, also in Guzerat and Bengal, it is of much service as a scavenger. Its food is very various. Lizards and frogs, and insects too; refuse from dung heaps also does not come amiss to it. From the craw of three specimens collected about 80 miles east of Kurrachee, lizards (*Uromastix hardwickii*) were extracted. In each an entire animal in four pieces was found which had evidently not been long swallowed. The pieces were very neatly cut; the head making one, the body in two longitudinal halves, and the tail entire being the fourth piece.



Breeds in inaccessible places in parts of Bengal and Burmah, constructing a large nest of sticks, and laying 2—3 whitish eggs, not unlike those of the Vultures; huge broad ovals, in size from 2·87 to 3·3 in length, and from 2·1 to 2·55 in breadth.

1337. *Leptoptilus Javanicus* (Horsf.), *Ferd.*, *B. Ind.* iii, p. 732; *Salvad.*, *Ucc. Born.* p. 358; *Blyth*, *B. Burm.* p. 159; *Legge*, *B. Ceylon* p. 113; *Sharpe*, *Ibis*, 1819, p. 72; *Oates*, *Str. F.* x, p. 242; *id.*, *B. Br. Burm.* ii, p. 263. *Ciconia javanica*, *Horsf.*, *Trans. Linn. Soc.* xiii, p. 188.—The LESSER ADJUTANT.

Head and neck covered with a few soft decomposed feathers; crown of head bony and perfectly bare; ruff and lower plumage white; upper plumage, wings and tail dark brown with a slightly greenish gloss. Bill dirty yellowish; top of head dirty green; nude parts and neck tinged with yellow, seasonally red; irides whitish; legs dusky black.

Length.—52 to 55 inches; tail 10; wing 25; tarsus 9; bill from gape 10·5.

Hab.—Over nearly the whole of India in small numbers, frequenting marshes, paddy fields and edges of lakes and rivers. Common in Southern India and the Malabar Coast; rare in Central India and the Upper Provinces. Occurs in Bengal, Assam, Sylhet, and Burmah, extending from the latter down the Malay Peninsula, Habits same as the last.

Gen. *Xenorhynchus*.—*Bp.*

Bill very large, stout and solid, the tip turned up; 2nd and 3rd quills longest.

1338. *Xenorhynchus asiaticus*, *Lath.*, *Ind. Orn.* ii, p. 670; *Murray*, *Vert. Zool. Sind*, p. 266; *Oates*, *B. Br. Burm.* ii, p. 364. *Ardea Indica*, *Lath.*, *Ind. Orn.* ii, p. 701. *Mycteria australis*, *Shaw*, *Trans. Linn. Soc.* v, p. 34; *Ferd.*, *B. Ind.* iii, p. 734. *Mycteria indica*, *Hume*, *Nests and Eggs Ind. B.* p. 607; *id.*, *Str. F.* iii, p. 189. *Xenorhynchus australis*, *Blyth and Wald.*, *B. Burm.* p. 158; *Legge*, *B. Ceylon*, p. 1117; *Oates*, *Str. F.* x, p. 242.—The BLACK-NECKED STORK.

Head and neck rich dark glossy green, glossed on the hind head with purple; lesser, median and greater coverts and scapulars, also the interscapulars and tail dark brown, mixed with rich bluish green with a golden tinge; rest of plumage white; bill black; legs reddish.

Length.—52 to 56 inches; wing 24; tail 9; bill at front 12·5 inches.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Concan, Deccan and the greater part of India, extending to Malayana; also Burmah and Ceylon. In Central and North India it is, as in Sind, extremely common along the banks of rivers and on the edges of tanks and marshes.



Breeds nearly all over India in well-watered tracts, where lakes, jheels, swamps and marshes abound, and from September to December. The site for building is generally the higher branches of peepul or seesum trees. Nest very large and composed of twigs and sticks. Eggs, 4 in number, pure white and not unlike those of the last. Size 2·65 to 3·13 × 1·98 to 2·3 inch.

Gen. *Ciconia*.—Linn.

Keel of bill straight; 3rd and 4th quills longest; hind toe elevated.

1339. *Ciconia nigra* (Linn.), Bodd., Tab. Pl. En. 399; Gould, B. Eur. pl. 284; Jerd., B. Ind. iii p. 735; Str. F. iv. p. 22; Murray, Hdbk., Zool., &c., Sind, p. 225; id., Vert. Zool. Sind, p. 267.—The BLACK STORK.

Head, neck, nape, chin, throat, breast, back and greater and lesser wing coverts glossy black with blue, green and coppery reflections; primaries black; tail black; under tail coverts and under parts from below the breast white; legs orange red; nude orbital area reddish brown; bill blood red; irides dark brown.

Length.—44 inches; wing 24; tail 10; bill at front 8 inches.

Hab.—Sind, Punjab, N.-W. and Central Provinces, Oudh, Bengal, Kutch, Concan, the Deccan, Guzerat and Rajputana, also Afghanistan. A winter visitant to India.

1340. *Ciconia alba* (Belon.), Bodd., Tab. Pl. En. 866; Gould, B. Eur. pl. 283; Jerd., B. Ind. iii. p. 736, No. 919; Str. F. iv. p. 22; Murray, Hdbk., Zool., &c., Sind, 225; id., Vert. Zool., Sind. p. 267.—The WHITE STORK.

Head, crown, nape, chin, throat, breast and back pure white; greater wing coverts glossy black, shaded with grey towards the shafts; primaries, secondaries and tertiaries black; nude orbital area black; legs red; irides brown.

Length.—44 inches; wing 23 to 25; tail 10; bill at front 7·5 to 7·75.

Hab.—Sind, the Deccan, Concan, Rajputana, Kutch, Guzerat and Central India; also the Punjab, N.-W. Provinces, Oudh, and Bengal. Along the banks of the Indus and the edges of lakes and swamps; in Sind it is not uncommon during winter. Feeds on lizards, molluscs, &c.

1341. *Ciconia leucocephala* (Gm.), Bodd., Tab. Pl. Enl. 906; Jerd., B. Ind. iii. p. 737, No. 920; Murray, Hdbk., Zool., &c., Sind, p. 226; id., Vert. Zool., Sind, p. 267. *Ardea leucocephala*, Gmel., Syst. Nat. i. p. 642. *Melanopelargus episcopus*, Hume and Henders., Lah. to Yark., p. 295; Hume, Nests and Eggs Ind. B. p. 609. *Dissura episcopus*, Hume, Str. F. viii. p. 114; Legge, B. Ceylon p. 1119; Oates, B. Br. Burm. ii. p. 265. *Dissura episcopus*, Bodd., Str. F. vi. p. 469.—The WHITE-NECKED STORK.

Head black; back of neck glossed with purple, also the upper back, breast and upper abdomen; neck white; primaries and upper tail coverts glossed with green, also the lower back; tail white; irides crimson; eyelids and nude orbital area plumbeous; throat purplish; bill black, reddish on the anterior half; feet red.

Length.—36 to 37 inches; extent 70; wing 20; tail 7; bill at front 6.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Kutch (?), Rajputana (?), Guzerat, Concan, Deccan, South and Central India; also British Burmah and Ceylon.

Family, ARDEIDÆ.—HERONS.

All the members of the *Ardeidæ* family swarm throughout India in suitable localities. All are permanent residents and breed from May to September. Their nests are generally loose structures, some more or less compact, and built of twigs, &c., on trees, standing in the vicinity of water, and particularly on those in the middle of large sheets of water. Eggs, 3 to 4, glossless, and in colour from pale sea green to bluish green, but it is not uncommon to find single nests containing from 8 to 10 eggs, differing in shape, size and colour.

The following, from Hume's *Nests and Eggs*, gives the average size of the eggs of the different species:—

<i>Ardea cinerea</i>	2'27 × 1'66
<i>Ardea purpurea</i>	2'17 × 1'56
<i>Herodias alba</i>	2'11 × 1'55
<i>Herodias garzetta</i>	1'73 × 1'22
<i>Demigretta gularis</i>	1' 7 × 1' 3
<i>Bubulcus coromanda</i>	1'71 × 1'32
<i>Ardeola grayi</i>	1'48 × 1'17
<i>Butorides javanica</i>	1'64 × 1'23

An account by Layard of the breeding of *Herodias garzetta* and kindred species in Ceylon, conveys exactly what is observable in the breeding season of the *Ardeidæ* in India generally, and along the canals, &c., in the Narra Districts, and other large sheets of water in Sind.

During this season almost all the large pieces of water in India, unfrequented and distant from human habitation, in which trees are standing out of reach, except by boats, large colonies of ibises, spoonbills, cormorants, snake-birds, night-herons, &c., may be seen. During the day, except by the droppings of the birds, which coat the branches so thickly with lime, little suspicion would be excited of the spot being a heronry, as most of the birds, except a few sitting close, are away feeding, but towards eve, hundreds would be seen coming to roost, amid a continuous cackling. The report of a gun amongst them would present a scene scarcely describable. If disturbed before they have begun to lay, they are said to entirely desert the spot, and carry away



almost every stick they had used in building and to begin operations afresh in a distant locality.

Gen. Ardea—Linn.

Bill slender, the tip scooped; upper mandible with a groove from the nostril, but not extending to the tip; nostril covered partially by membrane; 2nd and 3rd quills longest; tarsi long and scutellate in front.

1342. Ardea goliath, *Temm., Pl. Col.* 474; *Rupp., Faun. Abyss.* pl. 26; *Ferd., B. Ind.* iii. p. 739; *Hume, Nests and Eggs Ind. B.* p. 610, No. 621; *id., Str. F.* i. p. 105; vii. p. 495.—The GIANT HERON.

Upper plumage dark blue grey; short occipital crest and rest of head dark brown; sides of the head and entire neck chestnut brown; chin and throat white; neck in front white with black streaks; breast and abdomen dark chestnut brown. The young bird is dull grey above, the head, ear coverts and back of neck are pale rufous cinnamon. Bill dusky above, beneath and tip greenish; irides pale yellow; legs blackish (*Ferd.*)

Length.—55 to 65 inches; wing 24; tail 10; bill at front 8; tarsus 9; standing height nearly 4 feet.

Hab.—Bengal, near Calcutta and the Khasia hills. Nothing certain appears to be known of its nidification.

1343. Ardea sumatrana, *Raffles, Trans. Linn. Soc.* xiii. p. 325; *Ferd., B. Ind.* ii. p. 740 (part); *Hume, Nests and Eggs*, p. 610 (part); *Salvad., Ucc. Born.* p. 344; *Blyth, B. Burm.* p. 159; *Hume and Dav., Str. F.* vi. p. 469; *id., Str. F.* viii. p. 114. *Ardea typhon*, *Temm., Pl. Col.* 745. *Ardea tectirostris*, *Gould, P. Z. S.* 1843, p. 22; *id., B. Austr.* vi. pl. 54.—The GREAT SLATY HERON.

Entire upper surface deep slaty; scapulars and feathers of the interscapular region linear, lanceolate, and elongated, with the terminal portions greyish white; those of the base of the neck similar but less elongated; crown with a dull purplish shade, also on the occiput, crown, back and sides of the neck; occipital crest long, linear and greyish white, about 9 inches long; orbital region, a band above and below the eye to the commissure bare; ear coverts and sides of the occiput light ashy brown, sometimes faintly rufescent; chin, upper part of throat, and feathers on either side of the base of the lower mandible white; rest of the throat and foreneck mingled ashy brown and slaty, with here and there a slightly ruddy tinge; feathers of the base and sides and front of the neck elongated, some of them fully seven inches in length, linear lanceolate, and the terminal portions pearl grey; rest of entire lower surface ash grey; wing lining, axillaries and under surface of the wing pure blue slate colour. (*Hume.*)

Length.—50 inches; tail 6; wing 18·5; tarsus 7; bill at front 6·5 (*Hume*); irides bright yellow; facial skin dirty green; upper mandible horny black; lower one whitish horny, yellowish towards the tip.

Hab.—Southern Tenasserim from Mergui to Bankssoon, Recorded also from Arracan.

1344. *Ardea insignis* (Hodgson), *Jerd., B. Ind.* iii. p. 740; *Hume, Nests and Eggs Ind. B.* p. 160; *id., Sr. F.* vi. p. 471. *Ardea fusca*, *Blyth, J. A. S. B.* xviii. p. 73.—The DUSKY GREY HERON.

General plumage dusky cinereous, with a crest of a few narrow ashy feathers, the longest about 7·8 inches; quills and tail dark slaty; sides of the head and neck slightly tinged with rufous; elongated breast plumes fine silvery grey, edged with dusky at the base; rest of lower parts mingled ashy and rufous; scapulars elongated, lanceolate and tipped with silvery grey. Bill dusky above, yellow at the gape and bottom of lower mandible; feet dark greenish grey.

Length.—46 inches; wing 19; tail 6·5; bill at front 7; tarsus 7; standing height about 42 inches; hind toe and claw 4·5 inches.

Hab.—N.-E. Bengal, the Sikkim Terai, Assam, and Arracan, extending to Malayana.

1345. *Ardea cinerea*, Linn., *Syst. Nat.* i. p. 235; *Naum, Vogt.* t. 220; *Gould, B. Eur.* pl. 274; *Jerd., B. Ind.* iii. p. 741; *Hume, Str. F.* i. p. 253; *Murray, Hdbk., Zool., &c., Sind*, p. 226; *Hume, Nests and Eggs Ind. B.* p. 610; *Dresser, B. Eur.* vi. p. 217, pl.; *Oates, B. Br. Burm.* ii. p. 245.—The COMMON HERON.



Ardea cinerea.



Forehead, sides of the head and crown white; a narrow streak from the base of the upper mandible over each eye, and another above it merging into the long occipital feathers, black; neck behind bluish ashy; in front white, with two rows of black elongate spots; breast and under surface white; back and wing coverts bluish ashy grey; primaries black; scapulars silvery grey; tail bluish ashy; bill dark yellow, brown on the upper mandible; irides yellow; nude orbitar area greenish.

Length.—39 inches; wing 18; tail 8; bill at front 5.

Hab.—Throughout India and Europe. In Sind the Mohannas or fishermen use this species as a decoy in the capture of wild fowl. Each boat has usually from 5 to 10 birds, Their eyelids are sewn up, and they stand motionless on the cross bar of the rudder gear or perched along the edges of the boat. They are fed daily, and during summer, when the occupation of wild fowl catching has ceased, serve the fishermen as food in the absence of anything better. Breeds throughout India from April to July, building nests on trees in small parties; colour of eggs sea green; size from 2'08 to 2'48 in length and 1'48 to 1'79 in breadth.

1346. *Ardea purpurea*, Linn., *Syst. Nat.* i. p. 236; *Jerd., B. Ind.* iii. p. 743; *Hume, Nests and Eggs Ind. B.* p. 611; *Salvad., Ucc. Born.* p. 345; *Blyth, B. Br. Burm.* p. 159; *Dresser, B. Eur.* vi. p. 217, pl.; *Legge, B. Ceylon* p. 1132; *Oates, Str. F.* x. p. 243; *id., B. Br. Burm.* ii. p. 245; *Murray, Vert. Zool., Sind*, p. 269.—The BLUE HERON.

Head glossy black, with a lengthened black crest, the two middle feathers of which extend 3—4 inches beyond the rest; sides of the head rusty yellow, with three longitudinal narrow black lines, one extends behind the head, and is continued down the neck, and two lateral ones from the eyes to the breast; chin and throat white; neck in front variegated with rufous black and purple, the feathers on the top of the breast long and acuminate, purplish white; back, wings, and tail reddish ash; scapulars purple, long, forming a brilliant plume on each side; breast and flanks deep brownish red, rest of under parts a little paler. Bill deep yellow; orbitar skin greenish yellow; tarsus reddish brown.

Length.—36 to 42 inches; wing 15'5; tail 5'75; bill at front 5'37; tarsus 5'25.

Hab.—Throughout India and Ceylon, extending into Burmah. Habits and nidification the same as those of the Common Heron.

Gen. *Herodias*.—*Boie*.

Bill moderately long, slender, straight and compressed to the tip; plumage white. In breeding plumage with a long dorsal train composed of lax decomposed feathers, and pectoral plumes in some. The following is a key given by Mr. Hume to the Indian species of the genus:—



Species.	Non-breeding plumage.	Breeding plumage.				Dimensions.				
	Bill.	Bill.	Crest.	Dorsal train.	Pectoral plumes.	Bill at front.	Wing.	Tarsus.	Nude portion of tibia.	Mid-toe and claw.
<i>H. alba</i> , Linn. <i>Ferd.</i> , <i>B. Ind.</i> iii. 744.	Yellow.	Black...	None.....	Long; extending 5 inches beyond tail.	None.....	5'0	17'2	7'91	5'2	4'7
* <i>H. eulophotes</i> .	Yellow.	Yellow.	Of numerous straight feathers, 4 inches long.	Not exceeding the tail.	3 inches long	3'8	9'3	3'9	...	...
<i>H. intermedia</i> , <i>V. Haselt.</i> <i>Ferd.</i> , <i>B. Ind.</i> iii. 745.	Yellow.	Black...	None.....	Long; about 7-8 inches beyond tail.	Of long decomposed feathers.	2'68 to 3'09	11'15 to 12'65	4'1 to 4'6	2'8 to 3'1	3'62 to 4'05
<i>H. garzetta</i> , <i>Linn.</i> <i>Ferd.</i> <i>B. Ind.</i> iii. 746.	Black...	Black...	Of 2 narrow feathers, 5-6 inches long.	Long; curling up at point scarcely extending beyond the tail.	Of long, narrow, ordinary feathers.	3'1 to 3'6	9'8 to 11'4	3'7 to 4'6	1'8 to 2'75	2'75 to 3'15

* *Hab.*—Tenasserim and Southern Pegu.

HERODIAS.

1347. *Herodias alba* (Linn.), *Ferd.*, *B. Ind.* ii. p. 744; *Blyth*, *B. Burm.* p. 159; *Legge*, *B. Ceylon* p. 1138; *Murray*, *Vert. Zool.*, *Sind*, p. 270. *Ardea alba* Linn., *Syst. Nat.* i. p. 239; *Dresser*, *B. Eur.* vi. p. 231, pl. *Ardea torra* (Buch.), *Frankl. P. Z. S.* 1831, p. 123. *Herodias torra*, *Salvad.*, *Ucc. Born.* p. 347; *Scully*, *Str. F.* viii. p. 360. *Ardea egretta*, *apud Hume*, *Nests and Eggs Ind. B.* p. 613.—The LARGE WHITE HERON.

In Breeding Plumage.—Whole plumage pure white; dorsal train of decomposed feathers extending about 4—5 inches beyond the tail; no crest, nor pectoral plumes. No dorsal train in non-breeding plumage. Bill yellow in winter, black in summer; irides pale yellow.

Length.—34 to 36 inches; tail 6; wing 13·5 to 17; tarsus 5·2 to 6·1; bill at front 4 to 5; from gape 5·5.

Hab.—Throughout India, Ceylon, and Burmah; nidificates on trees in small parties; eggs pale bluish green.

1348. *Herodias intermedia* (Von Hasselt), *Salvad.*, *Ucc. Born.* p. 348; *Blyth*, *B. Burm.* p. 159; *Legge*, *B. Ceylon*, p. 1141; *Murray*, *Vert. Zool.*, *Sind*, p. 270; *Oates*, *B. Br. Burm.* ii. p. 247. *Ardea nigrirostris* (Gray), *Hardw. Ill. Ind. Zool.*, pl. *Herodias plumifera*, *Gould*, *B. Austr.* vi. pl. 57. *Ardea intermedia*, *Von. Hass.*, *Wagler*, *Ibis*, 1829, p. 659; *Hume*, *Nests and Eggs Ind. B.* p. 615. *Herodias egrettoides*, *Ferd.*, *B. Ind.* ii. p. 745.—The LESSER WHITE HERON.

Breeding Plumage.—Whole plumage pure white, dorsal train exceeding the tail by 7—8 inches; a long soft tuft of pectoral feathers; no crest, no dorsal nor pectoral plumes in winter. Bill black in summer, yellow with a black tip in winter; facial skin green; irides yellow.

Length.—26 to 28 inches; tail 5·5; wing 11·5 to 12·5; tarsus 4·3; bill at front 2·68 to 3·09.

Hab.—Generally distributed throughout India, Ceylon and Burma, but rare in the latter and in Southern India. Breeds during July and part of August, in colonies and generally in company of other kinds of Herons, Ibises, &c. The nest is not unlike that of its congeners, composed of thin twigs, lined or not with coarse sedge, but generally more closely packed. Eggs, 4 in number, broad ovals, rather pointed towards one end; pale sea or bluish sea-green, 1·68 to 2·08 in length, and 1·3 to 1·52 in breadth.

1349. *Herodias garzetta* (Linn.), *Ferd.*, *B. Ind.* ii. p. 746; *Hume*, *Str. F.* iii. p. 190; *Legge*, *B. Ceylon* p. 1144; *Murray*, *Vert. Zool.*, *Sind*, p. 270; *Oates*, *B. Br. Burm.* ii. p. 248. *Ardea garzetta*, Linn., *Syst. Nat.* i. p. 237; *Hume*, *Nests and Eggs Ind. B.* p. 616; *Dresser*, *B. Eur.* vii. p. 239. —The LITTLE BLACK-BILLED WHITE HERON.



Breeding Plumage.—Whole plumage white; crest of 2—3 narrow feathers about five inches long; dorsal train scarcely extending beyond the tail and curled upwards at tip; pectoral plumes long and pointed. In *non-breeding plumage* there is neither a crest nor a dorsal train. Bill always black; base of lower mandible yellowish; irides yellow; facial skin greenish yellow; tarsus black.

Length.—25 inches; tail 4; wing 9·6 to 11·4; bill from gape about 4; at front 3·1 to 3·6.

Hab.—India, Ceylon and Burmah. Breeds in June, July, and part of August. Nidification similar to *H. intermedia*; eggs of the same colour, but from 1·6 to 1·8 in length, and 1·25 to 1·38 in breadth.

1350. *Herodias eulophotes*, Swinh., Ibis, 1860, p. 64; Blyth, Ibis, 1865, p. 37; Blyth, B. Br. Burm. p. 159; Hume and Dav., Str. F. vi. pp. 478, 480; Hume, Str. F. viii. p. 114; Oates, B. Br. Burm. ii. p. 249.—The LITTLE YELLOW-BILLED WHITE HERON.

In Breeding Plumage.—The whole plumage is white; crest of numerous straight feathers, four inches in length; dorsal train not exceeding the tail; pectoral plumes about 3 inches long; bill yellow; legs black.

Length.—20 to 22 inches; tail 3·1 to 3·7; wing 9·3 to 10; tarsus 2·9; bill from gape 3·8 to 3·9.

Hab.—Tenasserim, at Mergui, also at Amherst. Inhabits Formosa and South China.

Gen. *Demi-egretta*.—*Blyth*.

Bill long and more slender than in *Herodias*; adult plumage dark, otherwise as in *Herodias*.

1351. *Demi-egretta gularis*, Bosc., Act. Soc. H. N. i. t. 2; Meyer, Zool. Ann. i. t. 1; Hume, Str. F. i. p. 254. *Demi-egretta schistacea* (Licht.), Hemp. and Ehr. Sym. Phys. t. 6. *Demi-egretta asha*, Sykes, Cat. 171; Ferd., B. Ind. iii. p. 747, No. 928; Murray, Hdbk., Zool., &c., Sind, p. 227.—The ASHY EGRET.

Adult.—In breeding season, deep slaty blue; chin, throat, sides of the head, nearly to the gape and the base of the ear coverts, white; an occipital crest and dorsal train of decomposed feathers, concolorous with the upper parts, and not reaching quite to the end of the tail; pectoral plumes narrow and pointed; bill reddish yellow, dusky above; nude orbital skin yellowish green; legs blackish; feet and lower part of tarsus yellowish.

Length.—24 to 27 inches; wing 10 to 11·4; tail 3 to 3·8; irides yellow; bare portion of tibia 2·2 to 2·9; bill 3·5 to 4·1; tarsus 3·9 to 4·4; mid-toe and claw 2·3 to 2·6. Affects the mud flats in the Kurrachee harbour.



The young or intermediate stage of plumage is white throughout, some of the wing coverts being greyish.

Hab.—Sind, Mekran, Arabian and Western Coasts, also the Eastern Coast to Ceylon. Nidification the same as of the Herons. Eggs, a rounded oval, pale blue, 4—6 in number, 1.83×1.42 inch.

1352. *Demi-egretta sacra*, Gmel., *Syst. Nat.* i. p. 640; *Hume, Nests and Eggs Ind. B.* p. 618; *Salvad., Ucc. Born.* p. 346; *Wald., Ibis*, 1873, p. 318; *Hume, Str. F.* i. p. 254; ii. p. 304; *Hume and Dav., Str. F.* vi. p. 481; *Hume, Str. F.* viii. p. 114; *Oates, B. Br. Burm.* ii. p. 250. *Ardea jugularis* (*Forst.*), *Wagler, Syst. Av. Ardea, Sp.* 18. *Herodias concolor*, *Blyth, B. Burm.* p. 160.—The BLUE REEF HERON OR EGRET.

Breeding Plumage.—Whole plumage deep blackish slate colour; head with occipital crest nearly black; pectoral plumes and dorsal train much elongated, the former about 3.5 inches in length; the latter, reaching to the tip of the tail; abdomen and vent tinged with brownish ashy in some; chin with or without a small white streak down the throat. Young and adolescent birds are pure white, with dorsal and pectoral plumes fully developed. In both stages there are no dorsal and pectoral plumes in winter.

Length.—21 to 24 inches; tail 3 to 4.25; wing 9.85 to 11.75; tarsus 2.7 to 3.1; bill at front 2.65 to 3.5.

Hab.—The whole coast of British Burmah, the Andamans, and the Nicobars, and spread along the shores of the whole of Eastern Asia. Breeds from April to June. Eggs pale green.

Bubulcus.—Pucher.

Bill shorter than in the *Demi-egretta*; legs longer; plumes during the breeding season yellow.

1353. *Bubulcus coromandus* (*Bodd.*), *Salvad., Ucc. Born.* p. 350; *Legge, B. Ceylon*, p. 1147, *Oates, Str. F.* x. p. 243; *id., B. Br. Burm.* ii. p. 251; *Murray, Vert. Zool., Sind*, p. 271. *Cancroma coromanda*, *Bodd., Tabl. Pl. Enl.* p. 54. *Buphus coromanda*, *Ferd., B. Ind.* iii. p. 749; *Blyth, B. Burm.* p. 160; *Bingham, Str. F.* ix. p. 197. *Ardea coromanda*, *Hume, Nests and Eggs Ind. B.* p. 618.—The CATTLE EGRET.

In breeding plumage the head, sides of the face, neck in front (except a narrow mesial line, which is white) nape and part of the hind neck, and the decomposed elongate feathers brilliant orange, the filamentose feathers of the back reaching to the end of the closed wings, rest of the plumage pure white; legs yellowish green, the joints tinged plumbeous; bill deep orange yellow; orbital skin yellowish, with a pinkish tinge; irides pale yellow; mid-claw serrated.



Length.—21 inches; wing 10·25; tail 4; bill at front 2·5; tarsus 3·5. In winter the plumage is entirely white.

Hab.—Sind and throughout India, Burmah and Ceylon. It has gained the name of the Cattle Egret from its being always found amongst cattle when grazing, usually perched on their heads or backs. It is seldom, like the other species, seen wading in water. Feeds chiefly on insects, small frogs or tadpoles. Breeds from April to July. Eggs, 4—5, pale sea-green.

Gen. *Ardeola*.—*Boie*.

Tibia feathered nearly to the knee; tarsus shorter than in *Bubulcus*; toes also shorter.

1354. *Ardeola grayi* (*Sykes*), *Hume, Nests and Eggs Ind. Birds* p. 619; *Blyth, B. Burm.* p. 160; *Legge, B. Ceylon*, p. 1150; *Scully, Str. F.* viii. p. 361. *Ardea grayi*, *Sykes, P. Z. S.*, 1832, p. 158. *Ardeola leucoptera*, *apud Jerd., B. Ind.* iii. p. 751.—THE POND HERON or PADDY BIRD.

In summer dress the head is greyish or buffy yellow with an elongate white crest; neck in front, except a fulvous mesial line, back of the neck, and also breast, with the elongated feathers a little paler than the head; scapulars pale greyish brown; elongated dorsal feathers dark maroon; rest of the plumage white; tarsal plumes fulvous or pale buff; bill yellowish, bluish at the base and tipped black; orbital skin greenish yellow; irides bright yellow; legs and feet dull greenish.

In winter the crown of the head and nape are dark brown, the feathers with narrow mesial shaft-streaks; neck behind, on the sides and breast fulvous or pale buff, the feathers edged with dusky brown; back and scapulars grey brown or pale ashy brown; lower back, rump, upper and under tail coverts, also the tail and abdomen, pure white; thigh coverts fulvous; primaries white, dark shafted, the outer webs of the first three quills and also their tips greyish brown; secondaries pure white; wing coverts white, tinged very slightly in some specimens with greyish.

Length.—18 to 19 inches; wing 8 to 8·5; tail 3; bill at front 2·5.

Hab.—Sind and throughout India, Ceylon, and the Burmese countries. Breeds from May to August nesting in trees. Eggs, 4—6, pale bluish green, elongated ovals, 1·35 to 1·62 in length by 1·1 to 1·25 in breadth. Abundant in all moist localities, at the edges of ponds, ditches, marshes, and lakes, and especially in rice fields.

1355. *Ardeola prasinoteles*, *Swinh., Ibis*, 1860, p. 64; *id.*, *P. Z. S.* 1871, p. 413; *Hume, Str. F.* ii. p. 483; *Blyth, B. Burm.* p. 160; *Anders., Yunnan Exped.* p. 689; *Hume and Dav., Str. F.* vi. p. 481; *Hume, Str.*



F. viii. p. 114. *Ardea leucoptera*, *apud Hume, Str. F.* viii. p. 161.—The CHINESE POND HERON.

In Breeding Plumage.—Whole head with long pointed occipital crest and entire neck rich vinous chestnut; pectoral plumes long and soft, deep chestnut tinged with purple; dorsal train black, tinged with purple; chin, throat, wings, tail, rump and upper tail coverts, also the lower plumage, white. In winter both sexes resemble *A. grayi*, except that the back, scapulars, and tertiaries are a richer brown, tinged with chocolate or rufous; irides bright yellow; base of upper mandible bluish, rest black; feet pale orange. (*Oates*.)

Length.—17 to 18 inches; tail 3·1; wing 8·6; tarsus 2·2; bill from gape 3·4; crest 4 inches long.

Hab.—Southern Tenasserim and the Malay Peninsula. Occurs also in S. China and Cochin-China.

Gen. *Butorides*.—*Blyth*.

Bill moderately long and stout; tibia feathered nearly to the knee; inner toe short; head crested.

1356. *Butorides javanica* (*Horsf.*), *Ferd.*, *B. Ind.* iii. p. 752; *Wald.*, *Trans. Zool. Soc.* viii. p. 100; *Hume, Nests and Eggs Ind. B.* p. 620; *Blyth, B. Burm.* p. 160; *Legge, B. Ceylon* p. 1153; *Murray, Vert. Zool., Sind*, p. 272; *Oates, B. Br. Burm.* ii. p. 254. *Ardea javanica*, *Horsf.*, *Trans. Linn. Soc.* xiii. p. 190.—The LITTLE GREEN BITTERN.

Forehead and crown glossy black, also the long occipital crest; a streak from behind the eye including the ear coverts white, in some with a fulvescent tinge; another streak, which is black, below the eye; back and sides of the neck, also the breast and abdomen, greyish brown, ashy brown in some; chin and a streak down the front of the neck white; back and scapulars green, the feathers lengthened, lanceolate and white-shafted; the tertiaries white edged; wing coverts glossy green, edged with pale buff or fulvous; secondaries margined round their tips with yellowish white; tail dark slaty; under tail coverts greyish; quills dark slaty, narrowly tipped with white; bill black above, pale yellow beneath; legs yellowish green.

Length.—16 to 16·75 inches; wing 6·75; tail 2·5; bare part of tibia 0·5; irides bright yellow; nude orbital skin dull green.

The young bird—or bird of the year—is very differently marked. The head is black, with the feathers narrowly striated mesially with rufescent; sides of the neck and breast and lower parts fulvescent white, the feathers edged with dark brown; chin, throat and a line down the neck white; back and scapulars brown with a greenish tinge; the scapulars with a minute triangular white spot at the tip. Primaries and secondaries dusky brown, each with a



triangular white or fulvous white spot at the tip; primary coverts the same; wing coverts brown, broadly edged with rufescent, each feather with a rufescent or white triangular spot at the tip; edge of the wing fulvescent white.

Hab.—Sind and throughout the greater part of India, extending to Ceylon and Burmah; also the Malay Peninsula and islands as far as Australia, affecting water courses, wooded streams, nullahs and large open lakes. Habits nocturnal, generally issuing from its retreat at about sunset. Breeds in June and July, making nests in small companies on low trees or bushes. Eggs 4—6 in number, greenish white.

Gen. *Ardetta*.—*Gray*.

Bill rather slender and straight; toes and claws long; tarsus short, otherwise as in *Butorides*. Habit nocturnal.

1357. *Ardetta flavicollis* (*Lath.*), *Ferd.*, *B. Ind.* iii. p. 753; *Blyth*, *B. Burm.* p. 160; *Wald.*, *Trans. Zool. Soc.* ix. p. 236; *Hume*, *Str. F.* viii. p. 114. *Ardea flavicollis*, *Lath.*, *Ind. Orn.* ii. p. 701; *Hume*, *Nests and Eggs Ind. B.* p. 621. *Ardeiralla flavicollis*, *Salvad.*, *Ucc. Born.* p. 353; *Legge*, *B. Ceylon* p. 1159; *Oates*, *B. Br. Burm.* ii. p. 255.—The BLUE BITTERN.

"In the breeding season the plumage is dull cinereous black; chin and throat with the feathers tipped white, or with red brown; the larger feathers of the neck are mixed with white, red brown and dusky black, each feather having some black at the base and tip, and more or less red brown on one web only; a stripe of golden yellow down the side of the neck, widening inferiorly; feathers of the back forming the dorsal plume, lengthened, but not decomposed; the feathers of the breast dark ashy, slightly lengthened; abdomen dusky, mixed with whitish; inner wing coverts dusky reddish. The young bird has the feathers slightly edged with rufous, and the throat and neck less richly coloured than in the adult; bill livid red, dusky on the culmen; cere livid purple; irides yellow, in some with an outer circle of red; legs pale brown, with a tinge of green in some, reddish brown in others."

Length.—23 to 24 inches; wing 8·5; tail 3; bill at front 3·5; tarsus 2·5. (*Ferdon.*)

Hab.—Sind, Punjab, N.-W. Provinces, Deccan, Concan, and nearly throughout India, extending to Ceylon and Burmah. Affects swamps, rice fields and beds of rushes and reeds. Breeds in Sind. Mr. Doig obtained the eggs of a colony of these birds in the month of May on the Narra Canal. He says—"Once the sun is well up, they are seldom seen, unless actually beaten out of the dense tamarisk and reed jungle in which they lie hid." They are nocturnal feeders; the nests are formed of tamarisk twigs, with sometimes a few aquatic weeds on which the eggs are laid; always four in number, broad ovals, sharp at both ends, and nearly white in colour; size from 1·5 to 1·85 × 1·15 to 1·30 inches.



1358. *Ardetta cinnamomea* (Gmel.), *Ferd., B. Ind.* iii. p. 755; *Hume, Nests and Eggs Ind. B.* p. 622; *Salvad., Ucc. Born.* p. 354; *Blyth, B. Burm.* p. 160; *Hume and Dav., Str. F.* vi. p. 483; *Cripps, Str. F.* vi. p. 308; *Hume, Str. F.* viii. p. 114; *Oates, Str. F.* x. p. 243; *id., B. Br. Burm.* ii. p. 256; *Murray, Vert. Zool., Sind,* p. 274. *Ardea cinnamomea* Gmel., *Syst. Nat.* 1, p. 643. *Ardeiralla cinnamomea*, *Legge, B. Ceylon,* p. 1162.—The CHESTNUT BITTERN.

Top of head, back and scapulars chestnut, the feathers centred slightly darker; chin and throat white, with a median chestnut line; foreneck and breast chestnut, the feathers slightly darker mesially, and the edges of those on the breast fulvous; a median fulvous line on the foreneck; thigh coverts also chestnut; primaries, secondaries and tail dark brown; wing coverts like the back, but more fulvous; flanks buffy, the feathers mesially streaked with dusky; abdomen, vent and under tail coverts white with a fulvous tinge in some; bill yellow, dusky superiorly; orbital skin yellow; irides yellow; legs yellowish with a greenish tinge.

Length.—15 to 16 inches; wing 6; tail 1.75; bill at front 1.8 to 2; tarsus 1.9 to 2.

In immature plumage the upper parts, wing coverts, scapulars, neck in front and breast, also the thigh coverts reddish brown, or slightly darker, the feathers of the back and breast margined from ferruginous buff to fulvous.

Hab.—Sind, and nearly throughout India, Ceylon and Burmah and Malayana. Breeds in July and August, nesting on the ground at the edges of swamps or on the small embankments between the paddy fields. Eggs, generally six in number, dull white in colour.

1359. *Ardetta sinensis*, Gmel., *Syst. Nat.* i. p. 642; *Ferd., B. Ind.* ii. p. 755; *Hume, Nests and Eggs*, p. 623; *id., Str. F.* i. p. 308; ii. p. 311; iii. p. 193; *Salvad., Ucc. Born.* p. 354; *Blyth, B. Burm.* p. 160; *Legge, B. Ceylon* p. 1156; *Oates, Str. F.* x. p. 243; *Kelham, Ibis*, 1882, p. 196; *Murray, Vert. Zool., Sind*, p. 274; *Oates, B. Br. Burm.* ii. p. 257.—The LITTLE YELLOW BITTERN.

Top of head cinnamon rufous, the feathers centred broadly with black, giving it quite a black appearance; neck behind, back, scapulars, tertiaries and wing coverts deep cinnamon-rufous, the feathers margined with fulvous or bright buff; primaries and secondaries, greater wing coverts and tail black; edge of wing and under wing coverts fulvous white; chin and throat white, with a median buff line; sides of the breast deep brown, margined with buff; breast bright buff, margined paler; abdomen, vent and under tail coverts buffy white; legs yellowish green; bill pale yellow, brownish superiorly.

Length.—13 inches; wing 5.25; tail 1.75; bill at front 2; tarsus 1.7 to 1.8; mid-toe 1 inch.



Hab.—Sind, Bengal, Kutch, Deccan, and nearly throughout India; also Ceylon and Burmah generally, extending to the Malay Peninsula and Islands of Java, Borneo and Sumatra. It is less common than the last, and frequents similar situations, *i.e.*, high reeds and thickets. All the species are nocturnal feeders, and remain hid during the day in dense cover. Breeds during July and August in similar situations as the last. Eggs, four in number, pale green.

1360. *Ardetta minuta*, Linn., *Syst. Nat.* i. p. 670; *Hardw.*, *Ill. Ind. Zool. pl.*; *Bodd.*, *Tabl. Pl. Enl.* 323; *Naum.*, *Vogt.* t. 227; *Gould*, *B. Eur.* pl. 282; *Ferd.*, *B. Ind.* iii. p. 756, No. 935; *Hume*, *Str. F.* i. p. 256; *Hume*, *Nests and Eggs Ind. B.* p. 624.—The LITTLE BITTERN.

Top of the head, back, scapulars and tail black, with greenish reflections; hind-neck nearly bare of feathers, those of the foreneck falling back and covering it; cheeks, chin, neck and all the lower parts of the body reddish buff or inclining to chestnut; the feathers on the sides of the breast are black, edged with buff; those of the flanks long, and narrowly striped mesially with pale brown; primaries and secondaries black or greyish black; greater and lesser wing coverts dull yellowish buff; bill bright yellow, dusky above; orbital skin and irides yellow; feet greenish with a yellow tinge.

Length.—15 inches; wing 5·75; tail 2; bill at front 1·75.

Hab.—Sind, Bengal, Punjab, Beloochistan, Persia, Arabia and the Himalayas are the only known localities where this species has been found outside of Europe. It breeds in the Narra Districts in Sind, where Mr. S. Doig took its eggs. (*Str. F.* viii. 372, 379.) Each nest contained 4–6 eggs, elongate ovals, and pure white, with a very slight tinge of sea green not perceptible in the blown egg.

Gen. *Botaurus*.—*Briss.*

Bill rather short, stout and rounded; tip scooped; the upper mandible curved to the tip, and longer than the lower; tarsi short; nostrils narrow, situated near the base of the bill; 1st to 3rd quills of wing longest.

1331. *Botaurus stellaris*, Linn., *Syst. Nat.* i. p. 230; *Ferd.*, *B. Ind.* iii. p. 757; *Hume*, *Nests and Eggs Ind. B.* p. 624; *Dresser*, *B. Eur.* vi. p. 281, pl.; *Murray*, *Vert. Zool.*, &c., *Sind*, p. 275; *Oates*, *B. Br. Burm.* ii. p. 258.—The COMMON EUROPEAN BITTERN.

Forehead, crown and nape glossy black, also a moustachial stripe; sides of the face and ear coverts buff, with narrow dusky streaks; feathers of the sides of the neck long and lax, bright buff, and with irregular black transverse bars; hind neck bare, covered by the feathers of the foreneck; chin and throat fulvous, with a median rufescent line; foreneck and breast the same, each feather with irregular dark brown, nearly black bars and spots; lower breast



with long, lax, feathers, which are buff, with broad longitudinal black stripes ; flanks the same ; abdomen rufous buff, with narrow dark mesial streaks ; back and scapulars black, the feathers edged, barred and mottled with buff ; tail buff, thickly mottled and with zigzag markings of dusky ; primaries and secondaries dark brown barred with rufous ; wing coverts buff, barred and mottled with dusky brown ; bill pale yellow, dusky above ; orbits yellow ; irides gamboge yellow ; legs greenish yellow.

Length.—30 inches ; wing 13·5 ; tail 4·5 ; tarsus 3·75 to 3·9.

Hab.—Sind, the Deccan, Punjab, N.-W. Provinces, Oudh, Bengal, and nearly all India, Burmah, and Ceylon ; Central and Southern Europe, Persia, Nubia, Beloochistan and S. Afghanistan.

The Bittern is a shy solitary bird ; it is never seen on the wing during the day, but sits hid among the reeds, rushes and other rank vegetation that prevail in the marsh, or bog where it may have taken up its abode. It is said to defend itself fiercely against a dog or falcon, with both its bill and claws, the bill with its extremely sharp point being however chiefly made use of. It is said to have been esteemed in falconry, owing to its habit, when flown at, of ascending in spiral circles, high up in the air, to keep above its enemy. Selby adds—"Should this manœuvre fail, it then prepares for the descent of the hawk, by setting its sharp bill perpendicularly upwards, upon which its antagonist frequently transfixes itself." Its boom or note is said to resemble the bellowing of a bull. It is also often uttered while the bird is soaring in the air, but the sound is feeble, compared with the hollow booming noise which it makes at night during the breeding season. Jerdon says it is excellent eating, not fishy in the smallest degree, and has a high game flavour.

Gen. *Nycticorax*.—Steph.

Bill long, sharp, the gape extending below the eyes ; nostrils in a lateral groove covered by membranous scale ; wings with the 2nd and 3rd quills longest ; claw of mid-toe serrated ; tarsi irregularly scaled.

1362. *Nycticorax griseus* (Linn.), Bodd., *Tab. P. E.* 758, 759 ; Naum., *Vogl. t.* 225 ; Gould, *B. Eur.* pl. 279 ; Jerd., *B. Ind.* iii. 758, No. 937 ; Dresser, *B. Eur.* vi. p. 299, pl. ; Hume, *Str. F.* viii. p. 114 ; Murray, *Veri. Zool., Sind*, p. 276 ; Legge, *B. Ceylon*, p. 1165. *Nyctiardea nycticorax*, Hume, *Nests and Eggs Ind. B.* p. 624. *Ardea grisea*, Linn., *Syst. Nat.* i. p. 235 ; *Str. F.* vi. p. 415 ; Murray, *Hdbk., Zool., &c., Sind*, p. 228. (*Gadri*, Sind).—The NIGHT HERON.

Forehead and supercilium, also the chin, throat and a narrow mesial line on the foreneck white ; under tail coverts, breast and abdomen white, with a creamy tinge ; top of head and nape, also the back and scapulars black, glossed with green ; lengthened crest feathers 6—7 inches long, narrow and white,



TANTALIDÆ.

tipped with brown; hind neck, wing coverts, tail and sides of the body ashy grey; first three quills emarginate near the tip; bill black, yellow at base of lower mandible; orbital skin yellowish green; irides blood red.

Length.—22 to 23 inches; wing 12·5; tail 3·75; bill at front 2·8; tarsus 3.

Hab.—Sind, Beloochistan, Persia, Afghanistan and throughout India, Ceylon, and Burmah. It is a permanent resident in India, and breeds from May to September in societies. The nest is a loose structure of twigs. Eggs 3—4, glossless pale sea-green; size 1·92 × 1·35.

Gen. **Gorsachius**.—*Pucher*.

Bill moderate, higher than broad at base; tarsus moderate; tibia feathered for the greater portion of its length; feet and toes long; neck thick.

1363. *Gorsachius melanolophus* (Raffles), *Salvad.*, *Ucc. Born.* p. 355; *Blyth*, *B. Burm.* p. 160; *Legge*, *B. Ceylon*, p. 1169. *Ardea melanolopha*, *Raffles*, *Trans. Linn. Soc.* xiii. p. 326. *Botaurus limnophilax*, *Salvad.*, *Ucc. Born.* p. 355. *Gorsachius melanolophus*, *Hume*, *Str. F.* ii. p. 312; *Bour-dillon*, *Str. F.* iii. p. 524; *Hume*, *Str. F.* viii. p. 114.—The MALAYAN TIGER BITTERN.

Forehead, crown and a long occipital crest purplish black; sides of the head and back of the neck chestnut, as are also the back, rump, wing coverts, scapulars and tertiaries, but these parts are closely barred with undulating narrow bars of black; winglet black, broadly tipped with white; the first two or three primary coverts black, tipped with white; the others chestnut and also white tipped; primaries slaty black, tipped with white and with a subterminal patch of chestnut; secondaries also tipped with white; upper tail coverts and tail slaty brown; chin and throat whitish; front and sides of the neck and breast dull rufous grey; the centre of the throat and middle line of the neck and breast streaked with black, light buff and chestnut; under surface of the body dull chestnut, marked irregularly with black lines and white patches; under tail coverts white. Facial skin green; legs and feet greenish olive; irides greenish yellow.

Length.—19 inches; tail 3·5; wing 10·3; tarsus 2·5; bill from gape 2·3.

Hab.—Southern India and Ceylon; also Tenasserim, Arracan, and the Nicobars.

Family, TANTALIDÆ.

Bill long, stout, rounded, curving downwards in many, flat in others; wings long; tail rather short; toes webbed at the base.

Sub-Family, TANTALINÆ.

Bill long, slender and curved; sides compressed to the tip, or thick and rounded; tail even; inner toe shorter than outer; hind toe long.

Gen. **Tantalus**.—Linn.

Bill rounded, long and curved downwards; nostrils at the base of the bill; head and cheeks bare; tibia naked for half its length.

1364. *Tantalus leucocephalus*, Penn. in Forst. Ind. Zool. p. 20, pl. 10; *Gmel., Syst. Nat.* i. p. 649; *Ferd., B. Ind.* ii. p. 761, No. 938; *Hume, Nests and Eggs Ind. B.* p. 626; *Blyth, B. Burm.* p. 158; *Hume and Dav., Str. F.* v. p. 484; *Newton, Str. F.* viii. p. 415; *Legge, B. Ceylon,* p. 1100; *Oates, Str. F.* x. p. 244; *id., B. Br. Burm.* ii. p. 267; *Murray, Vert. Zool., Sind,* p. 276.—The PELICAN IBIS.

Plumage white; quills and tail richly glossed greenish black; tertiaries white, tinged with rosy, with a dark band near the end and a white tip, the feathers lax and decomposed; lesser and median coverts glossy green, edged with white; greater coverts white; bill yellow, the tip greenish, as are the naked orbits, head and gular skin; irides pale yellow brown grey in some; legs fleshy red.

Length.—40 to 42 inches; expanse 71; wing 20; tail 6·25; tarsus 8·10.

The young have the cheeks and ear coverts grey; head and neck brown; lower plumage smoky white, darker across the abdomen and on the sides of the body.

Hab.—Extremely common throughout India, Burmah and Ceylon, frequenting rivers, tanks, marshes, &c., generally in small parties of 10 or a dozen. Breeds from May to August on high trees. Eggs, 3—4, glossless, dull white with a thick compact shell.

Sub-Family PLATALÆINÆ.—SPOONBILLS.

Bill flat, spathulate, long and rounded at the tip.

Gen. **Platalea**.—Lin.

Bill thin, flat, dilated and rounded at the tip (spathulate) otherwise as in *Tantalus*; toes connected by a small membrane extending as far as the second joint of the outer and the first joint of the inner one.

1365. *Platalea leucorodia* (Linn.), Bodd. Tab. Pl. En. 405; *Gould, B. Eur.* pl. 286; *Ferd., B. Ind.* iii. p. 763; *Murray, Hdbk., Zool., &c., Sind,* p. 229; *Murray, Vert. Zool., Sind,* p. 227.—The SPOONBILL.

Plumage pure white, except a buffy yellow patch on the upper breast, extending sometimes on to the back; orbital skin orange yellow, also the skin of the gullet; head crested; bill and legs black, spotted or barred with yellowish; the tip yellowish during winter; irides blood red; legs black; nude facial skin and gular pouch orange yellow.

Length.—31 to 36 inches; wing 14 to 16; tail 6·25 to 6·5; bill at front 7 to 8·5.

The young have the shafts and tips of the primaries black.

Hab.—Sind, Beloochistan, Persia, Afghanistan and throughout India, frequenting rivers, lakes, &c.



Breeds throughout India nearly. Especially common in Sind and Ceylon. Nests made in trees; eggs white, chalky, broad ovals, and elongated 2·4 to 2·95 inch in length and 1·65 to 1·95 in breadth.

Sub-Family ANASTOMINÆ.

Bill thick, stout, gaping in the middle.

Gen. *Anastomous*.—*Illiger*.

Bill long, curved, thick, solid, gaping in the middle, compressed at the sides; tail nearly even; nostrils basal, at the edge of the upper mandible; tarsi reticulated; tibia naked for half its length; toes webbed at the base.

1366. *Anastomous oscitans* (Bodd.), *Ferd.*, *B. Ind.* iii. p. 765; *Hume, Nests and Eggs Ind. B.* p. 630; *Blyth, B. Burm.* p. 158; *Hume, Str. F.* iii. p. 192; *Hume, Str. F.* viii. p. 114; *Legge, B. Ceylon*, p. 1103; *Oates, Str. F.* x. p. 244; *Murray, Veri. Zool., Sind*, p. 277.—The SHELL IBIS.

Young.—Plumage light grey, darker on the head and neck, the feathers on the latter hair-like; upper back, scapulars, primaries and secondaries, also the winglet and tail black, with purple reflections; nude skin of the chin and front of the eyes greenish black; in a later stage of plumage the head, sides of the face, nape and neck behind are dusky brown, the feathers short; neck in front, breast, lower parts, back, wing coverts and tail pure white, the primaries and secondaries also, their shafts black, also the shafts of the winglet; the first three primaries broadly margined with black on their outer and inner webs, their tips black; the inner webs of the primaries margined only to the notch; tertials white, also black-shafted; the upper series slaty grey, with their webs lax and disunited. In the breeding plumage the bird is entirely white; bill greenish black; nude orbital and gular skin blackish; irides grey or pale brown; legs blackish.

Length.—29 to 30 inches; wings 15 to 16; tail 7; bill at front 6·5 to 8; tarsus 5·25 to 5·5.

Hab.—Sind, Beloochistan, Persia, Punjab, N.-W. Provinces, Oudh, Bengal, Guzerat, and the Deccan; abundant in Bengal and Central India, also Burmah and Ceylon; chiefly found in the vicinity of rivers, lakes and marshes; resident in Sind. Breeds from July to September in company with *Threskiornis melanocephalus*. Eggs, creamy white, from 2 to 2·52 inches in length and from 1·48 to 1·82 in breadth.

Sub-Family, IBIDINÆ.

Bill more slender, long and curved, as in *Anastomous*.

Gen. *Threskiornis*, *Gray*.

Bill nearly square at base, curved; upper mandible with a lateral groove extending to the tip; nostrils situated at its base; tail short; hind toe half as long as the mid-toe; head and neck nude; scapulars and tertials lengthened and decomposed; feathers of the breast elongated; plumage white.



1367. *Threskiornis melanocephalus* (Lath.), *Ferd.*, *B. Ind.* iii. p. 768; *Hume, Nests and Eggs Ind. B.* p. 632; *Murray, Vert. Zool., Sind*, p. 278. *Tantalus melanocephalus*, *Lath., Ind. Orn.* ii. p. 709. *Ibis melanocephalus*, *Salvad., Ucc. Born.* p. 359; *Blyth, B. Burm.* p. 158; *Legge, B. Ceylon*, p. 1106; *Oates, B. Br. Burm.* p. 268.—The WHITE IBIS.

Head and neck nude; lower neck, back, wings and their coverts, primaries, secondaries, entire under surface from the breast and also the tail, white; scapulars and tertials lengthened, their outer webs disunited, and of a greyish colour. In another stage of plumage the quills are black with green reflections; bill and legs black; irides blood red.

Length.—29 to 30 inches; wing 14; tail 5.75; bill at front 6; tarsus 4.

Hab.—Sind, Mekran Coast, Persia, Rajputana, Kutch, Guzerat, Concan, Deccan, and nearly throughout India, Ceylon and Burmah. A resident wherever found; breeds from July to September. Eggs, 4—6, white, or dingy white, with a slight bluish tinge when fresh; size 2.5 × 1.75.

Gen. *Geronticus*.

Bill more slender and longer than in *Ibidinae*; plumage black.

1368. *Geronticus papillosus*, *Tem., Pl. Col.* 304; *Ferd.*, *B. Ind.* iii. p. 769; *Hume, Nests and Eggs Ind. B.* p. 633; *Murray, Vert. Zool., Sind*, p. 278; *Legge, B. Ceylon*, p. 1107; *Murray, Hdbk., Zool., &c., Sind*, p. 229.—The WARTY-HEADED IBIS.

Head, nape, chin and throat nude, black; crown with a triangular patch of bright red papillæ extending in front in line with the eyes, and behind to the back of the head; neck and entire under surface fuscous brown, unglossed; back, scapulars and tertials the same, but glossed with purplish; upper tail coverts dark brown, slightly glossed with steel blue; under tail coverts glossed with bluish; wings glossy steel blue, mixed with purple; a large patch of white on the wing above the shoulder formed by the white of the innermost lesser wing coverts; bill plumbeous with a greenish tinge; irides orange red; legs and feet brick red.

Length.—30 inches; wing 15; tail 7.5; bill 6 to 7; tarsus 3.

Hab.—Sind, Beloochistan, Persia, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Central India, Khandeish, Guzerat, Concan and Deccan. Occurs on the Western Coast generally. A resident in Sind; breeds from July to September.

Gen. *Graptocephalus*.—*Elliot*.

No warts on the back of the head.

1369. *Graptocephalus Davisoni* (Hume), *Elliot, P. Z. S.* 1877, p. 490; *Hume and Dav., Str. F.* vi. p. 485; *Hume, Str. F.* viii. p. 114; *Oates, Str. F.* ix. p. 300; x. p. 244; *Oates, B. Br. Burm.* ii. p. 269. *Geronticus Davisoni*, *Hume, Str. F.* iii. p. 300. *Geronticus papillosus*, *apud*

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Oates, Str. F. iii. p. 347. *Inocotis papillosus*, *apud Oates, Str. F.* v. p. 169. *Ibis Harmondi*, *Oust., Bull. Soc. Philom.*, 1877, p. 28.—
DAVISON'S BLACK IBIS.

Head and a portion of the neck naked, the front of the head covered with small warts; remainder of neck, whole lower plumage, back, scapulars, and tertiaries dark brown; rump and upper tail coverts darker, with a greenish lustre; quills and tail glossy bluish black; lesser wing coverts next the body white, forming a wing spot; nude parts blackish brown; a white band round the neck; irides orange red; bill bluish; legs pale coral red. (*Oates.*)

Length.—30 inches; tail 7·7; wings 15·2; tarsus 3·2; bill from gape 6·2.

Hab.—The plains of Southern Pegu, between the Pegu and Sittang rivers, where it appears, as *Oates* says, to be a constant resident. It has also been observed in the southernmost parts of Tenasserim. Extends to the Malay peninsula, and is said to be found in Siam and Cochin-China. Occurs singly or in pairs; feeds on the banks of muddy streams and in marshes. Breeds in Pegu. Eggs, two in number, pale blue.

Gen. **Falcinellus**.—*Bech.*

Bill long and slender, more so than in *Threskiornis*: tarsus longer; 2nd and 3rd quills longest.



Falcinellus igneus. The Glossy Ibis.

1370. *Falcinellus igneus* (Linn.), *Jerd., B. Ind.* iii. p. 770; *Hume, Nests and Eggs, Ind. B.* p. 625; *Blyth, B. Burm.*, p. 158; *Elliot, P. Z. S.* 1877, p. 503; *Hume, Str. F.* viii. p. 114; *Doig, Str. F.* viii. p. 377;



Oates, Str. F. x. p. 245; *Murray, Vert. Zool. Sind*, p. 279. *Tantalus falcinellus*, *Linn., Syst. Nat.* i. p. 241. *Scolopax rufa*, *Scop. Ann.* i. p. 93. *Numenius igneus*, *S. G. Gmel., Nov. Comm. Petrop.* xv. p. 460, t. 18. *Plegadis falcinellus*, *Dresser, B. Eur.* vi. p. 335. pl.; *Legge, B. Ceylon*, p. 1109; *Oates, B. Br. Burm.* ii. p. 271.—The GLOSSY IBIS.

Head, on the crown and sides, deep greenish dark brown, glossed with metallic purple, the feathers lanceolate; neck, nape, chin and throat, also the back and breast, deep rich reddish brown or chestnut red; lower back, rump, wing coverts and tail dark green, with bronze and purple reflections; primaries dark brownish black, tinged with green; tertiaries dark red brown; legs blackish green, with a blue garter above the knee; claw of mid-toe scooped or hollow below, and forming a sharp edge on one side; irides brown; lores nude.

Length.—22 to 23 inches; wing 10·5 to 11; bill at front 6 to 6·5; tarsus 4·5. Birds of the year are dark brown, the feathers of the head, chin and throat margined with white or lineated; back greenish brown, very little glossed; under parts dusky.

Hab.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Central India, Guzerat and the Deccan; also Ceylon and Burmah. Recorded also from Arracan. It is not known from the Concan, but possibly occurs there, being a bird essentially affecting paddy fields, marshes and jheels. Breeds in Sind.

ORDER.—NATATORES.

Feet more or less fully webbed; tarsi compressed, generally short, except in the *Phenicopteridae*; bill various; wings also variously developed. The first tribe of the order is *Lamellirostres*, or birds with thick depressed bills, usually covered with soft skin, the tip commonly called the "nail," above being horny; the edges of the bill are serrated, forming lamellar teeth, which serve as a sieve.

Family. PHENICOPTERIDÆ.

Bill thick, rounded, rather compressed on the sides, suddenly bent downwards in the middle: tarsi and thighs long, the latter naked; tarsi scutellate.

Gen. *Phenicopterus*.—Linn.

Margin of bill lamellate and dentate; nostrils in a groove covered by membrane; neck very long; 1st and 2nd quill of wing longest; other characters as in the Family.

1371. *Phenicopterus antiquorum* (*Tem.*), *Bodd., Tab. P. E.* 63; *Naum. Vogt.* t. 233; *Gould., B. Eur.* pl. 287. *Phenicopterus rosens* (*Pall.*), *Ferd., B. Ind.* iii. p. 775, No. 944; *Hume, Str. F.* i. p. 257; *Murray, Hdbk., Zool., &c., Sind*, p. 230.—The FLAMINGO.



Plumage throughout of a rosy white in the adult bird; primaries and secondaries black; primary and greater wing coverts white, dark shafted and broadly tipped with black, rest of the wing coverts and tertiaries rosy red; axillaries and under wing coverts rosy red; bill rosy, broadly black at the tip; legs and feet rosy red.

Length.—48 to 54 inches; wing 16 to 16.5; tail 6; bill 4 to 4.12. Birds of the year have scarcely any rosy tinge, and the plumage, especially of the upper parts, is mixed with dusky.

Hab.—Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Oudh, Bengal, Central India, Rajputana, Kutch, Guzerat, Concan, Deccan, South India and Ceylon. Everywhere in flocks of thousands on all the lakes, rivers, &c., especially in Sind. Mr. Hume (*Str. F.* i. p. 257) truly describes them "as occurring in countless myriads, seen either massed upon the water, as huge rosy islands, or floating above it like a sunset cloud in all the large lakes of Sind. On taking flight, the exposure of the rosy upper and under wing coverts turns the mass into a gigantic brilliant rosy scarf, waving to and fro in mighty folds as it floats away." They are also common about the Kurrachee harbour, chiefly on the mud flats and in Clifton Bay; usually they are in large parties drawn up in line. When feeding they have their necks and heads bent down in such a position, that the upper mandible rests on the ground; with it they stir up the limpid ooze in search of animalculæ, minute crustacea, fish, &c., on which they live. Like the Cranes the Flamingoes also have sentinels posted to give warning of danger; their flesh is not considered good, but the Mohannas or fishermen caste on the Indus consider it palatable, the fishy taste being lost on their palates, owing to their principal diet being fish. The ancients considered it choice food, and the Egyptians, at the present day, are partial to the flesh. From the tongue they are said to extract an oil which they use for flavouring certain viands.

They have been found breeding at Fao in Mesopotamia; the nest is as curious as the structure of the bird, being a truncated cone, built entirely of stiff clayey mud, on which the parent bird sits either astride or with its long legs folded under it. Eggs, 2 in number, white, and very chalky.

1372. *Phœnicopterus minor*, (Geoff. St. Hil.) Tem., P. C. 419; Schleg., De Dier. fig. 276; Ibis, 1869, pl. 15, 8; Hume, Str. F. i. p. 31; ii. p. 339; Murray, Hdbk., Zool., &c., Sind, p. 230; id. Vert., Zool. Sind., p. 280.—THE LESSER FLAMINGO.

"In winter plumage the head, neck and the whole body above and below is a delicate pale rose colour; on the back little more than white, tinged with rosy; scapulars are almost white, with a pale rosy streak down the centre; quills black, except the tertials, which are like the scapulars, but slightly pinker; wing coverts pale rosy white, the lesser and median broadly centred at the tip with a bright rather pale cerise, and the legs and feet are a bright rose pink. In the breeding season the rosy tint is very much brighter, the

CYGNUS.

throat is *bright* rose colour, each of the feathers of the breast is broadly centred towards the tip with bright cerise; feathers of the upper portion of the back similarly centred, and over the broad rosy white scapulars a number of comparatively narrow, elongated, intensely cherry-coloured plumes have been thrown out; the whole visible portion of the secondary, lesser and median coverts have become the most brilliant cherry colour with only narrow white tips; lower tail coverts, flanks and vent feathers are bright rosy tinged with cherry colour, with only narrow white tips; the legs and feet too have become a deep but brilliant red; the basal portion of bill deep vinous red, the tip black, the intermediate portion bright crimson lake."

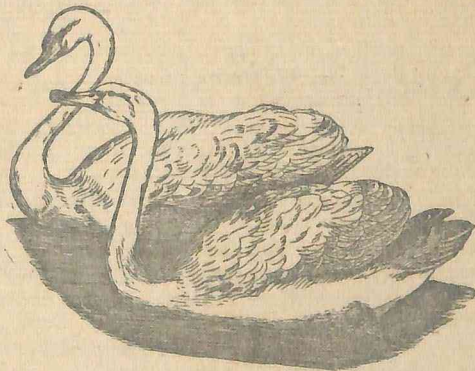
Length.—33 to 35 inches; wing 12.5 to 13.75; bill from gape 3.5 to 3.6; tail 4.5 to 4.75; tarsus 7.5 to 8.5.—(*Hume, Str. F. i. 33-34.*)

Hab.—Sind, Persia, Punjab, N.-W. Provinces, Rajputana, Guzerat and the Deccan.

Gray, in his *Handlist of Birds in the Br. Mus.*, gives West Africa, Cape of Good Hope and the Coast of the Red Sea as its other habitats. Occurs associated with *P. antiquorum*.

Family, CYGNIDÆ.—Bp.

Neck very long; legs moderate; front toes broadly webbed; hind toe not lobed; keel long; bill high at the base, with a fleshy or callous tubercle; cere extending to the eye; 2nd and 3rd quills of wing longest; tail short, rounded.



Cygnus olor. The Mute Swan.

1373. *Cygnus olor* (Gm.), Bodd., Tab. P. E. 913; Naum. Vogt. i. 29; Gould, B. Eur. pl. 354; Str. F. vii. pp. 99, 101, 106; Murray, Hdbk., Zool., &c., Sind, p. 231; id., Vert., Zool. Sind, p. 282.—THE MUTE SWAN.



Entire plumage white; callous tubercle at base of upper mandible; legs, feet and cere black; bill reddish orange, the edges and tip black; irides dark brown.

Length.—48 to 52 inches. The following are the measurements of the three specimens obtained by Mr. H. E. Watson given in Mr. Blanford's paper on Wild Swans in Sind (*Str. F.* vii 101):—

	No. 1.	No. 2.	No. 3.
Length from tip of bill to end of tail...	58· 5"	62·"	60·"
Expanse	78·	84·	82·
Closed wing...	22·	23·	...
Tail from vent	9·75	10·25	9·75
Bill from gape	3·75	3· 8	...
Tarsus measured on inner side.....	3· 8	4· 2	...

The female resembles the male in every particular, except that the callous tubercle is smaller.

This species was obtained on the Munchur Lake during an unusually severe winter in Sind, by Mr. H. E. Watson, Deputy Collector of Sehwan, shortly after I left the Lake in the same year (1878). In every instance, where the species has occurred, it was during an unusually severe winter. Mr. Hume, in his *Game Birds*, says—"It may be considered a pretty regular, though somewhat rare, cold weather visitant to the Peshawar and Hazara Districts, and an occasional straggler to the Kohat and Rawul Pindee Districts, and to the Trans-Indus portions of Sind.

It has occurred near Peshawar in 1857. In 1871, Captain Unwin obtained a specimen in the Rawul Pindee District. Dr. Stolickza in *J. A. S. B.*, 1872, p. 229, says—"While crossing the Runn of Cutch he noticed several swans but at too great a distance for it to be possible to form an idea as to the species the birds belonged to," "and from its occurrence in Sind," Mr. Hume says, "renders it not improbable that Dr. Stolickza was right."

Outside our limits this species has been seen in the Kabul river, near Jellalabad, and is known to visit Northern Afghanistan pretty regularly. Breeds in Western Turkistan.

Mr. Hume in his Tentative List and in *Str. F.* vii. pp. 107, 464, enters *Cygnus Bewicki*, in the List of the Birds of India, but as this entry as well as of *Cygnus musicus* and *Anser segetum* have been made on certain drawings by Hodgson and others, and there are no veritable records of their having been killed within our limits, I omit them from the Avifauna.

Family, ANSERIDÆ.

Bill moderate, narrower in front than behind; keel elevated at the base, sloping to the tip; nail at point of bill horny and hard; legs moderate; knee bare; hind toe partially lobed; laminar teeth present.

**Sub-Family ANSERINÆ.**

Characters same as those of the Family.

Gen. **Anser**.—*Briss.*

Bill high at the base, rather long; lamina at edge wide and visible externally; nostrils in the nude cere, longitudinal.

1374. *Anser cinereus*, Meyer, Naum. Vogt. t. 285; Gould, B. Eur. pl. 347; Jerd., B. Ind. iii. p. 779; Str. F. i. p. 258; iv. pp. 26, 197; vii. p. 494; viii. p. 421; Hume and Marsh., Game Birds of Ind. iii. p. 55; Murray, Hdbk., Zool., &c., Sind, p. 233; id., Vert. Zool., Sind, p. 283. (Hans, Sind.)—The GREY LAG GOOSE.

Head, hind neck and nape greyish brown, the feathers of the latter slightly darker and forming a conspicuous line on the neck behind, in some uniform grey brown; chin, throat and breast on the upper part pale greyish brown; the breast below whitish, and barred on the sides with greyish; back and scapulars brown, the feathers margined at the tips with fulvous white, forming regular bars; greater wing coverts greyish brown, lesser slightly paler, both bordered with whitish; primaries white-shafted, the first three pale grey, the rest nearly dark brown; tail greyish, tipped with white. The plumage of this Goose is very variable. Of specimens I have, no two are alike. Mr. Hume also notices this fact and says—"In some the head and neck vary from pale ashy or earthy brown to dark clove brown; in most there is a mingled white and orange patch on the forehead; in some there is a similar spot at the base of the upper mandible on each side, the feathers of the head and cheeks are tinged with orange or rusty, and in most there is a small spot of white on the chin. In some specimens the breast and abdomen are closely blotched and mottled with black or blackish brown and pale rusty buff; in others the cap and back of the upper neck are conspicuously darker, as in the specimen before me, which has the entire breast a fulvous or soiled white, also the middle of the belly, while the flanks are brown and barred with fulvous."

Bill pinkish flesh colour, sometimes with an orange tinge; nail greyish white; irides greyish brown; legs livid fleshy.

Length.—30 to 32 inches; wing 17 to 18·5; tail 6; bill at front 2·4 to 2·8; tarsus 3 to 3·12.

Hab.—Sind, Afghanistan, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputna, Kutch and Guzerat. Occurs throughout Europe. About the Munchur Lake in Sind they are met with in large parties, also along the canals, and especially the river.

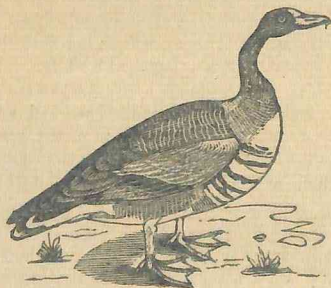
1375. *Anser brachyrrhynchus* (Baillon), Jerd., B. Ind. iii. p. 780; Hume and Marsh., Game Birds iii. p. 71.—The PINK-FOOTED GOOSE.

CYGNIDÆ.

Head and upper part of neck brown; lower part of neck reddish ashy, body above brownish cinereous with white undulations; longest scapulars edged with white; upper tail coverts black; lesser and median coverts bluish ashy, edged with white; two first primaries bluish, others black; tail black; breast and upper abdomen ashy whitish; lower abdomen and under tail coverts pure white. Bill much smaller than in the last, fleshy red or purplish, the base and the nail black; feet pinkish red. (*Ferd.*)

Length.—27 to 29 inches; wing 15.9 to 17; tail 5.5; bill at front 1.75; tarsus 3; middle toe 3.

Hab.—This is an extremely rare bird in India. Hume records a picture of one which was got in the Punjab, and also a statement that Colonel Irby killed one at Alumbagh near Lucknow. He has seen a pair among Grey Lags on a sandbank in the Jumna, and an assurance has been given him by Col. Graham that it is not uncommon on the Brahmaputra in Assam. This is all we know of its occurrence in India. In Northern Europe it is common, and probably also Central Europe and Northern Asia.



Anser albifrons. The White-fronted Goose.

1376. *Anser albifrons*, Gm., Naum. Vogt. t. 289; *Ferd.*, *B. Ind.* iii. p. 780; *Str. F.* i. p. 259; viii. p. 421; *Murray, Hdbk., Zool., &c., Sind*; *Hume and Marsh, Game Birds, Ind.* p. 73; *Murray, Vert. Zool., Sind*, p. 284.—The WHITE-FRONTED OR LAUGHING GOOSE.

Forehead white or yellowish white, followed by a narrow dark band; chin the same; head, hind neck and nape brownish grey, shaded in some specimens with reddish; throat pale greyish white, darker in some; breast and flanks pale brownish, with cross bars of black, paler and whitish on the lower breast, with broader black bars; back dark greyish brown, the feathers with pale reddish brown edges; upper and under tail coverts white; tail with the middle feathers dark grey, tipped with white; the lateral ones entirely white;



primaries ashy grey, dark at the tip; secondaries bluish black; tertiaries margined with dull white; greater and lesser wing coverts grey, edged with rufous; abdomen white; bill livid fleshy or purplish red, the middle of the upper mandible with an orange tinge; nail at tip white or yellowish white; legs and feet orange.

Length.—27 to 28 inches; wing 16 to 17; bill at front 1.7 to 1.9; tarsus 3.

Hab.—Sind, Beloochistan (Quetta), Persian Gulf (Bussorah), Afghanistan (Arghandab), Punjab, N.-W. Provinces and Oudh.

In Sind the White-fronted Goose is much more rare than the Grey Lag. Mr. Hume says "that about one bird of this species visits this empire, for every thousand of Grey Lags, or every five thousand of the Barred-headed Geese." In Egypt it is most abundant, also at Fao in Mesopotamia, and on the Caspian.

1377. *Anser erythropus* (Linn.), *Newton, Ibis*, 2, p. 406; *Jerd.*, *B. Ind.* iii. p. 781; *Hume and Marsh., Game Birds* iii. p. 77. *A. minutus*, *Naum. Vogt*, i. ?—The DWARF GOOSE.

Top of head, forehead, throat, front of cheeks and the under and upper tail coverts white; rest of head, neck and crop grey; scapulars and back dark brown grey, with transverse lighter bands; primaries and upper wing coverts blue grey, lower the same as the back and edged with white; secondaries black; tail grey, margined with white at the tip and white at the base; abdomen black, bordered with white; flanks dark grey brown, each feather margined lighter. Bill orange; feet and legs red. (*Jerd.*)

Length.—22 inches; wing 15; tail 4.5

Hab.—N.-W. Provinces and Oudh as a rare winter visitor. Outside its limits it is found in Northern and Central Europe.

1378. *Anser indicus* (Lath.), *Gould, C. B.* pl. 80; *Jerd.*, *B. Ind.* iii. p. 782; *Str. F.* iv. p. 499; vii. p. 491; viii p. 421; *Murray, Hdbk., Zool.*, &c., *Sind*, p. 234; *Hume and Marsh., Game Birds, Ind.* p. 81; *Murray, Vert. Zool., Sind*, p. 285. (*Raj-hans*, Hind, Sind).—The BARRED-HEADED GOOSE.

Head and a broad line continued down the sides of the neck white, with a broad black band from behind the eye across the occiput, and a second one on the nape; chin and throat white; back of neck dark hair brown; front of neck the same, but rather paler and gradually passing into the ashy grey of the breast; upper back, scapulars, breast, upper abdomen and flanks in front ashy grey, the feathers margined with white and forming lunules of that colour; lower back, rump and wing coverts pale ashy grey; upper tail coverts, tip of tail feathers, lower abdomen, vent and under tail coverts white; axillaries pure ashy grey, feathers of the flanks behind the legs dark rufescent or snuff brown, margined at the tip with white; primaries white-shafted, the first four and all the primary coverts greyish, the rest and the tips of the first four as



well as all the secondaries dark brown ; wing coverts like the lower back and rump ; bill orange, with a greenish tinge at the base ; nail at the tip black ; legs bright orange ; bill at front 1·8 to 2.

Length.—27 to 28 inches ; wing 16·5 to 18·5 ; tarsus 2·8.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Central Provinces, and Bengal. A winter visitant.

This is certainly the most abundant Goose in Sind, and during the winter may be met in flocks of thousands on the large lakes, and on the Indus. On the Munchur it simply swarms, and not unlike the two other species, *albifrons* and *cinereus*, feeds during the night and in the early morning till about 9 or 10 o'clock. They feed exclusively on tender shoots of grass, and do much damage to the sprouting corn crops, especially in the neighbourhood of the Munchur, also in Lower Sind. Taking Upper India (including Sind), Hume says—"This species enormously outnumbers all the other species of Geese put together." I think at least five of the Barred-heads visit India to every one of the Grey Lags, and as for all the rest of the Geese, they are apparently so rare, that when one comes to consider numbers, they are not worth speaking about. * * * Their habits are similar to those of the Grey Lags. Where frequently disturbed they feed inland only at night ; where rarely molested they will be found feeding up to eight or nine in the morning and again long before sunset. Preferentially they feed in fields in the neighbourhood of the larger rivers, browsing on the young wheat, vetches, lentils, &c. They are not difficult to bag, especially in localities where they are not disturbed by shooting. Walking beside a pony, or bullock, one can always get within 35 or 40 yards of a flock, and bag at least a dozen birds with a couple of effective shots. In localities which have been frequently shot over the birds are very wary, and unless there is plenty of cover a buffalo or pony becomes a necessity." In such cases," as Mr. Hume says, "it is best to make sure of your one or two birds on the ground with the first shot, as you will seldom have time for more than one shot after they rise." Mr. Hume, in his *Game Birds of India*, gives many hints as to shooting geese and wild fowl generally. The habits of the Duck tribe and the various methods adopted for netting them are very interesting, and of much value to sportsmen generally.

Family, ANATIDÆ.—*Vigors*.

Bill flat and broad, laminated at the sides ; food insects and tender aquatic plants, which they obtain in shallow muddy places.

Sub-Family, PLECTROPTERINÆ.—*G. R. Gray*.

Bill long and broad, tip horny ; knee and above bare ; tarsi with squarish scales ; hind toe long ; wing with one or more spurs on the shoulder ; a fleshy carbuncle at base of upper mandible ; plumage glossy black.

Gen. *Sarkidiornis*.—*Eyton*.

Characters those of the Sub-Family; 1st and 2nd primaries sub-equal and longest.

1379. *Sarkidiornis melanonotus*, Penn. in Forst. Ind. Zool. p. 21, pl. 11; *Newton, Str. F.* viii. p. 415. *Sarcidiornis melanonota*, *Jerd.*, *B. Ind.* iii. p. 785; *Hume, Nests and Eggs Ind. B.* p. 636; *Blyth, B. Burm.* p. 165; *Hume and Marsh., Game Birds* iii. p. 91, pl.; *Legge, B. Ceylon*, p. 1063; *Oates, B. Br. Burm.* iii. p. 275; *Murray, Vert. Zool., Sind*, p. 286.—The COMB DUCK.

Top of the head and back of neck black, spotted with white, more so on the back of the neck; cheeks, sides and front of the neck white, with a few black spots; breast and entire under parts white; chin and throat white; back, scapulars, tertiaries and wing coverts glossy black, glossed with purple; upper tail coverts glossed greenish; primaries and secondaries black; the lesser wing coverts glossed with purplish green; tail black; bill of male with a fleshy protuberance; irides dark brown; bill black.

Length.—28 to 30 inches; wing 13 to 15; tail 6. Female is smaller, and less brightly coloured.

Hab.—Sind, Punjab, N.-W. Provinces, Oudh, Bengal, Rajputana, Kutch, Kattiawar, Guzerat, Concan and Deccan, South India and Ceylon; also British Burmah.

A straggler in Sind. Breeds in the N.-W. Provinces during July and August. In Ceylon it is said to breed from January to March, usually on trees in the proximity of large sheets of water.

1380. *Nettapus coromandelianus* (Gmel.), *Jerd.*, *B. Ind.* iii. p. 786; *Blyth, B. Burm.* p. 165; *David et Oust. Ois. Chine.* p. 501; *Legge, B. Ceylon*, p. 1066; *Hume and Marsh., Game Birds* iii. p. 101, pl.; *Oates, B. Br. Burm.* ii. p. 272. *Anser coromandeliana*, *Gmel., Syst. Nat.* i. p. 522. *Nettapus coromandelicus* (L.), *Hume, Nests and Eggs, Ind. B.* p. 638. *Nettapus coromandus* (L.), *Hume, Str. F.* iii. p. 192.—The COTTON TEAL.

Forehead, crown and nape hair brown, remainder of the head, whole neck and lower plumage white; collar round the neck black in front, glossy green on hind neck; a second demi-collar from the breast upwards below this; under tail coverts dark brown mottled with white; upper plumage glossy green; the secondaries are broadly tipped with white and the primaries also, their basal halves are dark brown; upper tail coverts white, freckled with brown; tail brown; under wing coverts greenish black. The female has a line from the lores through the eye dusky black, surmounted by a dirty white supercilium; rest of the head, whole neck and the upper breast dull white



mottled with brown; lower plumage dull white; upper tail coverts white, freckled with brown. In winter the male is like the female, but has always the white patch on the primaries. Bill black; irides red.

Length.—13 inches; tail 3; wing 6.5; tarsus 1; bill from gape 1.1.

Hab.—Nearly throughout India, also Ceylon and Burmah, except the drier regions as Sind, Kutch, Rajputana. Breeds in July and August, in the holes of trees, laying from 8 to 10 eggs, of a delicate ivory white colour. They generally affect swamps, marshes, and inundated ponds and ditches.

Sub-Family, TADORNINÆ (Anatinæ, Sw.)

Plumage rufous; bill flattened towards the tip, with horny termination; hind toe long and slightly lobed.

Dendrocygna, Sw.—WHISTLING DUCKS.

Bill rather large, of uniform width; secondaries long, also the tarsi; 2nd, 3rd and 4th primaries sub-equal and longest.

1381. *Dendrocygna Javanica* (Horsf.), Hume and Dav., Str. F. vi. p. 486; Legge, *B. Ceylon*, p. 1069; Hume and Marsh., *Game Birds* iii. p. 109, pl.; Oates, *B. Br. Burm.* ii. p. 273; Murray, *Vert. Zool., Sind*, p. 287. *Anas javanica*, Horsf., *Trans. Linn. Soc.* xiii. p. 199. *Dendrocygna aswuree*, Jerd., *B. Ind.* iii. p. 789. *Dendrocygna arcuata* (Cuv.), *apud Hume, Nests and Eggs Ind B.* p. 639; Oates, *Str. F.* v. p. 169.—THE LESSER WHISTLING TEAL.

Top of head and occiput dull wood brown, and a narrow streak of the same continued down the middle of the back of the neck from behind the nape; sides of the face and neck fulvous brown; chin and throat albescent; lower neck and breast yellowish chestnut, gradually passing into the light chestnut of the under surface of the body; vent and under tail coverts albescent; back and scapulars dusky brown, the feathers edged with dingy fulvous chestnut, forming lunules; upper tail coverts chestnut; tail brown, tipped slightly paler; primaries and secondaries black; greater coverts and tertiaries dusky brown; lesser and median coverts deep maroon; axillaries black; bill dusky brown, darker at the tip; irides deep brown; eyelids bright yellow to pale golden; legs plumbeous.

Length.—17.5 to 18 inches; wing 8 to 8.5; tail 2 to 2.12; bill at front 1.5; tarsus 1.75.

Hab.—Sind, Punjab, N.-W. Provinces and the Indian Peninsula generally, but not in the more arid tracts, where water is not abundant, as in the interior of Rajputana. According to Hume, there is scarcely any suitable locality within the limits of the Indian empire, including Burmah, Ceylon, the Andamans and Nicobars, in which this species does not occur either as a perma-



nent resident or a seasonal visitant. It is essentially a tree duck, and in the breeding season especially affects the larger pieces of water, in the vicinity of trees. At other times it is found in nearly every suitable piece of water. It nidificates on trees, making a nest of twigs, &c., or occupying old nests of Herons and Ibises. In Sind it has been found breeding in great numbers on the Eastern Narra, and I have taken a nest of 11 eggs at the One Tree Tank, six miles from Kurrachee. Mr. Doig, who took its eggs in the Narra, found 10 as the greatest number from any one nest. "The nests," he says, "were composed of green twigs, and in some instances of leaves of the large bulrush trodden down to make a platform." Mr. Hume (*Game Birds*) records instances of the curious fact of this species carrying its young in its feet from the nest to the water. Mr. Kemp in the Futtehpoore District adds his testimony to the fact, having obtained an egg from off a narrow ridge where the bird was seen to carry it just before he shot it. Mr. Hume says—"He heard of their being seen flying down to the water with ducklings on their backs, and that twice he saw them carrying these in their claws. On one of these occasions, between 8 and 9 A. M., he saw a duck carry down her whole brood of seven, one at a time, from a hole in a huge mango tree to the water, she passing each time within three yards of his face.

1382. *Dendrocygna fulva* (Gmel.), *Sclater and Salv.*, *P. Z. S.* 1876, p. 372; *Hume and Marsh.*, *Game Birds* iii. p. 119, pl.; *Oates, B. Br. Burm.* ii. p. 274. *Anas fulva*, Gmel., *Syst. Nat.* i. p. 530. *Dendrocygna major*, *Ferd.*, *Madras Journal*, 1840, p. 218; *id.*, *Ill. Ind. Orn.* pl. xxiii.; *Hume, Str. F.* iii. p. 193.—The LARGER WHISTLING TEAL.

Top of head and sides of the face rufescent brown, slightly paler on the cheeks; chin and throat albescent, a broad ring or patch of white in the middle of the neck; a broad black line down the back of the neck from below the nape; back, scapulars, primaries, secondaries, tertials and greater wing coverts dark brown, the feathers of the back with rufescent or chestnut edging, forming lunules; lesser wing coverts dark maroon; breast yellowish chestnut, gradually passing into the light chestnut of the under parts of the body; vent, under and upper tail coverts white or fulvous white; tail dark brown; bill plumbeous; irides brown; legs and feet plumbeous.

Length.—20.5 to 21 inches; wing 9.25; tail 2.5 to 2.8; bill from gape 2 to 2.4; tarsus 2.25.

Hab.—Sind, Punjab, N.-W. and Central Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Concan and Deccan, also S. India and Ceylon in suitable localities; also Burmah.

Gen. *Casarca*.—*Bp*

Bill moderate; culmen with a knob at the base; nail at tip large; hind toe lobed; wing spurred; plumage from buffy orange to bright orange.



1383. *Casarca rutila*, Pall., *Hist. d' Egypt.* t. x. p. 1; Gould, *B. Eur.* pl. 358; *Ferd.*, *B. Ind.* iii. p. 791; *Str. F.* i. 260; iv. 198; Murray, *Hdbk.*, *Zool.*, &c., *Sind*: Hume, *Game Birds. Ind.* p. 123. Tadorna casarca, Dresser, *B. Eur.* vi. p. 461, pl.; Legge, *B. Ceylon*, p. 1070; Oates, *B. Br. Burm.* ii. p. 277. (Vern. Mungh, Sind).—THE RUDDY SHELLDRAKE or BRAHMINY DUCK.

Male.—Head, on the crown and sides buff, darkening on the nape and hind neck, and gradually passing into deep orange or orange fulvous on the upper back and breast; a seasonal glossy black band round the middle of the neck in males (not present in all specimens); chin buff; upper back, scapulars and breast in front deep orange brown, orange fulvous, or rufescent, the colour being variable; in some specimens the feathers are edged paler; lower back ochreous, the feathers finely vermiculated with black; rump black, also the upper tail coverts and tail, which have a greenish gloss; lower abdomen and under tail coverts deep chestnut; in females and in males out of season, and without the black neck collar, the entire under surface from the breast is pale chestnut or fulvous chestnut, sometimes with the feathers round the vent darkening into deeper chestnut; wing spurred at the bend; primaries dark brown; greater coverts and outer webs of secondaries glossy purplish green, forming a broad speculum; lesser and median covers white, sometimes with a buffish tinge; tertials like the back, some of the feathers finely vermiculated with brown at the tips; under wing coverts and axillaries white, also the edge of the wing.

The *female* wants the black collar at all seasons, and is generally duller in colour, the head being very pale buffy white; the crown and neck in some mouse grey; bill black; irides dark brown; legs black.

Length.—*Males*, 24·5 to 27 inches; wing 14·5 to 15·5; tail 5·5 to 6; tarsus 2 to 2·4; bill at gape 2.

Hab.—Sind, Persia, Beloochistan, Afghanistan, E. Turkistan, Punjab, N.-W. Provinces, Oudh, Nepaul, Bengal, Rajputana, Central India, Kutch, Guzerat, the Concans, Deccan and Southern India.

The Ruddy Shelldrake is a winter visitant to India. In Sind it is found on all the large lakes and brooks and along the Indus river in great numbers; and on the Munchur especially; like geese, large parties resort to the fields of sprouting wheat in the early morning and at night-fall, and do much damage.

They are extremely shy and wary birds, and as Mr. Reid, in *Game Birds*, remarks—"It will not only keep a sharp look-out on its own account, but will fly along the Jheel side before the gunner, uttering its warning note and put every bird on the *qui vive*."

1384. *Casarca sentulata* (P. L. Mull), Schlege., *Mus. P. B. Anseres*, p. 64. *Sarcidiornis leucopterus*, Blyth, *J. A. S. B.* xviii. p. 820. *Casarca*

TADORNA.

leucoptera, *Jerd., Contr. Orn.* p. 141, pl. 64; *Jerd., B. Ind.* iii. p. 793; *Blyth, B. Burm.* p. 165. *Anas scutulata*, *Hume and Marsh., Game Birds* iii. pp. 147. *Anas leucoptera*, *Oates, B. Br. Burm.* ii. p. 281.—The WHITE-WINGED WOOD DUCK.

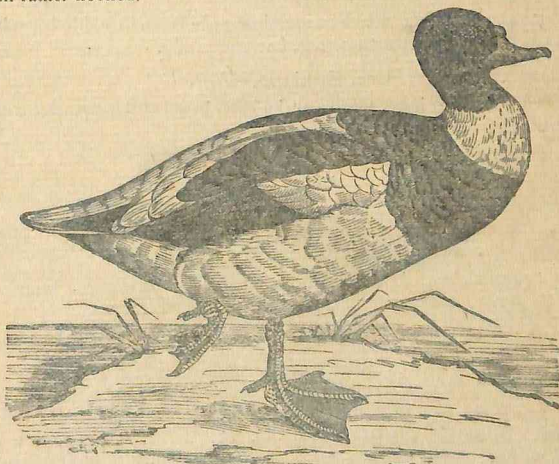
Head and neck white, profusely mottled with black; hind neck glossy black; remainder of the upper plumage blackish brown; shoulders and wing coverts white; greater coverts black; primaries dusky; secondaries slaty; tertiaries dusky, the outermost ones bordered with white and forming a white longitudinal line in the closed wing; breast glossy black; lower plumage dusky castaneous, dark brown on the flanks and under tail coverts; bill and legs black. (*Jerd.*)

Length.—28 inches; wing 15; tail 6; bill at front 3; tarsus 2.5; mid-toe 3.25

Hab.—Tenasserim at Tavoy and at Mergui. Oates says it occurs in Assam and in the hill tracts of Eastern Bengal, in the northern part of the Malay Peninsula and in Java.

Gen. **Tadorna**,—*Leach.*

Bill short, high at the base, and with a knob; wing tuberculated; nail at tip of bill rather hooked.



Tadorna cornuta, *Gm.* The Shelldrake.

1385. *Tadorna cornuta* (*Gm.*), *Syst. Nat.* i. p. 524; *Bodd., Tab. P. E.* 53; *Naum. Vogt.* t. 298; *Gould, B. Eur.* pl. 357; *Hume, Game Birds*, p. 136; *Murray, Vert. Zool., Sind*, pp. 289, 290. *Tadorna vulpanser* (*Fleming*), *Jerd., B. Ind.* iii. p. 794; *Murray, Hdbk., Zool., &c., Sind*, p. 235.—The SHELLDRAKE OR BURROW DUCK.

Head, sides of the face, chin, throat, and about one-half of the neck all round deep black, with glossy green reflections; below this the neck all round is white, as are also the back, wing coverts, rump, upper tail coverts and tail, the latter tipped with black; a broad band of ferruginous or orange chestnut across the breast, meeting above on the foreback; under surface white, except a mesial band in the middle of the abdomen; primaries black; greater coverts forming the speculum, and outer webs of the secondaries glossy golden green; upper secondaries chestnut on their outer webs; tertiaries and scapulars black; bill blood-red, with a knob at the base of the upper mandible; nail black; bill deep red; irides brown; legs fleshy red.

Length.—23·25 inches; wing 12 to 13·5; tail 4·75 to 5·5; tarsus 2 to 2·3. Females average 20 to 22 inches in length, and are much duller in colour.

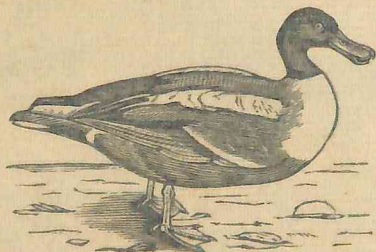
Hab.—Sind, Beloochistan, Persia, Afghanistan, E. Turkestan, Punjab, N.-W. Provinces, Oudh, Bengal, Kutch and Kattiawar Coast. Except in large lakes, the Sheldrake is only found on the sea-coast in the neighbourhood of the sea, which is its proper home.

Sub-Family, ANATINÆ.

Hind toe small, not bordered by a membrane; bill even in width throughout, or wider at the tip; lamellæ numerous, fine and bristly.

Gen. *Spatula*,—*Boie*.

Bill longer than the head, narrow at the base, broad at the tip, shovel-like; nail small; lamellæ fine and bristly.



Spatula clypeata. The Shoveller.

1386. *Spatula clypeata* (Linn.), *Bodd. Tab. P. E.* pp. 971, 972; *Gould, B. Eur.* pl. 300; *Ferd., B. Ind.* iii. p. 796; *Str. F.* iv. p. 199; *Murray, Hdbk., Zool., &c., Sind,* p. 235; *id., Vert. Zool. Sind,* p. 290; *Hume and Marsh., Game Birds Ind.* p. 141. (*Vern., Alipat, Sind.*)—The SHOVELLER.

Male.—Head and neck all round deep or dark brown with glossy green reflections; back brown; scapulars and breast white; rump and upper tail coverts glossy brown black; sides of the rump white; tail brown, the outer feathers white, the rest edged with white; primaries dusky brown, white

shafted; secondaries the same, their outer webs rich bright green and forming the speculum; lesser wing coverts pale blue; greater wing coverts dusky brown, tipped with white, forming a bar across the wing; tertials long and pointed, pale blue on their outer webs, purplish black on the inner ones, the tips of some of the elongated ones white; abdomen rich chestnut brown or brownish red; lower tail coverts black, glossed greenish; flanks chestnut brown, the feathers finely vermiculated with dark brown; bill black; legs orange; irides yellow.

Length.—19 to 20 inches; wing 9 to 10; tail 3·5 to 4; tarsus 1·2 to 1·4; bill from gape 2·9 to 3.

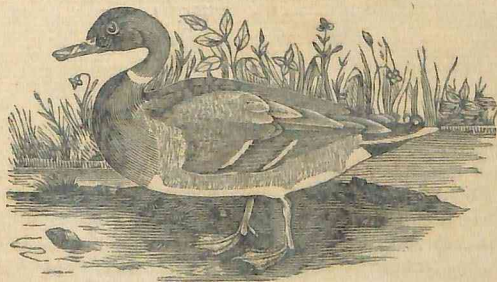
The *female* is slightly smaller, averaging 19 inches in length at the outside; wing 8 to 9. The head is pale reddish brown, with dusky shaft-streaks; breast pale brownish rufous, with dusky brown spots; back dusky brown, the edges and tips of the feathers paler and rufous white; lesser wing coverts tinged with pale blue; speculum green, and a white bar across the wing as in the male.

Hab.—Sind, Belochistan, Persia, Afghanistan, Nepaul, Cashmere, Eastern Turkestan, Punjab, N.-W. Provinces and Oudh, Bengal, Central India, Rajputana, Kutch, Guzerat, Concan, Deccan, South India, and Ceylon.

Winter visitors to India, affecting all the lakes, marshes, ponds, &c., feeding on worms, larvæ, tadpoles, seeds, and young shoots of aquatic plants. They are not naturally shy, as in village ponds they are frequently seen dabbling about, or standing in the shallow edge of ponds, while the inhabitants are drawing water or bathing.

Gen. *Anas*, Linn.

Bill slightly longer than the head, of nearly uniform width throughout; tertials long and pointed; tail wedge-shaped; nostrils near the base of the bill; middle tail feather curled.



Anas boschas. The Mallard.

1387. *Anas boschas* (Linn.), *Bodd. P. E.* pp. 776, 777; *Gould, B. Eur.* pl. 361; *Ferd., B. Ind.* iii. p. 798; *Str. F.* i. p. 261; iv. p. 199; *Murray,*



Hadbk. Zool., &c., Sind, p. 235; *id., Vert. Zool. Sind*, pp. 291, 292; *Hume and Marsh., Game Birds Ind.* p. 151. (*Vern. Nirojī, Sind*).—The MALLARD.

Male.—Head and upper half of neck rich dark metallic glossy green, succeeded by a white ring; lower down on the back of the neck greyish chestnut brown, with fine transverse greyish waved lines; back above or mantle chestnut brown, the feathers margined slightly paler; scapulars greyish white, the feathers finely marked with transverse wavy brown lines, the outermost ones chestnut; rump and upper tail coverts blackish green, the sides of the former greyish white, finely vermiculated with brownish; primaries greyish brown, also the secondaries, the outer webs of which are rich shining purple, margined by a velvety black band and tipped with white, the speculum formed by the shining metallic purple patch is bounded on each side with a bar of black and white; tail with the four middle feathers velvety black, glossed with greenish, and curled upwards, the rest greyish brown, bordered with white; lower neck and breast deep chestnut; rest of lower parts greyish white, tinged in some specimens with dull yellowish, and marked with close-set transverse undulating brown lines, indistinct in many, and in others strongly marked; under tail coverts velvety black; bill dingy olive, greenish at the tip; nail at the tip black; irides brown; legs and feet reddish orange to vermilion.

Length.—22·5 to 24·5 inches; wing 10·75 to 11; tail 4·2 to 4·8; tarsus 1·6 to 1·9. The *female* is smaller, averaging 21 inches in length.

Hab.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. and Central Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, the Concans, and a straggler in the Deccan.

1388. *Anas pæcilorhyncha*, Forst., *Ind. Zool.* p. 23, pl. 13; *Ferd., B. Ind.* iii. p. 799; *Hume, Nests and Eggs Ind. B.* p. 643; *Blyth, B. Burm.* p. 165; *Hume and Marsh., Game Birds* iii. p. 165, pl.; *Legge, B. Ceylon* p. 1073; *Murray, Vert. Zool. Sind*, p. 292; *Oates, B. Br. Burm.* ii. p. 282.—The SPOTTED BILLED DUCK.

Top of head to the nape behind dark sepia brown, also a line from the base of the upper mandible through the eye, ending in a point behind; supercilium, sides of the face and neck dingy fulvous, minutely speckled with brown; lower neck, breast and abdomen the same, the brown spots larger than on the upper neck, and increasing in size on the breast, abdomen and flanks; chin and throat unspotted fulvous; upper back, scapulars and lesser and median wing coverts hair brown; lower back and rump black; primaries deep brown; secondaries brown on their inner webs; speculum on their outer webs, rich emerald glossy green, tipped with black, the black tips of the



innermost narrowly edged with white; greater wing coverts sepia brown at base, with a subterminal white band and tipped with black; tertiaries white on their outer webs and hair brown on their inner; tail deep brown, the central feathers darker; vent and under tail coverts nearly black; under wing coverts white; bill black, with a spot of red at the base, and yellow at the tip; legs and feet vermilion red; irides deep brown.

Length.—23·5 to 25·9; wing 10·5 to 11; tail 4·75 to 5·75; tarsus 1·85 to 1·93; bill from gape 2·5 to 2·75. Females are slightly smaller.

Hab.—A permanent resident in India. Breeds in Sind and the Punjab. Found in large numbers in Sind, Beloochistan, Persia, the drier parts of the Punjab and Rajputana, also in the N.-W. and Central Provinces, Oudh, Kutch, Guzerat and the Deccan.

Affects large lakes, ponds, brushy or weedy tanks, and often the banks of rivers, feeding on worms, molluscs, insects, larvæ, young shoots of grass, &c. Mr. Hume says (*Game B.* iii. p. 168) "that the breeding season of this duck varies a great deal with locality;" in the N.-W. Provinces and Oudh, also the eastern portions of Rajputana and the Punjab, July, August and September are the months; in Guzerat, October. In Sind Mr. Doig obtained eggs at the latter end of April and May on a small island covered with long grass in the middle of the Narra.

1389. *Anas caryophyllacea*, Lath., Ind. Orn. ii. p. 866; *Jerd.*, *B. Ind.* ii. p. 800; *Hume*, *Nests and Eggs Ind. B.* p. 644; *Blyth*, *B. Burm.* p. 165. *Rhodonessa caryophyllacea*, *Hume*, *Str. F.* viii. p. 115; *Hume and Marsh.*, *Game Birds* iii. p. 173, pl.; *Oates*, *B. Br. Burm.* ii. p. 284.—The PINK-HEADED DUCK.

Whole head, sides and back of the neck rosy pink; entire front of neck, lower plumage, back, rump, upper tail coverts, tail, upper wing coverts, scapulars and tertiaries dark glossy brown; secondaries salmon colour, forming a speculum; primaries brownish salmon colour, paler on the inner webs; edge of wing broadly whitish; under wing coverts pinkish white. Bill reddish white rosy at base and faintly bluish at tip; irides orange red; legs and feet blackish, tinged with red.

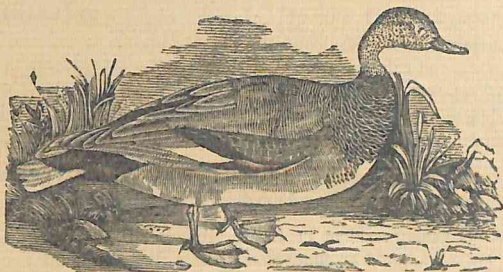
Length.—23 inches; tail 4·5; wing 11; tarsus 2; bill at front 2·3.

Hab.—Arracan, part of the Indian Peninsula and Assam. Breeds during June and July in swampy places. Eggs 5 to 10.

Gen. ***Chaulelasmus***.—*Gray*.

Bill as long as the head, of uniform width, except towards the tip, where it is slightly narrowed; nail small; lamellæ projecting and delicate; wings and tail long; central tail feathers rather elongate.

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Chaulelasmus streperus. The Gadwall.

1390. *Chaulelasmus streperus* (Linn.), Bodd., *Tab. Pl. Enl.* p. 958; *Gould, B. Eur.* pl. 366; *Ferd., B. Ind.* iii. p. 802; *Dresser, B. Eur.* vi. p. 487, pl.; *Hume, Str. F.* viii. p. 115; *Scully, I. c.*, p. 362; *Hume and Marsh., Game Birds* iii. p. 181, pl.; *Murray, Vert. Zool. Sind*, p. 293; *Oates, B. Br. Burm.* ii. p. 283. *Anas strepera*, Linn., *Syst. Nat.* i. p. 200; *Blyth, B. Burm.* p. 166.—The GADWALL.

Male.—Head and neck fulvous or greyish white, freckled with brown; crown of the head with a slight yellowish tinge; chin and throat greyish white finely speckled with brown; breast brown, with white crescent-shaped lines, on each feather; abdomen white, minutely speckled with greyish brown; the flanks variegated with undulations of brown and white; back above clove brown, with narrow crescentic undulations; scapulars with narrow undulations of brown and white; rump and upper tail coverts bluish black, with a purplish gloss; lower tail coverts glossy black, tinged with green; tail brownish grey, the edge of the feathers paler or fulvous, the two central feathers pointed; primaries dark brown; secondaries nearly black; the speculum a tri-coloured bar of purple red, black and white, except the four first feathers, which are grey at base and black at the tip; tertials brownish grey; greater wing coverts glossy black; lesser wing coverts grey, marbled with yellowish or fulvous white; median coverts rich chestnut brown, varied in some with orange brown, the tips of the feathers nearest to the speculum broadly bordered with black; bill brownish black or dusky leaden, tinged with reddish beneath; irides dark brown; legs pale orange.

Length.—19·5 to 21·5; wing 10·75 to 11·5; tail 3·9 to 4·2.

The *female* is smaller, has a light superciliary streak; the head on the crown is black mixed with greyish white; sides of the face fulvous white with brownish streaks; neck in front spotted with dark brown, and marked on the breast with crescentic bands of dark and pale brown; chin and throat white; abdomen white; back deep dusky brown, the feathers edged with buff; lesser wing coverts greyish brown, edged paler; speculum dull white; tail dark brown, marbled with pale buff, brown and white.



Hab.—Central and South Europe, and nearly throughout India ; found in Sind, Beloochistan, Afghanistan, and Persia ; also in the Punjab, N.-W. and Central Provinces, Oudh, Bengal, Central India, Kutch, Guzerat, the Concans and Deccan ; recorded also from Nepaul, Gilgit, and E. Turkestan ; it is also met with on the Continent of Europe, in Spain and Italy, also in Iceland and Siberia, as well as in the northern parts of Africa and India generally. In Sind it is numerous on the lakes, dhunds, &c., during winter, and especially on the-Munchur, arriving about the middle of November.

Gadwall are considered excellent for the table, especially during the first two months of their arrival, when they usually feed on rice and young shoots of the sprouting wheat crops. Later on they affect the jheels and feed on crustaceans and fry of fish, and though then rather fishy in taste, the flesh is not despised when better game is not to be had. The localities preferred by the Gadwall after dusk are generally lakes, jheels and ponds covered with long herbage, but during the day it frequents open water, as the broads of the Indus.

1391. *Chaulelasmus rufiventris*, *Sp. Nov.*

Male.—General colour and markings of *C. streperus*, but the head is a dark rufous brown, and has a short silky occipital crest ; sides of the head glossed with a dull metallic green ; middle of abdomen everywhere to the vent covered with transverse undulations continuous with those on the flanks and sides, leaving no albescent space along the middle as in *streperus* ; thighs with similar, but faint undulating lines ; vent and under tail coverts rich rufous brown tinged with purplish. Bill as in *C. streperus*, but tinged yellowish on the lower mandible ; irides reddish brown ; legs and feet dull orange.

Length of two Males.—18·7 and 19 inches respectively ; wing 10·6 and 10·7 ; tarsus 1·4 ; bill at gape 1·87.

Hab.—Nari Base (Beloochistan) and Sylhet. (*Pennock.*)

These specimens were sent to me by Mr. Francis Pennock in January 1886 for identification. They were compared with the skins of 13 males, but in none of them is there a trace or even a tinge of rufous on the vent, which is the chief characteristic of this species, which I provisionally name as above. The female is not known.

1392. *Chaulelasmus angustirostris* (*Menetries*), *Bp. F. Ital.* t. 47, i. 2 ; *Gould, B. Eur.* pl. 373 ; *Str. F.* i. p. 262 ; iii. p. 273 ; vii. pp. 493, 523 ; *Murray, Hdbk., Zool., &c., Sind*, p. 235 ; *Hume, Game B. Ind.* p. 237 ; *Murray, Vert. Zool. Sind*, p. 294.—The MARBLED TEAL.

“The male has the forehead, crown, occiput, and nape brownish white, with numerous narrow, close-set, wavy, irregular, dark brown bars, which become more speckly on the occiput, where also the ground colour is a more rufescent brown ; feathers immediately round the eye very dark brown ; a broad irre-



gular stripe over the eye, and a large patch on the side of the head behind the eyes, moderately dark brown, shading into the very dark brown immediately surrounding the eyes; the whole space between the sides of the upper mandible and the dark feathers surrounding the eye, the whole sides of the head below the dark eye and ear patch, the whole chin, throat and front of the neck, slight greyish or brownish white, very narrowly, regularly and closely streaked with brown; the lower parts a slightly brownish white; the breast feathers with greyish brown subterminal transverse bars, mostly more or less concealed by the pale tippings of the superincumbent feathers, and only clearly seen when the feathers are lifted; the sides and flanks similar, but the subterminal bars much broader, and some of the flank feathers with several bars; the vent feathers and lower tail coverts, generally, with a slightly more rufescent tinge, and with two or more narrow, widely separated transverse brown bars; the tibial plumes browner, and with numerous narrow closely-set but ill-marked transverse brown bars; the abdomen more or less obsoletely mottled with very pale grey brown, which on lifting the feathers is found to arise from more or less faint, irregular, transverse, subterminal, brownish bars.

"The barrings above described are very much more marked in some specimens than in others; in some in fact they are almost entirely obsolete on the abdomen, and can hardly be traced.

"The upper back greyish brown, the feathers with a subterminal richer brown bar; scapulars brown, each feather with a yellowish white terminal spot, and of a much richer brown, the longer ones especially, just above the spot; the tertiaries and secondary greater coverts are greyish brown, the former obsoletely barred paler; the secondaries are pale grey; the primaries, their greater coverts, and the winglet pale slaty, the primaries with a silvery grey tinge on the outer webs towards the tips; the inner webs pale grey brown, except towards the tips, where they are much darker, and where the shafts also are conspicuously darker; the middle back, rump, and upper tail coverts the same grey brown as the upper part of the back; the feathers of the middle back narrowly and obscurely tipped with yellowish white, those of the rump and upper tail coverts more broadly and conspicuously so, and with a subterminal dark brown spot; the longest of the upper tail coverts are very broadly and conspicuously so tipped, and have a subterminal dark band; the tail feathers pale grey brown, broadly tipped, and narrowly margined with yellowish white; the two central tail feathers darker on the inner webs and dark shafted, and the lateral tail feathers paling as they recede from the centre.

"The female is similar, but smaller, with the eye patch and generally all the markings and tints duller and less conspicuous.

"The legs and feet are dusky olive or dark horny brown; bill bluish grey, black on culmen and tip, or dusky, bounded at the margins of the feathers of the forehead and cheeks with a pale, leaden blue line continued along the

margin of both mandibles to near the tip, and a spot of the same colour just above the nail; the irides are brown.

“The dimensions of this species are as follows:—

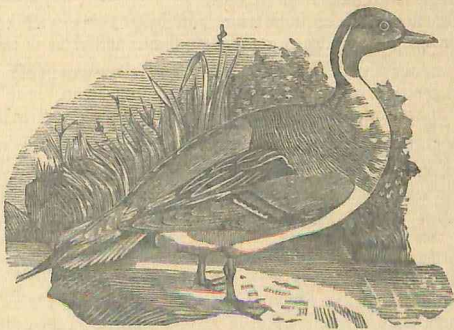
“*Male*.—*Length* 18·3 to 19; *expanse* 28·5 to 29·5; *tail* from vent 3·6 to 4; *wing* 8·1 to 8·5; *wings* when closed reach to within 0·7 to 1·5 of end of tail; *bill* at front, including nail, 1·77 to 1·85; *tarsus* 1·44 to 1·52; *weight* 1·3 oz. to 1·5 oz.

“*Female*.—*Length*, 16·9 to 17·5; *expanse* 27 to 28; *tail* from vent 2·8 to 3·7; *wing* 7·9 to 8·1; *wings* when closed reach to within from 0·5 to 1 of end of tail; *bill* at front 0·6 to 0·75; *tarsus* 1·4 to 1·5; *weight* 1 lb. to 1 lb. 3 oz.”
—(*Str. F. i. p. 562.*)

Hab.—Sind, Beloochistan, Persia, S. Afghanistan, Lower Punjab, N.-W. Provinces, Oudh and Bengal; extremely abundant after October; much sought for the table. Feeds chiefly on leaves, roots, fresh water molluscs, &c.

Gen. **Dafila** (*Leach.*), *Gray, Gen. Birds*, iii. p. 615.

Tail with the central feathers narrow and much lengthened beyond the rest; neck long; bill elevated at the base, of nearly uniform width; 1st primary of wing longest.



Dafila acuta. The Pintail.

1393. *Dafila acuta* (Linn.). *Ferd., B. Ind.* iii. p. 803; *Dresser, B. Eur.* vi. p. 531, pl.; *Hume, Str. F.* iii. p. 193; *Scully, Str. F.* iv. p. 200; *id., Str. F.* viii. p. 363; *Hume and Marsh., Game Birds* iii. p. 189, pl.; *Oates, Str. F.* x. p. 245; *Murray, Vert. Zool., Sind*, p. 297; *Oates, B. Br. Burm.* ii. p. 279; *Linn., Syst. Nat.* i. p. 202; *Blyth, B. Burm.* p. 166; *Legge, B. Ceylon*, p. 1076.—The PINTAIL.



Male.—Entire head, face, chin and throat umber brown, the feathers on the crown slightly darker and with a ferruginous tinge; back of the neck dark brown, nearly black; lower neck, breast and abdomen white; a white line running up on each side of the neck to the occiput; back, sides of the breast and flanks marked with transverse undulations of black and white; upper tail coverts cinereous or pale fulvous brown; under tail coverts deep velvet black; tail with the central feathers black, much elongated, and glossed with greenish, the others dusky brown and margined with white; primaries dusky greyish brown, the shafts much paler; secondaries dusky brown on their inner webs, their outer webs forming the speculum, dark greenish bronze, edged with black and tipped broadly white; upper part of the speculum edged with pale ferruginous; tips of the greater coverts, like the lesser and median coverts, are dusky brown; scapulars black, edged with yellowish; tertiaries long and pointed, deep black and edged with whitish; bill black, with a bluish tinge on the sides of the upper mandible; legs and feet slaty or blackish grey; irides dark brown.

Length.—22 to 29 inches; wing 10·3 to 11·75; tail 7·5 to 8; bill 2 to 2·45.

Females.—Smaller. *Length*.—20 to 22·5; wing 9·3 to 10.

Female.—Forehead and crown, also back of the head, nape and neck dark brown, the feathers with fulvous edgings; sides of the face, chin, throat and foreneck fulvous with brown spots and streaks, which become longer and darker on the lower neck; breast and the lower parts fulvous with obscure crescentic brownish markings on the breast, flanks and sides of the rump and large spots on the lower abdomen; back and scapulars dark brown, with lunate or crescentic markings of white and pale buff about the middle of each feather, and edged with whitish; greater and lesser wing coverts dusky brown, with margins and tips of white; primaries a shade lighter; speculum brownish bronze, unglossed, the tips of the feathers white; tertiaries dusky brown, margined with white; tail long, pointed, dark brown, with imperfect bars and streaks of white or yellowish white; under tail coverts fulvous white, with brown spots.

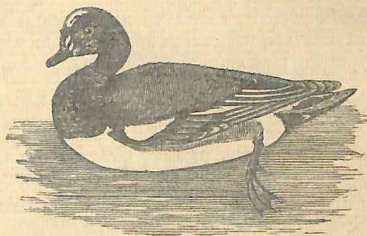
Hab.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. and Central Provinces, Oudh, Bengal, Kutch, Concan, Deccan, Guzerat, Central and Southern India and Ceylon. Hume says—"There is no district in the Empire, from Ceylon to Kashmir, and from Kashmir to Sadya, Munipoor and Moulmein, where the Pintail does not occur in greater or less abundance except in south Tenasserim."

The Pintail affects the large broads or dhunds and lakes, and is seldom seen except in large parties. It is held in much esteem for the table, and for this purpose is netted in great numbers with the Gadwall and other water birds. On the Munchur Lake the fowlers net from 100 to 200 daily, and a sportsman in suitable localities could obtain two or three dozens at least as a

good day's sport, besides other game. Hume, like myself, thinks that on the whole, next to the Mallard, the Pintail is the best duck for the table in India, the Gadwall ranking third.

Gen. **Mareca**, *Steph., Gray, Gen. B.* iii. p. 614.

Bill uniform in width; laminae prominent; first and second quills of wing longest; tail short, cuneate; hind toe small.



Mareca penelope. The Wigeon.

1394. *Mareca penelope* (Linn.), Bodd Tab. Pl. Enl. p. 825; Gould, B. Eur. pl. 359; Ferd., B. Ind. iii. p. 804; Dresser, B. Eur. vi. p. 541, pl.; Hume, Str. F. i. p. 61; iv. p. 30; vii. p. 494; Hume and Marsh., Game Birds, iii. p. 198, pl.; Hume, Str. F. viii. p. 115; x. p. 245 (note); Murray, Vert. Zool., Sind, p. 299; Oates, B. Br. Burm. p. 278. Anas penelope, Linn., Syst. Nat. i. p. 202; Blyth, B. Burm. p. 166.—The WIGEON.

Male.—Forehead and crown creamy yellow, remainder of head and neck rich chestnut; cheeks speckled with black, also a speckled band down the middle of the throat in some; nape narrowly barred with black and pale reddish white; chin and throat black; lower neck and breast vinaceous red, lightest in front, darkest on the sides; abdomen white, the flanks with transverse undulating lines of black and white; under tail coverts black, with a greenish gloss; tail blackish grey; back minutely barred with transverse undulating lines of black and white; scapulars black, edged with white; wing coverts white, the greater ones with velvet black tips; speculum glossy green, bounded above and below with black; bill plumbeous, the base black; legs and feet plumbeous or brown; irides red brown.

Length.—19 to 19.5; wing 10 to 10.5; tail 4.0 to 4.5; bill 1.7 to 1.82. *Females* are smaller; *length* 17.5 to 19; wing 9.3 to 8.0 inches; tail 3.5 to 5. In colouring the female has the head and neck fulvous brown, speckled with dusky; upper parts dusky or deep brown the feathers with reddish edges; speculum without the green gloss; feathers of the flanks rufous brown, tipped with ashy.



Hab.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. and Central Provinces, Oudh, Bengal and throughout Western and Central India, rare in Southern India and Burmah, and not yet recorded from Ceylon. In Kattia-war, Rajputana, the Deccan and Concan it is not uncommon during the winter months. It is considered excellent eating for the first two months after arrival, but after this the flesh is said to become of a muddy flavour and unpalatable.

Gen. *Querquedula*, *Steph.*, *Gray*, *Gen. B.* iii. p. 616.

Bill of uniform width, as long as the head, and slightly raised at the base; nail horny, hooked and narrow; lamellæ not apparent; wings long, second quill longest; secondaries long and pointed; tail wedge-shaped.

1395. *Querquedula crecca* (Linn.), *Bod. Tab. P. E.* p. 946; *Gould, B. Eur.* pl. 364; *Ferd., B. Ind.* iii. p. 806; *Dresser, B. Eur.* vi. p. 507, pl.; *Murray, Hdbk., Zool., &c., Sind*, p. 235; *Oates, B. Br. Burm.* ii. p. 285. *Anas crecca*, *Linn., Syst. Nat.* i. p. 204; *Legge, B. Ceylon*, p. 1083; *Hume, Game Birds Ind.* iii. p. 206. (*Kardo, Sind; Moorghabi, Hind.*)—The COMMON TEAL.

Forehead, crown, face, cheeks, throat and upper neck in front rich chestnut brown; chin black; a narrow dark line round the base of the bill, followed by a white or buffy one on the side, which meets a similar coloured superciliary stripe, and another under the eye; behind the eye, between the hind superciliary and lower eye-streak is a broad glossy green, or dark green patch, which meets on the back of the neck; breast rufescent or white, tinged with reddish and spotted with black; upper abdomen white; lower abdomen in some minutely barred with brownish; flanks barred with brown or blackish brown; upper back and scapulars marked with undulating white and black transverse bars; lower back dark brown, with faint traces only of paler transverse bars; tail hair brown or dusky brown, the feathers edged with white; under tail coverts black, the feathers on the sides creamy yellow; primaries dusky brown, edged on their outer webs and tipped darker; first six secondaries velvet black on their outer webs; next four or five forming the speculum glossy green, and followed by the black outer web of the first tertial; lesser and median coverts dusky or greenish brown; greater coverts the same and tipped with white or yellowish white, forming a border to the speculum above; bill black, or brownish black; irides brown; legs and feet greyish or plumbeous.

Length.—14.5 to 15.75 inches; wing 7 to 8; tail 2.9 to 3.5.

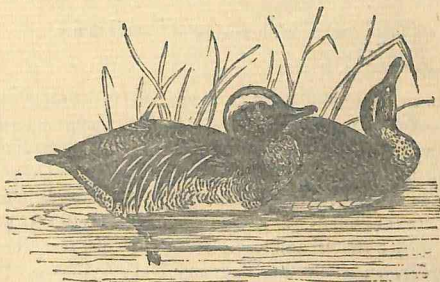
The female has the head, neck and upper part dusky brown; the feathers edged with white or fulvous white on the head and neck and lunated on the back; speculum as in the male, but slightly duller; chin and throat white, with black spots; breast and flanks white and spotted with dark brown; abdomen white; under tail coverts with brown streaks.

Length.—13.5 to 14.7 inches; with a wing of 6.5 to 7.5.

Hab.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N. W and Central Provinces, Rajputana, Kutch and throughout India and Burmah.

Abundant wherever it occurs, frequenting tanks, rivers, ponds and jheels, &c.

1396. *Querquedula circaia* (Linn.), *Ferd.*, *B. Ind.* iii. p. 807; *Dresser*, *B. Eur.* vi. p. 513, pl.; *Hume*, *Nests and Eggs*, p. 644; *Scully*, *Str. F.* iv. p. 201; *Hume and Marsh.*, *Game Birds* iii. p. 215, pl.; *Bingham*, *Str. F.* ix. p. 198; *Murray*, *Vert. Zool.*, *Sind*, p. 301; *Oates*, *B. Br. Burm.* ii. p. 286. *Anas circaia*, *Linn.*, *Syst. Nat.* i. p. 204; *Blyth*, *B. Burm.*, p. 166; *Legge*, *B. Ceylon*, p. 1080.—The GARGANEY TEAL.



Querquedula circaia. The Garganey or Blue-winged Teal.

Male.—Forehead purplish brown, finely streaked with white; crown of the head, occiput, nape and a line half way down the back of the neck dark umber or blackish brown, bounded on each side by a white superciliary streak, which extends to the sides of the neck; face, sides of the neck, cheeks, throat and neck chestnut brown, the feathers with white mesial streaks; chin black; breast and upper abdomen yellowish brown, tinged in some specimens with ferruginous, and with broad crescentic dark brown markings; lower abdomen white or yellowish white, with, in some specimens, transverse, dusky striæ behind; flanks with transverse undulations of black and white; axillaries white with black bases; back brownish black, the feathers edged with yellowish brown; primaries dark brown on their outer webs and tips, pale wood brown on their inner webs, in some specimens narrowly edged with whitish; wing spot on outer web of secondaries dull green, slightly glossed and tipped with white, the white tips forming the second bar across the wing; greater coverts ashy grey or bluish ashy, broadly tipped with white; lesser and median coverts ashy grey, or bluish ashy; scapulars long and lanceolate, black, with a mesial white shaft, and narrowly edged greyish white or white; tertiaries dusky brown, edged with white on their outer webs; rump and upper tail coverts dark brown, with bars of yellowish white; tail dark brown, the feathers edged

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with yellowish or fulvous white; under tail coverts yellowish white with black spots; bill black above, brownish on the lower mandible; irides brown; legs and feet greenish grey or plumbeous.

Length.—15·5 to 16·5 inches; wing 7·2 to 8; tail 3·2 to 3·5; bill 1·75 to 1·85.

The *female* has the chin and throat white; head on the crown brown with spots and streaks of a darker shade; back of neck brown, the feathers edged with white; eye-streak faint; speculum dull and indistinct, bordered above and below with white; breasts and abdomen greyish white, spotted with brown.

Length.—14·5 to 15 inches, with a wing of from 7 to 7·5.

Hab.—The same as *Q. crecca*.

Not found in as great numbers as *Q. crecca*, affects the same situations, and is considered excellent for the table. It is chiefly a nocturnal feeder, concealing itself in the jheels and dhunds, among the high grass, during the day; when disturbed it usually returns to the same spot. Hume says "that at nights they come in some parts of the country in such crowds into paddy fields as to destroy acres of crop at one visit; their food, like *Q. crecca*, is chiefly vegetable, as tender shoots and leaves of water plants, seeds, bulbs, &c., but on the sea coasts, especially the Sind and Mekran Coast, where they are frequently found in some numbers, crustacea, slugs, fry of fish and algæ form their diet."



Querquedula formosa. The Clucking Teal.

1397. *Querquedula formosa*. *Georgi., Act. Stockl.* 1779. t. i.; *Schl. f.* t. 82, *B.* *Querquedula gloecitans* (*Pall.*), *Ferd., B. Ind.* iii. p. 808; *Hume, Game Birds Ind.* iii. p. 225.—The CLUCKING TEAL.

"*Male*.—Forehead, top of head and occiput rich purple brown, bounded by a narrow white line from the eye; face, cheeks and side of neck fawn



colour; a black streak from below the eye meeting a black patch on the throat; nape and hind neck glossy green, ending in a black stripe down the back of the neck, separated from the fawn colour of the sides of the neck by a narrow white line; upper plumage finely marbled grey, edged with rufous on the back; upper wing coverts hair brown, the median coverts the same, with an edging of rufous, forming the anterior margin of the speculum, which is glossy green, ending in velvet black and bordered posteriorly with silvery white; primaries brown; scapulars lengthened, deep black in the centre, white on their upper side, and rufous externally; upper tail coverts brown, white on either side; tail of 16 feathers, dark brown; beneath the throat black; neck and breast vinaceous purple, paling below with black spots; abdomen white; flanks mottled grey; under tail coverts black; bill dusky; legs dusky.

“Length.—15·5 inches; wing 8·5; tail 3; bill at front 1·5.”—(*Ferd., B. Ind.*)

The female (of which the Kurrachee Museum has a specimen) wants the rich markings on the head and face, which are mottled grey; there is a distinct white superciliary streak and a brown streak behind the eye, also a patch of white above the angle of the upper mandible; chin and throat white; cheeks and sides of the neck white, the feathers with mesial linear streaks; breast rufescent, spotted with dark brown; belly white; lower abdomen and under tail coverts white, with linear brown spots; back dark brown, the feathers edged with rufous brown; flanks dusky rufescent brown, some of the feathers with whitish edgings; bill 1·62 × 0·62 at its widest part; tarsus 1·6.

Hab.—Sind, N.-W. Provinces at Delhi (*Hume*), Oudh and Bengal.

According to Mr. Hume, this is a rare straggler within the limits of India. Blyth obtained a single specimen (a male) in the Calcutta Bazaar in 1844. Mr. James, C.S., who was for some time in Sind, had a water-colour drawing of the head of a Teal, which Mr. Hume regards as the male of this species, and, besides a female in the Kurrachee Museum, a male was obtained by Mr. Chill at Delhi in 1879.

1398. *Querquedula falcata*, Georgi. Act. Stockl., 1779, t. 1; Hume, Str. F. vii. p. 494; *id.*, Game Birds iii. p. 231. *Anas javana*, Bodd., Pl. Enl. p. 930.—The BRONZE CAPPED TEAL.

A frontal spot ending in a point on the culmen, about 0·4 long and 0·3 wide, pure white. The lores, forehead, crown and lower portion of cheeks a rich ruddy purple or chocolate bronze; the rest of the cheeks, sides of the head, and occiput emerald green in most lights, in a few ruddy, or even rosy bronze; the feathers of the hinder crown, occiput and nape are lengthened so as to form a considerable mane-like crest; the chin and entire throat snow white, then a black ring all round the neck, with dark green or greenish



Blue reflections ; the white of the throat runs into a little point into this ring and half divides it ; then a white ring ; then the front and sides of the neck, breast and abdomen white, each feather with a broad subterminal black bar following the curve of the end of the feather ; those of the neck with these bars very perfect and strongly marked, those of the breast and upper three-fourths of the abdomen with only a single bar, more or less imperfect ; back of the neck (below the white ring), interscapulary region, smaller scapulars, sides of the breast, sides, flanks, lower portion of abdomen and feathers about vent closely barred, in some places almost vermiculated, black, or dusky, and white or greyish white in varying degrees of fineness and intensity ; entire wings and larger scapulars dove or grey brown, darker on the quills, the outer webs of all the secondaries black, with dull metallic green lustre, their greater coverts broadly tipped white ; middle and lower back and rump dark, rather glossy hair brown ; a few of the feathers with traces of fine pale vermiculations ; shorter central upper tail coverts similar, but a paler greyer brown ; rest of the upper tail coverts jet black, with a subdued green lustre ; tail a delicate, somewhat silvery grey brown, almost completely covered by the long black upper tail coverts ; entire wing lining and axillaries pure white ; the lowest flank feathers on each side with broad, pure white, unbarred tips ; most of the lower tail coverts black, with a faint greenish lustre ; shorter lateral lower tail coverts on each side pure creamy buff. In the breeding season the tertiaries are said to be greatly elongated, sickle-shaped, and reaching to the end of the primaries ; the shaft and external edges of these feathers whitish, the outer ones being entirely velvety black, but the inner ones less black, and finely vermiculated.

Male.—Length, 19.75 ; expanse 32.5 ; wing 9.5 ; tail from vent 3.2 ; tarsus 1.5 ; bill from gape 2.1 ; weight 1 lb. 6 ozs. ; irides deep brown ; bill perfectly black ; legs and feet drab, with an olive tinge.

Adult Female.—Head striped with purplish brown, each feather margined with fulvous ; sides of the face and neck dotted with small brown points and stripes ; throat paler, varied, with small brown markings ; general colour of the back rufous, more or less broadly and irregularly varied with brown ; lower portion of the back brown, with a few obsolete fulvous edgings, being coloured as in the male, but the sickle-shaped feathers are developed, these being represented by a few elongated and slightly curved feathers, for the most part brown, the outer webs inclining to grey at the base, the outer margins white ; upper part of the breast deep rufous, with a few purplish brown cross markings, these being thickest on the lower part of the neck and sides of the throat ; rest of the under surface of the body fulvous, covered everywhere with very indistinct brown mottlings ; sides of the body and under tail coverts rather deeper rufous, with plainer longitudinal brown stripes and irregular mottlings ; under wing coverts and axillary plumes pure white. Total length—16 inches ; culmen 1.8 ; wing 9.0 ; tail 3.4 ; tarsus, 1.2.



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Hab.—Punjab and N.-W. Provinces. As yet only recorded from near Lucknow and Delhi, also at Sultanpore. The specimen from the Calcutta market must have been obtained from some part of the Coast.

Querquedula gibberifrons is a species only as yet known from South Andamans, where it is a permanent resident. Hume has excellent figures of both male and female in his *Game Birds*. It is a very peculiarly coloured species, the whole upper and lower surface being a sort of a pale rusty ferruginous, each feather with a mesial crescentic or sub-crescentic patch of brown towards the tips, which are slightly paler rusty ferruginous than the bases; orbital ring white; cheeks and throat white; secondary greater coverts, the outer webs of a few secondaries and their tips white; rest of outer webs of secondaries velvety black, with a brilliant green longitudinal band.

Sub-Family, FULIGULINÆ, Sw.—DIVING DUCKS.

Bill elevated at base, flat and broad towards the tip; nail strong, broad and horny; tarsi short, rather compressed; toes long, webbed to the end; hind toe short; tail short and rounded.

Gen. *Fuligula*, *Steph.*; *Branta*, *Boie.*; *Gray*, *Gen. B.* iii p. 620.

Bill nearly as long as the head, moderately wide, tip depressed; nail large; lamellæ distant; wings moderate, 1st quill longest.

1399. *Fuligula rufina*, Pall., Zoogr. i. 79; Bodd. Tab. P. E. 928; Gould, B. Eur. pl. 369; Jerd., B. Ind. iii. p. 811; Str. F. iv. p. 201; Murray, Hdbk., Zool., &c. Sind, p. 238; Hume, Game Birds Ind. iii. p. 253. (*Rattoba*, Sind; *Lall-seeree*, Punjab.)—The RED-CRESTED POCHARD.

Male.—Crown of the head, with an elongated crest of a silky texture and dull yellow colour; head on the sides, cheeks, chin and throat rich chestnut, with a tinge of rose red or reddish bay; nape and a line continued down the back of the neck black; lower neck, breast, sides of the breast and abdomen black, in some specimens the abdomen is a chocolate brown; flanks white; back pale brown, or yellowish brown; the scapulars with a fulvous tinge; end of the wing and a large spot on the sides of the back white; primaries brown on their outer webs and at their tips, white on their inner webs; secondaries white, with sub-terminal dark tips; tertiaries pale brown; rump and upper tail coverts nearly black; tail dark brown; bill bright vermillion; legs and feet vermillion or reddish orange; irides reddish brown.

Length.—20·5 to 22 inches; wing 10 to 10·75; tail 3·0 to 4·0; bill 2·3 to 2·5.

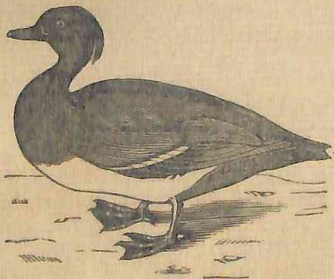
Females are not much smaller, and average from 20 to 21 inches. Fore-head and crown dark brown; the neck on the back and nape slightly paler;

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crest much less developed; sides of the face and neck brownish white; speculum greyish white; breast and flanks yellowish brown, some of the feathers edged paler; shoulder of wing greyish white; tail yellowish brown; legs and feet reddish brown; back rufous or yellowish brown, some of the feathers edged paler.

Hab.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. Provinces, Bengal, Guzerat, Kutch, Rajputana, the Deccan and throughout India generally, except in Southern India and Ceylon.

It is said to breed in parts of Persia. Occurs everywhere in large numbers during winter from the latter end of October to about the middle of April; a few, however, remain beyond the 10th of April. They are not very shy in their wild state, except in well-shot districts, and usually large bags may be made of this duck in a single day; they swim well and dive equally well, remaining a long while under water. Large lakes and rivers, and situations where there is much deep water, are the natural resorts of this duck.



Fuligula cristata. The Tufted Pochard.

1400. *Fuligula cristata* (Linn.), *Bodd. Tab. P. E.* 1101; *Gould, B. Eur.* pl. 370; *Yerd., B. Ind.* iii. p. 815, No. 971; *Murray, Hdbk., Zool., &c., Sind,* p. 338; *Hume, Game Birds, Ind.* iii. p. 277. (*Turando, Sind; Abluk, Punjab.*)—The TUFTED POCHARD.

Head, neck, long pendent crest and nape glossy black, with purple and green reflections; on the chin a white triangular spot; throat and breast black; back dusky olive brown, or black brown, tinged with violet; under parts white; vent and under tail coverts black; greater wing coverts white, the tips broadly black; lesser wing coverts like the back; tertials glossy green; bill plumbeous; irides golden yellow; legs and feet dusky.

Length.—16 to 17 inches; wing 7·5 to 8·5; tail 2·5 to 3·0; bill 1·8 to 2·0.

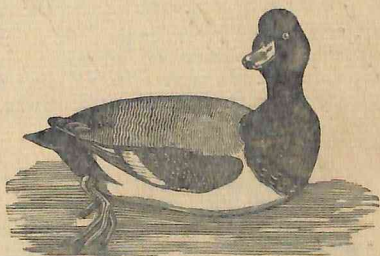
Female.—*Length.*—15 to 16 inches, with a wing of 7·5 to 8.

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The female is dull rufous brown above, with paler edges to the feathers, the crest is less developed and deep rufous brown in colour; feathers about the bill pale yellowish white; breast on the centre yellowish or fulvous white, tinged with greenish; under parts white, with faint dusky bars of brown; speculum white; the under tail coverts white, with a few spots of pale brown.

Hab.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. and Central Provinces, Oudh, Bengal, Rajputana, Kutch, Guzerat, Concan, Deccan, Central and Southern India.

This duck frequents chiefly open tanks, wheels and small dhunds overgrown with weeds. It feeds chiefly on small molluscs and insects. In the stomachs of a few obtained by me at Sehwan were species of *Nepidæ*, a species of *Ranatra* being the most common. They dive and swim well, and remain for some time under water in search of minute molluscs, roots and seeds. They are said to be good eating, but after January the flesh has a peculiar flavour, which renders it unpalatable.



Fuligula marila. The Scaup Pochard.

1401. *Fuligula marila* (Linn.). *Bodd. Tab. P. E.* 1002; *Gould, B. Eur.* pl. 371; *Ferd., B. Ind.* iii. p. 814, No. 970; *Murray, Hdbk., Zool., &c., Sind*, p. 239; *id., Vert. Zool., Sind*, p. 305; *Hume, Game Birds Ind.* iii. p. 271.—The SCAUP POCHARD.

“*Male.*—Head and neck black, glossed with green; top of the back and scapulars whitish, with zigzag black lines; lower back and upper tail coverts black; tail brown; wing coverts black, marbled with ashy; speculum white; quills brown; lower neck and breast deep black; abdomen and sides pure white, with brown zigzag markings on the lower portion; under tail coverts black; bill clear bluish above, dusky below, the tip black; irides brilliant yellow; legs bluish ashy; webs blackish.” (*Ferdon.*)

Length.—19 to 20 inches; wing 9 inches; tail 2.5; bill at front nearly 2; tarsus 1.5. The measurements of a female given by Mr. Hume are—*Length*, 18 inches, *expanse* 28, *wing* 8.75, *tail* 2.5, *tarsus* 1.33, *bill along ridge* 1.83.

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A specimen of a female in the Kurrachee Museum measures—*Length*, 17·75 inches, wing 7·5, tail 2·8, bill at front 1·62, greatest width 0·81. The forehead, crown and nape are chocolate brown, with a faint gloss; a band of white (loreal) at the base of the bill 0·43 wide, tinged with rufous; chin rufescent white; throat slightly paler than the head; lower neck and breast pale brown, the feathers edged with pale rufescent or earthy brown; abdomen satin white; sides of the vent brownish, with a few white spots; back, scapulars, tertials, wing coverts and rump and upper tail coverts dark brown, with a slight gloss; the feathers of the upper back very narrowly edged paler; primaries dark brown on their outer webs and tips, earthy brown on their inner webs; secondaries white, broadly tipped with dark brown and narrowly edged the same on their outer webs; tail dark brown; irides yellow.

Hab.—Sind, Cashmere and Nepaul.

It was not till I took up the Scaups for examination in connection with this work, that I detected this species; like Mr. Hume I had it ticketed as *nyroca*. Mr. Hume's plate of the female of this species, and his description of the specimens in his museum puts its occurrence in Sind beyond doubt. The female specimen described was obtained in 1879 at the "One Tree Tank," about six miles north of Kurrachee, on the road to Muggur Peer. I believe now that I had the male also, but just at present it is nowhere to be found.



Fuligula ferina. The Pochard.

1402. *Fuligula ferina* (Linn.), Bodd. Tab. P. E. 803; Gould, B. Eur. pl. 367. *Athya ferina*, Jerd., B. Ind. iii. p. 812; Murray, Hdbk., Zool., &c., Sind, p. 239; id., Vert. Zool., Sind, p. 307; Hume, Game Birds Ind. iii. p. 249.—The POCHARD, DUN-BIRD or GREAT-HEADED WIGEON.

Head and neck rich or very deep chestnut, glossed with purple in some lights; breast black; back, scapulars and wing coverts marked with undulating transverse striæ of black and white; rump, upper tail coverts and vent black; rest of under parts from below the breast covered with delicate zigzag transverse striæ as on the back; primaries dusky brown, with dusky tips; secon-



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daries leaden or bluish grey, tinged with brown, and slightly tipped with dull white; tail dark brownish ash.

The female has the head, neck and nape chestnut or reddish brown; the breast of deeper chestnut; the wing coverts ashy; upper parts as in the male, but the lines less distinct; throat and forepart of the neck reddish white; abdomen ashy or greyish white; bill dark plumbeous; irides orange yellow; legs and feet slaty grey or plumbeous.

Length.—18.0 to 18.5 inches; wing 8.0 to 8.5; tail 2.35 to 3.0; bill 2.15 to 2.25.

Hab.—Sind, Beloochistan, Persia, Afghanistan, Punjab, N.-W. and Central Provinces, Oudh, Rajputana, Kutch, Guzerat, Kattiawar, Central India, Northern parts of Southern India, and the Deccan. In the Concan it occurs but only as a straggler; it is not recorded from Ceylon, nor from Nepaul.

The Pochard makes its appearance in Sind about the end of October, and in the Punjab during November. It is usually found in large flocks, affecting the sea as well as inland creeks and fresh waters; its chief food is molluscs, seeds, flower buds of aquatic plants and algæ also when on the sea, probably such algæ as are detached and found drifting in fresh waters. The Pochards affect deep weedy jheels, keeping well under cover during the day, and feeding chiefly by night; they fly with greater rapidity than the Mallards, and unless their haunts have not been shot over, they are very wary and difficult to approach.

1403. *Fuligula nyroca* (Gould), Bodd. Tab. P. E. 1000; Gould, B. Eur. pl. 367; Naum. Vogt. t. 309; Jerd., B. Ind. iii. p. 813; Murray, Hdbk., Zool. Soc., Sind, p. 239; id., Vert. Zool., Sind, p. 307; Hume, Game Birds Ind. iii. p. 293. (Burnoo, Sind; Karcheeva, Punjab.)—The WHITE-EYED POCHARD or FERRUGINOUS DUCK.

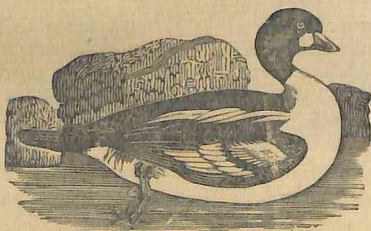
Forehead, crown, nape, sides of the face, throat and upper neck all round deep ferruginous; breast and sides of the breast the same; chin with a triangular patch of white; a black collar on the lower part of the neck, which behind runs into the purplish glossed dark brown of the back; scapulars and tertials dark brown, also the rump and upper tail coverts; abdomen pure white; flanks ferruginous; lower abdomen and vent ferruginous brown, with white specklings; lower tail coverts white; tail dusky brown; lesser, median and greater wing coverts dusky brown; secondaries white, broadly tipped with dark brown; end of the wing white, also the bases of the inner primaries and their inner webs; outer webs dusky blackish brown; axillaries white; bill bluish; irides white.

Length.—15.5 to 16.0 inches; wing 7.5 to 7.75; tail 2.0; bill at front 1.9 to 2.0.

The female has the head and neck brown, the feathers edged with ferruginous; chin white, but less extended; breast brown, the feathers margined with pale chestnut brown; abdomen dull white; edge of the wing white; secondaries white, tipped with black.

Length.—14 to 15 inches; wing 7.72.

Hab.—Sind, Beloochistan, Persia, Afganistan and throughout India, except South India and Ceylon. Occurs in Nepal, Gilgit and Eastern and Western Turkistan, in which latter it breeds. "In the lakes of Cashmere," Hume says, "they breed most abundantly, and that boat-loads of their eggs are brought to market at Srinuggar." The White Eye affects chiefly jheels with thick cover, where they sport about in the early morning, afternoon and at night, retiring during the middle of day. It is not sought for by sportsmen, being very indifferent eating at the best of times.



Clangula glaucion. The Golden Eye.

1404. *Clangula glaucion* (Linn.), *P. E.* 802; *Gould, B. Eur.* pl. 329; *Murray, Hdbk., Zool., &c., Sind*, p. 238; *id., Vert. Zool., Sind*, p. 296; *Hume, Game Birds*, iii. p. 285.—The GOLDEN EYE OR GARROT.

Head and upper part of the neck glossy deep green when seen in a light reflected at a small angle, otherwise purple; throat brownish black; between the lateral basal sinus of the upper mandible and the cheek is an ovate patch of white, ten-twelfths across in its greatest diameter; the lower neck all round, the breast, forepart of the abdomen, sides, and lower tail coverts white; but the axillary feathers and lower wing coverts are blackish brown, and the edges of the posterior elongated feathers on the sides black; the back and the inner and posterior scapulars are black; the outer scapulars white with the margins black; the tail is deep brown, tinged with grey; the sides of the rump and tibiae dusky-grey, and the feathers on the hind part of the abdomen dusky at the base; wing brownish black, with a large patch of white, which includes many of the small coverts, several of the secondary coverts, and eight of the secondary quills; these white secondary coverts have their basal half black, but that colour is not apparent when the feathers are laid down.

Male.—The bill is black; the iris yellow; the feet orange yellow with the webs dusky; the claws brownish black.

Length.—To end of tail 19 inches; extent of wings 32; wing from flexure 9; tail 4; bill along the edge 1.42; tarsus 1.42.

Female.—The female is much smaller, and has the bill less stout; the feathers of the head less elongated, and less glossy, as are the scapulars and the feathers of the sides; the bill is light brown, yellowish on the ridge towards the end, with the upper unguis dusky; the lower yellowish brown; the tarsi and toes are of a dingy yellowish brown; the inter-digital membranes dusky; the claws brown; the head and upper neck are umber brown; the lower neck all round dull ash grey, the feathers terminally edged with paler; the lower parts are white, but the sides of the body and rump with part of the abdomen, are grey; the axillary and lower wing covert brownish grey; the back and scapulars are deep ash grey, but on the hind part of back that colour shades into black; the tail dark brown, tinged with grey; the smaller wing coverts are deep grey, many of them tipped with pale grey; the primaries, their coverts, four outer secondaries, and five inner, with their coverts, brownish black; the seven other secondaries pure white, as are their coverts, unless at the base.

Length.—To end of tail 16 inches; expanse 28; wing 8.25; tail 3.25; bill along the ridge 1.25; tarsus 1.25.—(*Mac Gillivray, Br. B. ex Str. F.* vii. p. 441.)

Hab.—Sind, Lucknow (*Bonavia*), North Afghanistan.

This species has not to my knowledge been obtained in Sind during the last thirteen years. "Sir A. Burnes obtained a specimen on the Indus, which is figured among his drawings in the possession of the Asiatic Society."

Gen. *Erismatura*.

Tail of 18, stiff feathers, bare at the tips, and the webs much disunited.

1405. *Erismatura leucocephala* (Scop.), Hume, Game Birds Ind. iii. pp. 290, 436.—The STIFF-TAILED WHITE-FACED DUCK.

Crown black; forehead, sides of the head, including the space above the eye, chin and nape pure white; below this white the neck is black with a few buffy brown dots on the forepart; lower neck to the forepart of the back except in the centre, chestnut red, which extends to the foreneck and upper breast, where it is delicately marked with buffy white; back and scapulars ochreous or reddish buff; rump darker, brownish or finely vermiculated with blackish; lower rump and upper tail coverts chestnut red; quills greyish black, the secondaries externally and the larger wing coverts greyish buff, vermiculated with blackish grey; lesser coverts dull ashy, but slightly vermiculated; tail long and stiff and blackish in colour, under parts buffy white, obscurely



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marked with reddish brown; flanks dull chestnut brown, tinged with warm buff and vermiculated with darker brown; bill much swollen at the base, pale ultramarine blue in colour; irides dark brown; legs dull blackish plumbeous.

Length.—17·5 inches; wing 6·3; tail 4·3; tarsus 1·35; culmen 1·9; gape 1·82.

The adult female differs from the male in wanting the clear white on the head and in being much richer in plumage; crown and nape blackish brown with a chestnut tinge; sides of the head similarly coloured but marked with white; a streak of white passes below the eye nearly to the nape; and the chin and upper throat are white slightly dotted with blackish brown. General colour of the upper parts darker than in the male, being deep chestnut red; under parts as in the male. Bill dull plumbeous; irides dark brown; legs plumbeous black.

Family, MERGIDÆ.

Bill straight, much compressed, narrow, convex towards the tip; edges of the mandibles strongly toothed; nostrils median, longitudinal; front toes well webbed, hind toe lobed; tarsus short; wings pointed; tail short, wedge-shaped; head sub-crested.

Mergus, Linn.

Bill slender, tip hooked; first and second quills longest.

1406. *Mergus serrator* (Linn.), *P. E.* 207; *Naum. Vogt.* t. 325; *Gould, B. Eur.* pl. 385; *Str. F.* ix. p. 268; *Hume, Game Birds*, iii. p. 305; *Murray, Vert. Zool., Sind.* p. 308.—The RED-BREADED MERGANSER.

Adult Male.—The whole head, chin, throat and the neck all round, for about one inch black, glossed with metallic green on the sides of the head and a bluer sheen elsewhere; along the middle of the crown and occiput runs a comparatively narrow line of excessively narrow, more or less disintegrated-webbed, elongate feathers, of which the longest are over three inches in length, forming a conspicuous crest; the rest of the neck all round, to just the base, pure white, with a conspicuous narrow black line down the centre of its hinder aspect; at the base of the neck a light brownish rufous, or pale brownish chestnut band, extends all round, narrower behind and broadening into a crop-patch. This band is streaked longitudinally with blackish brown. The interscapular region and upper back, the extreme sides of the breast and scapulars velvet black; outside the scapulars and between these and the wing there is a conspicuous patch of long white feathers; the primaries and their coverts (which latter are darkest), the shoulder of the wing and lesser coverts just above the carpus blackish brown, the rest of the lesser and median coverts pure white; the secondary greater coverts black, all, except the first three, very broadly tipped with white, but leaving a portion of their black bases visible below



the white median coverts, thus forming the first black bar across the white of the wing; the secondaries are black, all, except the first three, very broadly tipped with white; tertiaries white, conspicuously margined with black, except the last three, which are black; axillaries pure white; rest of the lower parts white, with, in life, a beautiful salmon or buffy tinge which disappears in the skin; flanks white, vermiculated with greyish black; middle and lower back, rump and upper tail coverts white, with very delicate and close vermiculations of dull black, producing a grey effect; tail dull brown; lower wing coverts white.

The *female* has the entire crown, occiput and crest brown with more or less of a dull rufous or chestnut tinge, and rather ashy towards the forehead; sides of the head and neck all round pale dull brownish chestnut; chin white; throat albescent; breast and entire lower parts white or pinkish white in life, only at the base of the throat and crop the grey brown bases of the feathers show through to a certain extent like hidden bars; interscapular region, mantle, lower back, rump and upper tail coverts brown, most of the feathers with paler margins; quills dusky black; secondaries and their greater coverts black, all, but the first three, broadly tipped with white; tertiaries dusky blackish, paling anteriorly, whitish towards the tip, the innermost mostly white, with a black outer margin; tail like the back.

Both sexes from the above description resemble the Goosander, but may be distinguished by their small size, and in proportion to their length much thinner bills. (*Hume, Str. F.* ix. p. 268.)

In the male the bill varies from orange red to deep vermillion, is more or less dusky on the edge, and has the nail varying from pale yellowish grey to almost black. In young females there is more dusky on the upper mandible, where the red is often only a lateral band.

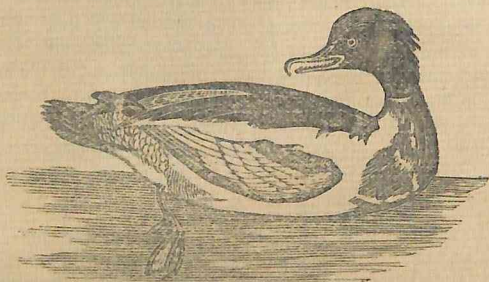
Length.—Males, 24·0 to 26·0 inches; expanse 29·0 to 32·5; wing 9·0 to 10·0; tail from insertion of feathers 3·1 to 4·2; tarsus 1·8 to 2·05; bill at front along culmen 2·4 to 2·5.

Length.—Females, 22·0 to 23·5; expanse 28·0 to 31·0; wing 8·5 to 9·3; tail 2·7 to 3·6; tarsus 1·66 to 1·83; bill at front 2·1 to 2·3. (*Str. F.* ix. p. 268.)

In a second specimen (the first obtained by Capt. Bishop at Manora, and sent by me to Mr. Hume) now in the Kurrachee Museum—male, the bill at front is exactly 2·0 inches, tarsus 1·6, wing 8·37, tail 3·7, length 23·2, agrees exactly with Mr. Hume's description as given above.

Hab.—Sind. Mr. Hume says there is no other instance of its occurrence in India. China, Mongolia, S. and S.-E. Siberia, Palestine and throughout Europe; Scotland, Shetland, Sweden and Norway are given as localities outside of India.

MERGIDÆ.



Mergus merganser. The Goosander.

1407. *Mergus merganser* (Linn.), Gould, *B. Eur.* pl. 384; *Hume and Marsh., Game Birds* iii. p. 299. *Mergus castor*, *Ferd., B. Ind.* iii. p. 817; *Str. F.* i. p. 422; ii. pp. 336, 439; iv. pp. 202, 496; v. p. 323; vii. p. 149; *Murray, Vert. Zool., Sind*, p. 309.—The GOOSANDER or MERGANSER.

Head with a short thick crest, and upper part of the neck glossy blackish green; lower neck white; breast, abdomen and under tail coverts white, tinged with orange buff; upper back and scapulars black; lower back and upper tail coverts ashy; tail ashy grey; wing coverts and outermost scapulars rich orange buff, the latter edged with black. The female and young male have the head and neck reddish brown, the upper plumage ashy, the throat white, and a white speculum on the wing. Bill blood red; black on the culmen; irides and feet red.

Length.—25 to 28 inches; wing 10·9 to 12; tail 4·8 to 5·9; tarsus 1·8 to 2·03; bill from gape 2·7 to 2·9. Females average 22·9 to 25 inches in length.

Hab.—This species, although not yet reported from Sind, will no doubt be found to occur. It is said to occur in the Punjab, N.-W. Provinces, and Bengal, and also in Ajmere, and to breed in the higher valleys of the Himalayas, and in Beloochistan and Persia. A woodcut of the species is given to aid identification.

***Mergellus.*—Selby.**

Bill shorter and wider than in *Mergus*; tip broad and much less hooked; mandible toothed.

1408. *Mergellus albellus* (Linn.), Bodd. *P. E.* 449; Gould, *B. Eur.* pl. 387; *Ferd., B. Ind.* iii. p. 818; *Str. F.* i. p. 265; iv. pp. 31, 202; *Murray, Hdbk., Zool., &c., Sind*, p. 240; *id., Vert. Zool., Sind*, p. 310; *Hume, Game Birds Ind.* iii. p. 263.—The SNEW.

brownish black or black seasonally, continued on to the back, and coalescing with the dusky brown of the back; in some specimens the entire head, back of the neck, back, scapulars and wing coverts are dusky brown, with a greenish lustre; lesser wing coverts white; primaries dusky brown; secondaries white; tertials like the back; lores, sides of the face and cheeks fulvous white; neck in front, breast and entire lower parts satin white; sides of the breast and flanks with a rufescent tinge; nude space between bill and eye red or dusky seasonally; collar chestnut above, edged below with black; bill brown above, reddish on the sides and below, the tip white; irides crimson red.

Length.—22 to 22·5 inches; wing 7·25 to 7·5; bill at front 2·37; tarsus 2.

Hab.—Sind, Beloochistan, Persia, Punjab, N.-W. Provinces, Oudh, Bengal, Guzerat, Kutch and Kattiawar. Affects the sea-coast, also inland lakes, rivers, creeks and ponds, which are covered with reeds and rushes; although their wings are short, they fly well, but resort exclusively to diving, in which they are adepts. They feed on fry of fish, crustacea, tadpoles and seeds of aquatic plants. The skin of the breast is an article of commerce as a substitute for fur.

1410. *Podiceps nigricollis* (Sund.), *Edw. B.* pl. 96, p. 2; *Naum. Vogt.* t. 246; *Gould, B. Europe*, pl. 391; *Hume, Str. F.* i. pp. 142, 266; *Murray, Hdbk., Zool., &c., Sind*, p. 241; *id., Vert. Zool. Sind*, p. 311.—The BLACK-NECKED GREBE.

“*Male.*—Whole of the top of the head, together with the rest of the upper part, the chin, throat, and neck all round blackish brown, very glossy on the head; back and wings duller and browner on the neck all round; the chin and throat almost quite black, but a good deal speckled with white; this white speckling extending as a stripe at the sides of the neck behind the ear coverts; two short thick tufts on either side of the occiput, which, though scarcely noticeable in the dried skin, are erected at pleasure in the live bird; behind the eye for about 1·4 inches, a broad streak of orange and reddish yellow silky glistening feathers. The inner web of the sixth primary, and almost the whole of the subsequent primaries and secondaries, pure white; tertiaries and wing coverts unicolorous with the back. The whole breast, abdomen and vent satin white, a little tinged with greyish brown about the vent; tail unicolorous with the back, and on either side of it, and of the tail coverts a good deal of white appears; sides and flanks mottled with blackish brown, with traces of a rufous or orange striation.

“In full breeding plumage the sides and flanks are very strongly streaked with orange red, and the parts indicated as speckled with white are entirely black; in the winter plumage the colours are duller; the front of the neck is an earthy brown; and the whole of those portions, indicated as speckled with white are pure white; the orange red tuft behind the eye is entirely wanting.” (*Hume, Str. F.* ii. p. 267.)



Male.—A black patch with green reflections from the base of the bill extending round the eye; head white, occiput with a longitudinal black patch descending down the back of the neck; chin, throat, neck, breast (except two crescentic black bands) and lower parts white; flanks and thigh coverts white, with dark zigzag transverse striæ; back black; greater wing coverts glossy black, tipped with white; lesser wing coverts partly white; primaries dusky black; secondaries glossy black, edged narrowly and tipped with white, forming two narrow bands across the wing; tertiaries leaden grey; upper tail coverts and tail greyish ash; under tail coverts white; bill light plumbeous with a bluish tinge; irides reddish brown; legs and feet plumbeous.

Length.—17 to 18 inches; wing 7·55 to 8·5; tail 3·37 to 3·9; bill 1·5 to 1·6.

The **female** has the head, crown, nape and hind neck reddish chestnut brown; sides of the neck white; crest short; back, upper tail coverts and tail deep ashy grey; chin and throat white; breast greyish white; abdomen white; flanks grey; wings as in the male, but the dark parts grey instead of black.

Length.—16 to 17 inches; wing 7·5 to 7·75; tail 3 to 3·2; bill at front 1·2 to 1·4

Hab.—Sind, Persia, Afghanistan, Punjab, Oudh, N.-W. Provinces, and North Guzerat. A winter visitant to India, arriving in Sind and the Punjab about the last week in October. The Smew is a shy and wary bird, taking to flight with great readiness. Smews are gregarious and are always to be found in flocks of from 10 to 20 or 30, usually in deep water on the Indus and other large rivers. Hume says—"They are difficult to approach. They keep in deep water, far away from any cover, and you can only shoot them from a boat; they can swim faster than any ordinary native boat can be propelled, and are always on the alert." They feed on fish and crustacea chiefly.

Family. PODICIPIDÆ.

Tarsus compressed; primaries short; feet lobed; tail very short, almost wanting; bill slightly curved above at the tip.

Podiceps.—*Latham.*

Bill straight, moderately stout; nostrils oblong, lateral, in a short groove; wings short; tarsus scutellate; hallux bordered by a web.

1409. Podiceps cristatus (Linn.), Bodd., *P. E.* 400, 944; Gould, *B. Eur.* pl. 388; Aud., *B. Amer.* vii. pl. 479; Ferd., *B. Ind.* iii. p. 821; Str., *F. i.* pp. 142, 265; iv. pp. 31, 203; Murray, *Hdbk., Zool., &c., Sind*, p. 240; *id.*, *Vert. Zool., Sind*, p. 311.—The CRESTED GREBE.

Head with a long, dark brown or black silky, erectile crest, standing out behind, divided in two; forehead slightly paler; nape and neck behind



Bill black; irides vermilion; legs and feet greenish plumbeous interiorly, and blackish exteriorly.

Length.—12 to 13 inches; expanse 22·5 to 24·5; wing 5·2 to 5·6; tarsus, 2·9 to 3·2; bill at gape 3·6 to 4.

Hab.—Sind and the Mekran Coasts; common about the mouths of the Indus. Whether this species is distinct from *auritus* or not has to be finally settled. In vol. i. *Str. F.*, Mr. Hume gives some characters which distinguish *auritus* from this species, and thinks that "it differs in certain details of colouration and in shape of bill sufficient to justify separation."

1411. Podiceps minor (Linn.), *Bodd., Tab. P. E.* p. 905; *Gould, B. Eur.* pl. 392. *Podiceps phillipensis* (Gm.), *Ferd., B. Ind.* iii. p. 822; *Str. F.* i. p. 268; iv. p. 203; *Murray, Hdbk., Zool., &c., Sind*, p. 242; *id., Vert. Zool., Sind*, p. 312.—The LITTLE GREBE or DAB-CHICK.

Crown of the head and nape dark blackish brown, or sepia brown, glossed with greenish; sides of the face, neck on the sides and in front chestnut red; chin dull black; breast sepia brown, mixed with white; flanks pale ferruginous; rest of under parts silky white; under wing coverts buff; primaries pale brown, buffy white basally; secondaries white, margined with brown; back, scapulars and tertials glossy brownish black, with a greenish tinge; bill blackish, paler at the base; irides red brown; legs greenish black or dusky green.

Length.—8 to 9 inches; wing 4; bill at front 0·75; tarsus 1·25.

Hab.—Throughout India, Beloochistan, Persia, Afghanistan, Eastern Turkestan and Nepal.

Family, PROCELLARIDÆ.—PETRELS, &c.

Bill long, straight, compressed, very deeply grooved, tip strong, arched and hooked; nostrils tubular, situated at the base of the bill, and exposed.

Sub-Family, PROCELLARINÆ.—STORMY PETRELS.

Nostrils at base of keel divided by a septum; hind toe generally present; bill slender, compressed; tarsus moderate.

Oceanites.—Keys and Blas.

Bill short and slender, curved at the tip; tail forked; wings long, second quill longest; tibia partially naked.

1412. Oceanites oceanica (Kuhl.), *Sharpe, Rep. Trans. Venus Exped.*, p. 123; *Dresser, B. Eur.* viii. p. 505, pl.; *Hume and Dav., Str. F.* vi. p. 490; *Butler, Str. F.* vii. p. 178; *Hume, Str. F.* viii. p. 115; *Legge, B. Ceylon*, p. 1056; *Murray, Vert. Zool. Sind*, p. 313; *Oates, B. Br. Burm.*



ii. p. 437. *Procellaria oceanica*, Kuhl., *Beitr. Z. Zool.* p. 136, pl. 10, fig. 1. *Procellaria Wilsoni*, Bonap., *Journ. Acad. Phil.* iii. pl. 2. p. 231, pl. 9, fig. 2. *Thalassidroma*, Wilsoni, Gould, *B. Austr.*, vii. pl. 65. *Thalassidroma*—? *Jerd.*, *B. Ind.* ii. p. 827; *Legge*, *Str. F.* iii. p. 375.—WILSON'S PETREL.

General plumage deep sooty brown, or brownish black, blackish on the primaries, tertiaries, occiput, nape and tail; secondary greater coverts and latest secondaries wood brown or pale hair brown, narrowly margined towards the tips with yellowish white; upper tail coverts, flanks and bases of some of the external under tail coverts pure white; a few of the feathers of the lower abdomen narrowly fringed with white; bill dull black; legs and feet polished black, with a conspicuous pale yellow patch in the centre of each web; irides blackish.

Length.—7.12 inches; wing 6.25; tarsus 1.4; bill at front 0.5; from gape 0.7; hind toe obsolete; hind claw just visible as a tiny spur at the base of the tarsus. (*Hume*, *Str. F.* v., p. 291.)

Hab.—Sind and Mekran Coast; also the Ganges, the Bay of Bengal, and the Tenasserim Coast.

Stormy Petrels, vulgarly known to sailors as Mother Carey's chickens, and disliked by them as being foretellers of an approaching storm, have long been celebrated for the wonderful manner by which they traverse the ocean, flying close above the water, or passing over the wavy billows pattering the surface with their webbed feet. Petrels are usually seen in windy or stormy weather, chiefly because "the marine creatures are flung to the surface by the chopping waves, and can be easily picked up as the bird pursues its course." Crustaceans, fish, molluscs and floating algæ are the chief food of Petrels, and it is said they will follow in small flocks under the wake of a ship for the sake of picking up refuse food thrown overboard. On the Mekran and Sind Coasts they are usually met with singly or in pairs flying backwards just above the surface of the water, as Jerdon justly remarks "much resembling swifts, both in general appearance, colour and flight." They are numerous between Charbar and Pusnee, and beyond the mouths of the Indus on the Kurrachee Coast; Jerdon records this species from the mouths of the Ganges and throughout the Bay of Bengal.

Gen. *Daption*.—*Stephens*.

Wings long; tail moderate; bill hooked at the tip, and very weak.

1413. *Daption capensis* (Linn.). Gould, *B. Austr.* vii. pl. 53; *Sharpe*, *Rep. Trans. Venus Exped.*, p. 118; *Hume*, *Str. F.* vii. pp. 442, 463; viii. p. 115; *Legge*, *B. Ceylon*, p. 1056; *Oates*, *B. Br. Burm.* ii. p. 438. *Procellaria capensis*, Linn., *Syst. Nat.* i. p. 213.—THE CAPE PETREL.

Whole head, chin, sides and back of the neck, upper back and lesser wing coverts sooty brown; lower back, upper tail coverts, scapulars and tertiaries



PUFFINUS.

white, each feather tipped with sooty brown; secondaries more broadly tipped; median and greater wing coverts with the outer webs and the tips of the inner sooty brown; remainder of the inner web white; primaries blackish, with a broad white marginal band on the inner web; basal two-thirds of tail white, remainder sooty brown; lower plumage from the chin white; under tail coverts tipped with sooty brown.

Length.—About 14 inches; tail 4; wing 9; tarsus 1.7; bill from gape 1.5. (*Oates*.)

Bill blackish brown; irides and feet dark brown. (*Gould*.)

Hab.—Obtained by Mr. Hume in the Straits between Ceylon and the mainland. *Oates* says it is certain to be found in the vicinity of the Burmese coast at times.

Gen. *Puffinus*.

Bill longer than the head, slender, compressed at the point; lower mandible reflected at the tip; nostrils in a double tube, extending along the under surface of the bill; tarsus moderate, compressed; toes three in front, rather long; hind toe rudimentary; 1st quill longest.

1414. *Puffinus persicus*, *Hume*, *Str. F.* i. p. 5; v. p. 292; *Murray*, *Hdbk*, *Zool.*, &c., *Sind*, p. 243; *id.*, *Vert. Zool.*, *Sind*, p. 213.—The PERSIAN SHEAR-WATER.

Female.—The head and nape deep sooty brown, the whole of the rest of the upper parts blackish brown; almost, if not quite, black on the primaries, rump, upper tail coverts and tail; upper portion of the lores mingled dusky brown and whitish; lower portion of the lores and the whole of the chin and throat, as far as the eyes on either side, breast, abdomen, vent and shorter central lower tail coverts, pure white; a line about 0.06 wide encircles the eye and extends backwards from the posterior angle as a narrow white streak for a distance of 0.35 to 0.4 inch; below this the ear coverts are dusky brown, slightly mingled with whitish; the white line below the eye is only separated from the white of the throat by a hair line of greyish brown. The sides of the neck and the breast, where the brown of the upper meets the white of the lower parts, are somewhat paler brown, slightly intermingled with white. The sides, axillaries, flanks, and the lesser under wing coverts next the body, and the whole of the exterior and longer tail coverts are deep brown; the rest of the lower wing coverts, except just at the edge of the wing, are white, here and there slightly mottled, especially at the edge of the wing, with dusky brown; the longer axillaries are mottled with white along their bases.

Bill dusky brown, bluish at base and basal three-fourths of lower mandible; irides brown; legs and feet white, tinged with pink and lavender; claws,



LARIDÆ.

CSL

margin of web, exterior of foot, and outer toe, and part of ridge of mid-toe black.

Length.—13 inches; wing 7; tarsus 1·5; bill from forehead to tip 1·3; from anterior margin of nostril 1·06 inches. (*Hume, Str. F. i. p. 5.*)

Hab.—Sind Coast and the mouths of the Indus, also on the Mekran Coast. Like the Petrel, the Puffin or Shear-water also lives entirely on the sea, except during the breeding season, when holes in rocks are their haunts; like the Petrels, they feed on floating garbage, fish, crustacea, &c.

1415. *Puffinus chlororhynchus*, Lesson, *Traite*, p. 613; *Newton, Ibis*, 1861, p. 181; 1867, p. 359; *Legge, B. Ceylon*, p. 1054; *Oates, B. Br. Burm.* ii. p. 439.—The GREEN-BILLED SHEARWATER.

Whole plumage sooty brown, darkest on the wings and tail; paler beneath and tinged with glaucous on the chin and throat.

Irides dusky; bill dusky greenish; legs fleshy white. (*Legge.*)

Length.—About 15 inches; tail 5·3; wing 1·09; tarsus 1·8; bill from gape 2.

Hab.—Indian Ocean, breeding in the Mauritius and neighbouring islands, where it deposits its single egg under stones and in burrows. Has been met with on the Coast of Ceylon, and will probably be found to occur in the Bay of Bengal, and the Burmese Coast.

Pelecanoides urinatrix is said by Sundevall to have been observed in the Bay of Bengal, but as nothing more is known of it, I do not include it in the *Avifauna*. The whole of the upper plumage is glossy black, the lesser wing coverts fringed with white, also the secondaries and tertiaries; lower plumage glistening white.

Length.—About 8 inches; wing 4·8.

ORDER—GAVIÆ.

Family, LARIDÆ, Vig. Lestridæ, Kaup.

Bill straight, compressed; wings long and pointed; tail long; tarsi with transverse scutes in front; hind toe usually short.

Sub-Family, STERCOCARINÆ.—G. R. Gray.

Base of bill covered with a cere, tip hooked; 1st quill longest; nostrils median.

Gen. *Stercocius*.—Briss.

Keel of bill covered with a bony or membranous cere; 1st quill longest.



1416. *Stercorarius asiaticus*, Hume, Str. F. i. p. 268; v. p. 294.
Lestris parasiticus (Lin.), Gould, B. Eur. pl. 448; *And. Birds Amer.* vii. pl. 452; Murray, Hdbk., Zool., &c., Sind, p. 244; *id.*, Vert. Zool., Sind, p. 314.—
The SKUA.

This is not uncommon off the Manora headland, and along the Sind and Mekran Coasts. There is some difference of opinion in regard to the identity of this bird, under the synonyms given of it above. Mr. Hume, in vol. i., p. 268, refers it to *L. parasiticus*, but in his observations on the species states it may not improbably hereafter turn out that both his specimens and those of Major Tickell's belong to a distinct species intermediate between *pomarinus* and *parasiticus*, in which case he says it may stand as *Stercorarius asiaticus*, nobis. In vol. v. of the same journal he points out the differences between *L. parasiticus* and his *Stercorarius asiaticus*.

The following is the description of the species from specimens obtained by him at Pusnee on the Mekran Coast:—

“The central tail feathers are manifestly imperfectly developed, one projects 0·75 and the other 0·25 beyond the rest of the tail; the bird is obviously in a state of change of plumage, as the two first primaries in each wing are old, and comparatively pale brown, with conspicuous white shafts only tinged brownish for about 0·5 immediately above the tips, while all the other primaries are new and very dark brown, almost black, with only the basal half of the shafts white, and even that slightly tinged with brown; some of the secondaries, scapulars, coverts and feathers of the back are brown; the same dull pale umber as the first two primaries, and so are two of the tail feathers, while the whole of the rest of the wings and tail are of the same deep blackish brown as the third to the tenth primaries. What is noticeable is, that on the back and scapulars the paler brown feathers have no white tippings, which most probably have worn off, these feathers being the old ones, but all the dark feathers of these parts have narrow brownish white margins. The upper tail coverts are conspicuously tipped with white, and the longer ones have two very broad slightly rufous or fulvous white bars. The forehead, crown and occiput are dull, pale, wood brown, here and there faintly tinged rufescent, the feathers with pretty broad blackish brown central streaks; the lores are greyish white, the feathers narrowly dark centred; the cheeks, ear coverts and nape are white, more or less tinged with fulvous or buffy, with very narrow dark brown shaft-stripes; the chin and throat white; the feathers of the base of the neck all round and the breast white, tinged in places fulvous, in places slightly rufescent, with a broad dark brown subterminal transverse band; the sides, flanks and lower tail coverts are white, with broad brown transverse bars, which in some of the lower tail coverts have a slight rufescent aureola; the abdomen and vent are white, but on the sides of the abdomen there are faint traces of barrings similar to those of the breast and flanks; the axillaries



are broadly barred, with a somewhat greyish brown and greyish white; the tibial feathers pure brown."

Length.—19 inches; expanse 45; tail from vent 6·4; wing 13; bill at front (including cere, which is 0·7) 1·2; bill from gape 2 02; tarsus 1·8; legs and feet dull black; bill brown; cere pale greenish brown; irides brown.

Stercorarius pomatorhinus is said to have occurred near Moulmein and *S. antarcticus* in Ceylon.

Sub-Family, LARINÆ.—Bp.

Bill long, straight above, and slightly curved at the tip.

Gen. *Larus*.—Lin.

Bill moderate, strong, compressed, cultrated, bent down at the tip; lower mandible angled beneath; nostrils linear, lateral, longitudinal, pervious; tibia naked; tarsi moderate; toes palmated; hind toe free, short and high on the tarsus; wings long.

1417. *Larus cacchinnans*, Pall., Zoogr. Rosso. As. ii. p. 318. *Larus argentatus*, Bp., Icon. F. Ital. Uccel.; Hume, Yarkand Exp. Zool., p. 299; *id.*, Str. F. i. p. 270; vii. p. 463; Murray, Hdbk., Zool., &c., Sind, p. 245; *id.*, Vert. Zool., Sind, p. 316. *Larus leucophæus*, Licht., Nom. Av. Mus. Berol. p. 99; Dresser, B. Eur. pt. xxii.—The YELLOW-LEGGED HERRING GULL.

Summer Plumage.—Entire head, neck all round, entire lower parts, upper tail coverts and tail pure white; round the eye an orange red ring; entire mantle and back, tertiaries and secondaries a delicate pale bluish grey; the tertiaries and secondaries and longer scapulars broadly tipped with white; the earlier secondaries, especially with the major portion of the inner webs, also white; edge of the wing about the carpal joint white; primaries, the first with the whole outer web black, tipped with white and with a broad white band across both webs near the tip; above this band a considerable portion of the inner web is black, and the rest pale grey; second primary similar, but the white band often entirely wanting or reduced to a spot on the inner web only, the black on the inner web of less extent than in the first, and the basal portion of the outer web the same pale blue grey as the coverts and the rest of the wing; the third and following primaries have only the white tips and no white band, the outer webs become more grey as they recede from the second, and the black diminishes on the inner webs proportionally, so that on the seventh or eighth it is generally reduced to a narrow black band across both webs, or in some cases on the outer web only, and in others entirely wanting on the last three quills.

In the winter plumage the nape and back of the neck are striated with pale brown, in some specimens, thinly on the crown also; legs and feet lemon yellow.



Length.—23 to 25·75 inches; expanse 58 to 60; wing 16·75 to 18; tarsus 2·5 to 2·78; bill at front 1·9 to 2·35; mid-toe and claw 2·25 to 2·6; bill yellow, red near the tip of the lower mandible in summer. In winter it is dull yellow, whitish at the tip, with a dark spot on both mandibles near the tip, and an orange spot at the tip of the lower one. (*Hume, Str. F.* p. i. 270, *L. argentatus*.)

Hab.—Sind, Beloochistan (Mekran Coast), Persian Gulf, large rivers of the Punjab, N.-W. Provinces, the Delhi District and Rajputana.

Numerous during winter in the Kurrachee harbour. It has not yet been finally settled whether this species is *L. argentatus* or *cacchinnans*. Mr. Howard Saunders (*P. Z. S.* 1878) identifies it with *cacchinnans*; the characters of both species are so similar, that it becomes a vexed question. Mr. Hume maintains it is open to argument. All my specimens agree with Mr. Hume's description; but the length of the mid-toe and claw in 5 out of 6 specimens is 2·25, and of those in the striated plumage the mantle is rather darker.

1418. *Larus affinis*, Reinhardt., *Vidensk. Meddel.* 1853, p. 78; *et Ibis*, 1861, p. 17; *Seebohm and Brown, Ibis*, 1876, p. 452. *Larus fuscus*. *Ferd., B. Ind.* p. 830, No. 978; *Gould, B. Eur.* pl. 431. *Larus occidentalis*, *Hume, Str. F.* 1873, p. 273 (*nec Aud*); *Murray, Hdbk., Zool., &c., Sind*, p. 246; *id., Vert. Zool. Sind*, p. 318.—The LESSER HERRING GULL.

Head, crown, neck and nape white in summer, in winter streaked with dusky brown, and with a dusky eye spot; chin, throat and breast white; back dark slaty grey, also the greater and lesser wing coverts; primaries dark slaty grey, the first six tipped with white, the first with a broad bar and the extreme tip white, the rest only tipped white; secondaries like the back, and tipped with white; some of the tertials also tipped with white; under wing coverts white; upper and under tail coverts and tail white.

Length.—*Male*, 24·2 inches; wing 17·2; tarsus 2·6; mid toe and claw 2·3; bill at front 2·25.

Length.—*Female*, 22·3 inches; wing 16·8; tarsus 2·6; mid-toe and claw 2·2; bill at front 2·1; bill yellow, the angle on the lower mandible red; irides pale yellow; eyelids yellowish red.

Hab.—Sind, Beloochistan (Mekran Coast), the Coromandel Coast, Kutch, Guzerat, Concan and Deccan.

In immense numbers on the Sind and Mekran Coasts. In the Kurrachee harbour in large flocks, feeding among fishermen when landing their nets and about their huts.

1419. *Larus gelastes*, *Licht. in Thienem, Fort p. flanz. Vog. Eur.* pt. v. p. 22; *Degl. Orn. Eur.* ii. p. 318; *Bree, B. Eur. 2nd Ed.* v. p. 72;



Blanford, East. Pers. ii. p. 291. *Larus lambruschini*, *Bp., Schl. Mus. P. Bas.* p. 28; *Hume, Str. F.* i. p. 274.—The ROSY SEA GULL.

Summer Plumage.—Entire head, neck, upper back, rump, upper tail coverts, entire lower parts and tail white, tinged with rosy, except on the head, where the rosy tinge is scarcely perceptible; mantle, secondaries, tertiaries, lesser and median wing coverts, and the upper greater coverts, also the wing lining pale bluish french grey, rather pearly grey on the back and tertiaries; four or five of the primary coverts and edge of the wing white; primaries, the first white, except the outer web, tip and margin of the inner web; second to fourth primaries white, the margin of their outer webs narrower and decreasing in extent terminally, and broadening and running up basally on their inner webs, with the black tips broader successively; fifth and sixth primaries tipped white; the outer web of the fifth greyish, and that of the sixth slightly darker, with a subterminal dark band; bill, legs and feet deep red; the bill in some with a blackish tinge; eyelids bright red; irides pale yellow.

Length.—17 to 18·5 inches; wing 11·5 to 12·0; bill at front 1·6 to 1·82; tarsus 2 to 2·12.

Hab.—Sind (Kurrachee harbour), Gulf of Oman, Persian Gulf, the Mediterranean and Black Sea, also the Red Sea.

Numerous everywhere in the Kurrachee harbour during winter. Distinguished from all other species by its never having a hood and the dark spot in front and behind the eye, characteristic of the winter plumage of *ridibundus*.

1420. *Larus hemprichi*, *Bp., Heugl. Ibis*, 1859, p. 350; *Blanford, Abyssinia*, p. 441; *id., East. Pers.* ii. p. 292; *Hume, Str. F.* i. p. 279; iv. p. 444; v. p. 296; *Murray, Hdbk., Zool., &c., Sind*, p. 248; *id., Vert. Zool., Sind*, p. 318.—HEMPRICH'S SEA GULL.

Summer.—Forehead, crown, nape, chin and throat chocolate brown; neck in front darker, nearly blackish brown, forming a sort of a "bib"; on the upper breast, the edges of the brown of the back of the neck margining the broad white demicollar of the same colour; upper back, scapulars, lesser, median and greater coverts, also the secondaries and tertiaries, deep chocolate brown, all the secondaries broadly tipped with white; primaries dark brown, nearly black, all, except the first three, tipped with white; edge of the wing white; breast and sides of the breast paler brown than the back; abdomen, vent, under tail coverts, flanks, upper tail and thigh coverts white; legs and feet yellowish, or greyish yellow; bill greenish drab, tipped red, with a subterminal black bar; irides dark brown.

In winter the forehead and lores are a pale brown, also the crown of the head and cheeks, the feathers here and there margined with greyish white;



breast pale brown, the feathers margined greyish white; chin and throat white, the feathers of the latter tipped with brown, otherwise as in the summer plumage, the colour of the mantle and wings being slightly paler.

Length.—17·5 to 18·5 inches; wing 13·25 to 13·7; tarsus 2 to 2·1; bill at front 1·8 to 2·0.

Hab.—Sind, Mekran Coast, Persian Gulf, from the Red Sea to Aden, Kutch, Guzerat, Concan (at Bombay).

1421. *Larus brunneicephalus*, *Ferdon*, *Madras Journ.* xii. p. 225; *id.*, *Birds Ind.* iii. p. 832; *Holdsworth*, *P. Z. S.* 1872, p. 480; *Str. F.* i. p. 278; iv. p. 203; vi. p. 291; *Murray*, *Hdbk.*, *Zool.*, &c., *Sind*, p. 247; *id.*, *Vert. Zool. Sind*, p. 318.—The BROWN-HEADED GULL.

Summer Plumage.—Entire head and neck sooty brown, darker where it terminates; orbital feathers white posteriorly; back and wings light grey; nape, hind neck, upper tail coverts and tail, also the under parts white; first primary black; inner web white at the base and with a white subterminal band, the second has both webs white at the base and a smaller terminal spot, the third is grey, with still less black and no white, and so on, lessening to the seventh; the other quills are grey; bill and feet red, the bill darkish at the tip; irides white. (*Ferd.*)

Length.—15·8 to 16·5 inches; wing 11·5 to 13·0; tail 4·5 to 5·5.

In winter, the head, neck all round, entire lower parts and upper tail coverts, also the edge of the wing, are white; tail white with a black band, narrowly edged with white terminally; a dark spot before and behind the eye; quills black, white at their bases, and except the first two, all tipped with white; secondaries dark brown, tipped with white; tertials and upper plumage as in summer.

Hab.—Sind, along the coast and inland, Mekran Coast, Persian Gulf, Bengal, Kutch, Guzerat and the Deccan. Occurs also in Burma and Ceylon.

1422. *Larus ichthyætus*, *Pall.*, *It.* ii. *App.* No. 27; (*Caspian*) *id.*, *Zoogr. Rosso. As.* ii. p. 322; *Tristram*, *Ibis*, 1868, p. 30; (*Palestine*) *Shelley*, *B. of Egypt*, p. 307; *Dresser*, *B. Eur.* pt. xviii.; *Str. F.* i. p. 276. *Murray*, *Hdbk.*, *Zool.*, &c., *Sind*, p. 247; *id.*, *Vert. Zool. Sind*, p. 319. *Kroikocephalus ichthyætus* (*Pall.*), *Ferd.*, *B. Ind.* iii. p. 831.—The GREAT BLACK-HEADED GULL.

Summer Plumage.—Entire head and upper half of neck black; orbital feathers white; mantle, back, scapulars and wings bluish grey; entire lower parts, tail, and upper tail coverts white; in immature plumage the tail has a black band; primaries with a black band, increasing in width to the outermost one, which has the whole of the outer web and half of the inner web black; rest of the first primaries grey, tipped with white; bill wax yellow, vermilion



red at the tip, with a black bar across both mandibles; the extreme tip orange yellow.

Length.—28·5 to 29 inches; wing 19·0 to 20·0; bill at front 2·6 to 2·7; tail 7·5 to 7·7.

Hab.—Sind and Mekran Coasts, also the larger inland lakes of Sind, Persian Gulf, the Punjab, N.-W. Provinces, Bengal, the Concan, Bombay, and South India (Madras).

1423. *Larus ridibundus*. *Linn., Syst. Nat. i. p. 225; Gould, B. Eur. pl. 425; Ferd., B. Ind. iii. p. 832; Str. F. i. p. 278; Murray, Hdbk., Zool., &c., Sind, p. 278; id., Vert. Zool., Sind, p. 319.*—The LAUGHING GULL.

Head and upper part of the neck all round deep reddish or blackish brown; lower neck, breast, abdomen, vent, under and upper tail coverts and tail white; mantle, tertials and secondaries pale ashy; four or five lower primary coverts white, the rest pale ashy; primaries white, outer web, except for about an inch of the tip and edge of the inner web of first primary black; second primary broadly edged on the inner web and tipped with black on the outer web; at about the terminal third of the quill a narrow black margin about an inch in length; third primary white on the outer web, greyish on the inner, broadly margined and tipped with black, and for about two inches from the tip a margin on the outer web; 4th primary the same; rest pale grey; the fifth, sixth and seventh narrowly tipped with black; the inner primaries and some of the secondaries dark shafted; bill and legs deep red; irides dark brown.

Length.—15·5 to 17 inches; wing 13·0 to 13·5; tail 4·75 to 5·5; bill at front 1·37 to 1·75.

In winter plumage, the head and neck are white, and there is a dark spot in front of the eye and another near the ear coverts; the primaries too differ in their markings; the first is white, with the outer web black, also the margin of the inner one and the tip, the second is similar, but the black outer web begins from the tip of its covert, and the inner web and tip is margined more broadly with black; the black of the outer web of the third is still less, and it decreases also in the fourth, the inner web of which is greyish instead of white, and broadly margined and tipped with black, the rest are greyish with black tips, except the two last, which has besides a small white spot terminally; the first three primary quills agree well with the plate in *P. Z. S.*, 1878, p. 201, (Saunders on the *Larina*.)

Hab.—Sind, in the Kurrachee harbour, and on the inland lakes; the Mekran Coast, Persian Gulf, rivers of the Punjab and Bengal, at Bombay, also the Mediterranean Coast to Egypt, Asia Minor, the Red Sea and Arabian Coast.

**Sub-Family. STERNINÆ.—Bp.**

Bill long or moderate, entire, straight, compressed and pointed; the lower mandible angled; nostrils longitudinal; wing long and pointed; tail short and even, or long and forked; tarsus short and slender; toes short, webbed.

The common residence of this Family is the sea shore, mouths or banks of large rivers and lakes. They are always in large flocks, and especially so in the breeding season.

They continue long on the wing, and are quick in all their evolutions, darting upon their finny prey, rising in the air, or gliding along near the surface of the water. They are commonly divided as Marsh, River, Sea, and Oceanic Terns, according to their habits and structure.

Gen. Hydrochelidon.—Boie.

Bill rather long, slender, gently arched on the culmen; gonys with the ascending portion short; tail short, slightly forked; feet not fully webbed.

1424. Hydrochelidon hybrida. *Pall., Zoogr. Ross. Asiat.* ii. p. 388; *Oates, Str. F.* iii. p. 348. *Sterna Javanica, Horsf., Trans. Linn. Soc.* xiii. p. 198. *Hydrochelidon Indica, Jerd., B. Ind.* iii. p. 837; *Hume, Nests and Eggs, Ind. B.* p. 648. *Sterna innotata, Beavan, Ibis,* 1868, p. 404. *Hydrochelidon hybrida, Salvad., Ucc. Born.* p. 372; *Saunders, P. Z. S.* 1876, p. 640; *Dresser, B. Eur.* viii. p. 315, pl.; *Legge, Birds of Ceylon,* p. 996; *Oates, B. Br. Burm.* p. ii. p. 419.—The WHISKERED TERN.

Forehead, crown, nape and back of neck glossy black; lores and chin white; throat and breast pale bluish ash; abdomen dusky; under tail coverts white, also the edge of the wing; mantle, wings, upper tail coverts and tail bluish ash; external tail feathers white; under wing coverts white; bill lake red; irides brown; legs and feet dull red.

Length.—11 to 13 inches; wing 8·5 to 9·75; tail 3·75 to 4·5; bill at front 1·5.

Hab.—Throughout India, Burmah and Ceylon, affecting lakes and the sea coast.

1425. Hydrochelidon leucoptera (*Meisn and Schinz.*), *Dresser, B. Eur.* viii. p. 321, pl.; *Saunders, P. Z. S.* 1876, p. 641; *Hume, Str. F.* viii. p. 115; *Legge, B. Ceylon,* p. 1,000. *Hydrochelidon nigra (Linn.), apud, Salvad., Ucc. Born.* p. 372. *Sterna leucoptera, Meisn and Schinz., Vog. Schweiz.* p. 264.—The WHITE-WINGED BLACK TERN.

Head, neck, back, scapulars, innermost secondaries and entire under parts, (except the under tail coverts which are white) deep glossy black; primary quills, blackish grey, fading to greyish white on the outer portions of the



inner webs, except on the terminal portion shafts of the feathers white; secondaries light french grey; lesser wing covers, edge of the wing, tail, and upper tail coverts white; larger coverts french grey; under wing coverts black and blackish grey; edge of the wing mottled with white. Bill reddish black; irides dark brown; legs and feet vermilion red, with a coral tinge.

In winter the forehead and crown are white, nape and occiput dark grey, also the back and scapulars; rump and upper tail coverts pale greyish white; throat, foreneck, under tail coverts, and under wing coverts white; a black spot in front of the eye; breast greyish.

Length.—9·5 inches; tail 3; wing 8·2; tarsus 0·75; bill from gape 1·25.

Hab.—Throughout India, Burmah and Ceylon, affecting lakes, rivers and sea-coasts.

1426. *Hydrochelidon nigra*, Linn., *Syst. Nat.* i. p. 226; Hume, *Str. F.* vii. pp. 445, 446.—The BLACK TERN.

Head, neck, breast and under parts as far as the thighs black; lower abdomen and vent pale ash; upper plumage, including the wings and tail, dark hoary plumbeous; outermost feathers of tail white exteriorly; legs and feet crimson; claws black; bill black.

Length.—10 inches; tail 3; wing 8·2; bill 1·25.

Hab.—Sind and Persian Gulf.

Gen. *Gelochelidon*.—Linn.

Nostrils with plumes reaching the opening; first quill of wing longest; tail forked; tarsus rather long; bill moderate; culmen slightly curved and with projecting gony or angle.

1427. *Gelochelidon anglica* (Mont.), *Ferd.*, *B. Ind.* ii. p. 836; *Salvad.*, *Ucc. Born.* p. 371; *Blyth*, *B. Burm.* p. 163; *Hume*, *Str. F.* vi. p. 491. *Sterna anglica*, *Mont.*, *Orn. Dict. Suppl.* *Saunders*, *P. Z. S.* 1876, p. 644; *Dresser*, *B. Eur.* viii. p. 295. pl.; *Hume*, *Str. F.* viii. p. 115; *Legge*, *B. Ceylon*, p. 1011; *Oates*, *Str. F.* x. p. 246; *id.*, *Birds Br. Burm.* ii. p. 422. *Gelochelidon anglicus*, *Ferd.*, *B. Ind.* ii. p. 836. *Gelochelidon nilotica*, *Murray*, *Vert. Zool.*, *Sind*, p. 320. *Sterna nilotica* (*V. Hass.*), *Hume*, *Str. F.* i. p. 281.—The GULL-BILLED TERN.

In summer forehead, lores, head on the crown, nape and back of the neck silky or deep black; sides of the face, chin, throat, breast and under parts white; mantle, wings and tail light grey, wings reach about two inches beyond the tail, the first primary is rather a hoary grey, the rest light grey, their tips and inner webs next the shaft dusky brown, the margins for their basal two-thirds greyish white; shafts white; secondaries and tertiaries light grey;



under wing coverts white; tail light grey, the feathers white shafted; bill, legs and feet black, the latter with sometimes a reddish tinge; irides dark brown.

Length.—14·5 to 16·2 inches; wing 13 to 14·5 inches; reaching the tail by from 2·0 to 2·7 inches; bill at front 1·5 to 1·7; tarsus 1·5.

In winter, the black head is replaced by a white grey streaked head, and a few dusky spots behind and round the eye.

Hab.—Sind, Beloochistan, Persia, Bengal, Rajputana, Kutch, the Concan, and Deccan. Has been recorded from Arracan and met with on the coast of the Irrawady delta near Elephant Point and the mouth of the Bassein Creek. Affects the large inland pieces of water, especially numerous on the Munchur Lake in Sind, and the salt water creeks in the deltaic districts. Arrives about the middle of September and leaves about the third week in May.

Gen. *Sterna*.—Linn.

Characters the same as *Gelochelidon*. Front toes united by indented web; hind toe short.

1428. *Sterna caspia*, Pall, Nov. Comm. Petrop xiv. p. 582; Hume, Str. F. i. p. 280; Oates, Str. F. iii. p. 347; Saunders, P. Z. S. 1876, p. 656; Dresser, B. Eur. viii. p. 289, pl.; Hume, Str. F. viii. p. 115; Parker, Str. F. ix. p. 487; Legge, B. Ceylon, p. 1008; Oates, Str. F. x. p. 246; Murray, Vert. Zool., Sind, p. 427; Oates, B. Br. Burm. ii. p. 427. Sylochelidon caspius, Ferd., B. Ind. ii. p. 835.—The CASPIAN TERN.

Summer Plumage.—Crown of the head, nape and back of the neck and ear coverts velvet black; chin, throat, face, breast, the neck in front and behind and entire under parts white; mantle, wings and tail pale blue grey or pearl grey; the first five or six primaries slaty grey, their shafts white; under wing coverts white. In winter the head is white with a few dark feathers on the nape; bill vermilion red, paler towards the tip; irides brown; legs and feet black.

Length.—18·0 to 20·0 inches; wing 16·0 to 17; tail 4·5 to 5·75; bill at front 2·6 to 2·75; tarsus 1·5 to 1·75.

Hab.—Sind, Beloochistan Coast, Persian Gulf, the Punjab, N.-W. Provinces and Oudh. Affects the sea-coasts, larger rivers, jheels, lakes and other inland pieces of water. Breeds in N.-W. Ceylon, where Mr. Parker (*Str. F.* x. p. 487) found a colony breeding.

1429. *Sterna Bergii*, Licht., Verzeich, p. 80; Hume, Nests and Eggs Ind. B. p. 655; id., Str. F. i. p. 283; iv. p. 470; Saunders, P. Z. S. 1876, p. 657; Hume, Str. F. viii. p. 116; Parker, Str. F. ix. p. 490; Legge, B. Ceylon, p. 102; Murray, Vert., Zool., Sind, p. 322. *Sterna cristata*, Steph., in Shaw's Gen. Zool., xiii. i. p. 146. *Sterna velox*, Rupp., Atlas p. 21, t. 13.



Thalasseus cristatus, *Ferd.*, *B. Ind.* ii. p. 842; *Blyth*, *B. Burm.* p. 163.
Thalasseus Bergii, *David. et Oust. Ois Chine*, p. 523.—The LARGE CRESTED
SEA TERN.

Forehead, lores, sides of the face, neck in front and behind, chin, throat, breast, and all the lower parts white; crown of the head, including the eye, crest and nape glossy black; back, wings and tail dusky grey; inner webs of primaries next the shaft dark brown, the margins white; inner primaries unicolorous silvery or hoary grey, margined with white; secondaries white on their inner webs and tips. Bill pale yellow; irides dark brown; legs and feet black.

Length.—17·0 to 18·5 inches; wing 14·0 to 14·6; bill at front 2·6 to 2·8.

Hab.—Coasts of India generally to the Persian Gulf. Occurs commonly in the Kurrachee harbour, along the Mekran Coast and the Persian Gulf, Burmah and Ceylon. Breeds in the Gulf of Oman, on the Island of Astola, nearly opposite Jask, whence thousands of eggs have been collected during May and June. The eggs are typically broad ovals, strongly pointed towards the small end, but considerably elongated. Varieties are not uncommon. The ground colour varies from white, greenish and pinkish white to pale buff, pale yellowish, and again pale pinkish stone colour to the richest and warmest salmon pink; the markings are of two colours, an intensely deep burnt sienna brown, often quite black in its intensity, and a pale inky purple, which has an appearance of lying beneath the surface of the shell. In some eggs the inky purple markings are almost entirely wanting, in others more numerous and extensive than the dark ones. In others these dark markings are comparatively thinly sprinkled or dense; again there are some with huge blotches and spots about the larger end. The eggs vary from 2·3 inches to 2·71 in length and 1·63 to 1·78 in breadth; the average of 2 dozens was 2·45 × 1·71.

1430. *Sterna cantiaca* (*Gm.*), *Farr.*, *Br. B. 2nd Ed.* iii. fig. p. 497; *Gould*, *B. Eur.* pl. 415; *Str. F.* i. p. 285; *Murray*, *Hdbk.*, *Zool.*, &c., *Sind*, p. 248c; *id.*, *Vert. Zool. Sind*, p. 321.—The BLACK-HEADED TERN.

Summer Plumage.—Forehead, crown, back of the neck and nape, occipital crest and ear coverts glossy black; sides of the face, chin, throat, neck in front and behind, breast and entire lower parts white, tinged with rosy; mantle and wings pale silvery grey; the first primary is slightly darker than the rest, with more than half of the inner webs near the shaft white; the next two or three paler, also the succeeding ones, till they shade away into the colour of the wing coverts; their inner webs greyish white or white; under wing coverts white; tail forked, white, the external feathers on each side slightly greyish on their outer webs; upper tail coverts white.

In winter plumage the whole of the head is white or mottled with white and black, and there is a crescentic narrow black spot in front of the eye; mantle

and wings as in the summer plumage. Legs and feet black, also the bill, which is tipped on both mandibles with horny yellow, or yellowish white; irides brown.

Length.—17·5 to 18·0 inches; wing 11·5 to 12·5; tail 6 to 6·2; bill at front 2·0 to 2·4; wings reach about one inch beyond the tip of the tail. The females are smaller, with a much shorter tail and no rosy tinge.

Hab.—Sind, Beloochistan (Mekran Coast), Persia and Egypt. Its other habitats are in various parts of Europe. Affects the sea coast of Sind and Beloochistan, congregating in large flocks on sand banks or rocks in the Kurrachee harbour.

1431. *Sterna media*, Horsf., Trans. Linn. Soc. xiii. p. 198; Saunders, P. Z. S. 1876, p. 655; Hume, Str. F. v. p. 301; Dresser, B. Eur. viii. p. 285, pl.; Hume and Dav., Str. F. vi. p. 493; Hume, Str. F. viii. p. 116; Legge, B. Ceylon, p. 1030; Murray, Vert., Zool., Sind, p. 321; Oates, B. Burm. ii. p. 421. *Sterna bengalensis*, Less. Traite d'Orn. p. 621; Hume, Nests and Eggs Ind. B. p. 655; id., Str. F. i. p. 284; ii. p. 318; iv. p. 474. *Thalasseus bengalensis*, Ferd., B. Ind. iii. p. 483; Blyth, B. Burm. p. 193.—The ALLIED TERN.

Summer Plumage.—Forehead, crown, nape, back of the neck and occipital crest glossy black; lores, face, sides of the neck, breast and entire lower parts white; mantle and wings light silvery or satin grey, paler on the tail; the outer web of the external feathers greyish white; primaries dusky grey, the inner webs margined with white, and the portion next the shaft dusky; wings extend two inches beyond the end of the tail; inner webs of secondaries white. Bill yellow; irides deep brown; legs and feet black.

Length.—15·5 to 16·5 inches; wing 12·2 to 12·25; tail 6 to 6·7; bill at front 2·5; tarsus 1·0 to 1·2.

In winter plumage the entire forehead and lores are pure white, the crown white, the feathers centred dusky; occiput dusky, the feathers slightly margined with white; a spot in front of the eye and a line behind it black.

Hab.—The sea coasts of Sind, Beloochistan, Bengal, Bombay, Madras, Malabar Coast, Burmah and Ceylon. A maritime species abundant in the Kurrachee harbour, mouths of the Indus, and the tidal creeks.

1432. *Sterna melanauchen*, Temm., Pl. Col. 427; Saunders, P. Z. S. 1876, p. 661. *Onychoprion melanauchen*, Ferd., B. Ind. iii. p. 844; Oates, B. Br. Burm. ii. p. 429. *Sternula melanauchen*, Hume, Nests and Eggs, Ind. B. p. 656. *Onychoprion sumatrana* (Raffl.), Salvad., Ucc. Born. p. 374. *Sterna sumatrana* (Raffl.), Hume and Dav., Str. F. vi. p. 493; Hume, Str. F. viii. p. 116.—The BLACK-NAPE TERN.



Entire plumage white; the back, wings and tail tinged with grey; outer web of first primary dark grey; a black band from the lores, through the eye, and continued behind so as to form a large triangular patch on the back of the neck. Bill black, the extreme tips yellowish; legs black; irides brown.

Length.—14 to 14·5 inches; tail 6; wing 8·6; tarsus 0·7; bill from gape 2·1; fork of tail 3·5.

Hab.—Tenasserim, the Andaman and Nicobar Islands. In the two latter places it breeds from May to August. Eggs, two in number, laid in a depression in a rock. Colour similar to those of the other members of the group, clouded, spotted and blotched with pale purple or dusky lilac. Size 1·41 to 1·65 × 1·06 to 1·2.

1433. *Sterna seena*, Sykes, P. Z. S. 1832, p. 171; Hume, *Nests and Eggs, Ind. B.* p. 650; *id.*, *Str. F.* iii. p. 193; Saunders, P. Z. S. 1876, p. 645; Anders., *Yunnan, Exped.* p. 693; Hume, *Str. F.* viii. p. 116; Legge, *B. Ceylon*, p. 1003; Oates, *B. Br. Burm.* ii. p. 423; Murray, *Vert. Zool., Sind*, p. 323. *Sterna aurantia*, Gray and Hardw., *Ill. Ind. Zool.* i. pl. 69, fig. 2. *Seena aurantia*, *Ferd.*, *B. Ind.* ii. p. 838; Blyth, *B. Burm.* p. 163; Wardlaw-Ramsay, *Ibis*, 1877, p. 472; Oates, *Str. F.* v. p. 169.—The INDIAN RIVER TERN.

Forehead, crown, nape and back of the neck, also circle enclosing the eye, glossy black; sides of the face, chin and throat white; breast and abdomen pearly greyish white; under tail coverts white; tail pale grey, the external feathers white; back, secondaries, tertiaries and wing coverts pale or ashy grey; primaries hoary or silvery grey, the inner webs of the first three light brown, edged with dusky; under wing coverts white; upper tail coverts like the back. In winter plumage the head is white, except a circle of black or dusky round the eye and on the ear coverts. Bill bright yellow, tipped dusky; irides brown; legs and feet red.

Length.—15·0 to 16·3 inches; wing 11·0 to 11·5; bill at front 1·5; tarsus 0·56 to 1·0; tail 7·0 to 7·5

Hab.—Throughout India, Burmah and Ceylon, also in Beloochistan and Persia. A permanent resident in Sind; affects the river and lakes, also jheels. In Sind it breeds in June and July; March and April in Tenasserim, depositing three eggs in a slight depression in the sand. Considerable numbers breed together. Eggs, various shades of buff, streaked, blotched and spotted with brown. Size 1·5 to 1·75 inch × 1·17 to 1·32.

1434. *Sterna melanogastra*, Temm., *Pl. Col.* p. 434; Salvad., *Ucc. Born.* p. 377; Saunders, P. Z. S. 1876, p. 645; Hume and Dav., *Str. F.* vi. p. 492; Legge, *Birds, Ceylon*, p. 1006; Oates, *B. Br. Burm.* ii. p. 424. *Sterna javanica*, Horsf., *Zool. Res. in Java, Gen. Cat.*; *Ferd.*, *B. Ind.* iii. p. 840; Hume, *Nests and Eggs*, p. 652; Murray, *Vert. Zool., Sind*, p. 323.—The BLACK-BELLIED TERN.



Head and nape black; neck behind black; scapulars, tertials and wing coverts light grey; lores, sides of the face, ear coverts, chin and throat white; neck in front and breast pearly grey; abdomen, vent and under tail coverts brownish black.

Bill orange yellow; irides brown; legs vermillion red.

Length.—12 inches; wing 9·3; tail 6; bill at front 1·43; tarsus 1. In winter the head is white with dusky streaks, the abdomen is like the back and not black, and the bill tipped with dusky.

Hab.—Throughout India, Burmah and Ceylon. Spread throughout the Burmese and Indo-Burmese Countries. Affects inland waters, ponds, marshes and rivers. Breeds all over the Empire, in company with the preceding and in similar situations. Eggs also very similar, but smaller, from 1·18 to 1·5 × 0·95 to 1·02 inches.

1435. Sterna Dougalli. *Mont., Dict. Orn. Suppl. Saunders, P. Z. S.* 1876, p. 652; *Dresser, B. Eur.* viii. p. 273, pl.; *Legge, Str. F.* iii. p. 376; *id., Birds Ceylon*, p. 1033. *Sterna paradisea, Keys and Blas. Wirb. Eur.* p. 247. *Sterna gracilis, Gould, P. Z. S.* 1847, p. 222; *id., B. Austr.* vii. pl. 27. *Sterna korustes, Hume, Str. F.* ii. p. 318.—The ROSEATE TERN.

In summer the crown and nape are deep glossy black; back and upper surface of the wings delicate, light french grey; rump and upper tail coverts white, washed with grey; rest of the plumage pure white, except that the under surface of the body is tinged with a delicate light rose colour; first primary with the outer web black, the rest with the outer webs hoary grey; inner webs of the primaries dark grey, broadly margined to the tip of the feather with white; bill red at the base, otherwise black; iris dark brown; legs reddish orange.

In *winter* the forehead and cheeks are white; crown and nape brownish black, slightly marked with white; lesser wing coverts along the edge brownish; no trace of rose colour on the under parts, otherwise as in the summer plumage. (*Dresser*.) Legs and feet bright vermillion red; claws black; irides deep brown; bill black; gape and base of lower mandible varied from reddish fleshy to vermillion red. (*Davison*.)

Length.—14·5 to 15 inches; tail 7 to 7·5; wing 8·5; to 8·7; tarsus 0·7; bill from gape 2·0; fork of tail about 4.

Hab.—Tenasserim, off the mouth of the Loynah Creek, also the Bassein estuary. It has a wide range, being found in Europe, Africa and America, and is met with in various parts of India, Ceylon and the Andaman Islands, extending down to Australia. Frequents only the sea-coasts. Breeds on isolated sandbanks. In Ceylon, Mr. Parker found a colony nesting in June



on a low sand bank on Adam's Bridge. The nests were depressions in the sand, and contained one or two eggs, of the same type as those of the last, pale buff, blotched, streaked and spotted with brown.

1436. *Sterna hirundo*, Linn., *Syst. Nat.* i. p. 957; Gould, *B. Europe*, pl. 417; *Ferd., B. Ind.* iii. p. 839. *Sterna fluviatilis*, Naum. Vogt. t. p. 712.—THE EUROPEAN TERN.

Whole head and nape black; plumage above grey; upper tail coverts white; tail pale grey, the feathers white on their inner web; chin, throat, ear coverts and sides of the neck pure white; rest of the lower parts pearly greyish white; lower tail coverts white. Bill deep red; irides brown; legs red.

Length.—12·5 inches; wing 9·8 to 10·3; tail 4·5; bill at front 1·4; tarsus 1.

In winter the forehead and top of the head are white, with blackish mixed round the eyes, occiput and nape.

Hab.—Central and Southern India and Sind, along the River Indus to the Punjab and the Cashmere lakes.

1437. *Sterna albigena*, Licht., *Nom. Mas. Berol.* p. 98; *Str. F.* iv. p. 467; v. p. 298; Murray, *Hdbk, Zool, &c., Sind*, p. 248; *id., Vert. Zool. Sind*, p. 324.—THE WHITE-CHEEKED TERN.

The lores and point of the forehead white, the latter with a few black speckles; a patch in front of the eye black, speckled with white; the anterior half of the crown white, tinged earthy or brownish grey, and with spots and blotches of brownish black. Feathers immediately above the eye, all the feathers behind it, the sides of the head, occiput and nape, black; the posterior half of the crown blackish brown, a little mingled with greyish white; an imperfect white band from the lores beneath the eyes, with another imperfect black one below it. The back of the neck is whitish, the feathers suffused with grey towards the tips; the whole of the back, scapulars, wings and tail a moderately dark french grey, darker than in *S. bengalensis*, but not so dark as in some specimens of *Bergii*. The upper tail coverts slightly paler; the wings more silvery, but the outer web of the first primary and of the exterior elongated tail feather much darker; the inner webs of the primaries darker; the first primary with a considerable portion of the inner web white to the margin; the other primaries also with white on their inner web, but with a grey band on their margin. The second and third tail feathers also a rather darker grey on their outer webs towards the points; the rest of tail feathers, inner and outer webs, pretty well concolorous with the rump and upper tail coverts; the chin, throat and sides of the neck almost pure white, with only a few faint dusky grey patches; the breast and abdomen a dusky bluish grey, with many large patches of white; the lower tail coverts greyish white; the wing lining white.



In breeding plumage, according to Heuglin, the upper surface is a pale bluish grey; the front and sides of the neck, breast and abdomen, a somewhat paler and more purplish grey; the entire upper surface of head and nape intensely black; the chin and upper part of the throat, the lores, and an oblique band below the eyes, conspicuously snowy white; the bill coral red, blackish towards the base of the culmen and at the tips; the feet bright coral red.

Length.—14·5 inches to 12·5; expanse 29·25 to 29·5; tail from vent 6·5 to 4·1; wing 9·9 to 9·7; tarsus 0·77 to 0·75; bill from gape 2·15, at front 1·55 to 1·47; irides brown; legs and feet Indian red, tinged in front of tarsi and toes with blackish dusky; bill blackish, with the extreme tips whitish horny.—(*Str. F.* vi. p. 469.)

Occurs along both the Sind and Mekran Coasts, and in the Kurrachee harbour. Mr. Hume (vol. iv. p. 468) in his excellent paper on the birds of "the Laccadives and the West Coast," says—This species, which he obtained there, had only hitherto been obtained on the coasts of the Red Sea, northward to about 24° parallel north latitude and southward to the Gulf of Aden.

1438. *Sterna Saundersii*, Hume, *Str. F.* iv. p. 469; v. p. 326; Murray, *Hdbk., Zool., &c., Sind*, p. 249; *id.*, *Vert. Zool., Sind*, p. 325.
—SAUNDERS' LITTLE TERN.

"A triangular frontal patch, the angles reaching to within 0·12 of the eyes, white; a very broad stripe through the lores to the eye black; a narrow white line intervenes between this stripe and the upper mandible. The whole crown, occiput, short occipital crest and sides of occiput as low as the lower margin of the eye velvet black, the central two-thirds of the lower eyelid white, and no black below this; all the rest of the sides of head and neck, chin, throat, entire under parts, wing lining and exterior tail feather, pure white; the first three primaries black with black shafts and broad white margins on their inner webs; their greater coverts dusky black; the whole of the rest of the upper surface, including wings and tail, and excepting parts and feathers already described, a most delicate satin grey, contrasting in the strongest manner with the early black primaries.

"*Length.*—9·12 inches; expanse 19·25; tail 3·0; wing 6·43; bill at front 1·12, from gape 1·5; tarsus 0·6; legs and feet dusky yellowish olive; bill yellow, broadly tipped dusky; irides blackish brown."—(*Str. F.* v. p. 326.)

This species is extremely common at Kurrachee and along the coast during the latter part of April, also in May and June, in which months it breeds at Kurrachee on the bare plains between Kurrachee and Clifton at Ghizree and on the Moach. The eggs are usually laid in a small depression in the saline soil, the birds selecting wherever possible spots where there is a little loose shelly sand. Eggs glossless and often chalky, two to three in number, oval



and pointed at one end; of a drab, buff, or stone colour, streaked, blotched and spotted, of a dark or deep brown or reddish brown colour generally at the larger end.

1439. *Sterna sinensis*, Gm., Syst. Nat. i. p. 608; Saunders, P. Z. S. 1876, p. 662; Hume, Str. F. v. p. 325; viii. p. 116; Legge, B. Ceylon, p. 1019. *Sterna minuta* (Linn.), Hume, Nests and Eggs Ind. B. p. 654 (part); Oates, Str. F. iii. p. 349. *Sterna minuta*, apud Wald. in Blyth's B. Burm. p. 163. *Sterna sinensis*, David et Oust. Ois. Chine, p. 627. *Sterna Gouldi*, Hume, Str. F. v. p. 326; Oates, Str. F. x. p. 247.—The EASTERN LITTLE TERN.

Summer Plumage.—Forehead, continued back to a point on either side just over the eye, white; crown, nape, the upper part of the hind neck and a streak from the nostrils through the eye to the nape, deep black; upper plumage pale grey, becoming paler and whitish on the upper tail coverts and tail; first two primaries nearly black, margined on their inner webs with white; remaining primaries and secondaries grey, the latter tipped with white on the outer webs; shaft of the first primary white, that of the second more or less white; remainder of the plumage white. *In winter* the crown is white, gradually turning to dusky and running into the nape, which remains black, the black of the nape extending to behind the eye; the band from the nostril to the eye is lost, there being merely a dusky spot in front of the eye; rest of plumage as in summer. Irides brown; bill yellow, broadly tipped with black; legs and feet orange yellow.

Length.—10 inches; tail 4; wing 7·0; tarsus 0·75; bill from gape 1·7; fork of tail 2·2.

Hab.—The greater part of India and Ceylon. In Burmah it is recorded by Oates from Southern Pegu. Affects all the larger rivers within tidal influence. Breeds in Burmah during March and April, depositing four eggs in a small depression in a sandbank.

1440. *Sterna anæsthetus*, Scop., Del. Flor. et Faun. Insubr. ii. p. 92; Saunders, P. Z. S. 1876, p. 664; Butler, Str. F. v. p. 301; Hume, Str. F. viii. p. 116; Legge, B. Ceylon, p. 1040; Oates, B. Br. Burm. ii. p. 431; Murray, Vert. Zool. Sind, p. 325. *Sterna panayensis*, Gm., Syst. Nat. i. p. 607. *Onychoprion anæsthetus*, Ferd., B. Ind. iii. p. 844; Salvad, Ucc. Born. p. 374. *Haliplana anæsthetæ*, David et Oust. Ois. Chine, p. 528.—The PANAYAN TERN.

“A frontal band, extending backwards over the eyes for about 0·15 behind the posterior angle of the eye, pure white; a broad black stripe through the lores, to, and behind the eyes joining the black of the occiput; forehead and crown inside the white band and entire occiput and nape velvet black; chin, throat, sides of the neck, axillaries, under wing coverts, lower tail coverts,



edge of the wing along carpal joint and ulna white; the breast, abdomen and flanks white, shaded with pale french grey; back of the neck the same; back, wings and tail sooty brown; upper back strongly shaded with bluish grey, as are also some of the tail feathers; lesser wing coverts behind the white edge of the wing blackish brown; the primaries a darker brown, their shafts brown on the upper surface; outer web of first primary almost black, the rest greyish white on their inner webs, towards their bases; external tail feathers white for the basal half on both webs, greyish brown on the inner web for the terminal half. In winter the entire under surface is pure white, and there is a dark spot in front of the eye; head greyish white or white, the feathers mesially spotted or striped dusky; a black collar at the base of the occiput, extending on each side nearly to the eye.

"Bill dusky reddish, red towards the base of the lower mandible; legs coral red; bill, legs and feet black.

Length.—14.75 inches; wing 9.62; tail 7; bill at front 1.6."—(*Str. F.* vi. p. 474.)

Hab.—Sind, Beloochistan (Mekran Coast), Persian Gulf, the Concan and the Laccadives, Burmah and Ceylon. Mr. Hume found them breeding on the Vingorla rocks on the Western Coast.

1441. *Sterna fuliginosa*, Gm., *Syst. Nat.* i. p. 605; *Hume, Str. F.* iv. p. 477; *Saunders, P. Z. S.* 1876, p. 666; *Dresser, B. Eur.* viii. p. 307, pl.; *Legge, Birds Ceylon*, p. 1037; *Murray, Vert. Zool., Sind*, p. 326; *Oates, B. Br. Burm.* ii. p. 432. *Onychoprion fuliginosus*, *Salvad, Ucc. Born*, p. 373. *Haliplana fuliginosa*, *Dav. et Oust. Ois. Chine*, p. 528.—The SOOTY TERN.

Forehead and a streak from the base of the bill to the eye white; sides of the face, chin, throat, neck in front, breast and entire under parts white; top of head, nape, neck behind, back, scapulars and wings sooty black; under wing coverts white; tail forked, external feathers on each side white on their outer web, rest are white at the base; legs and feet black; irides brown; web of outer side of mid-toe reaches to the root of the claw.

Length.—16.5 to 17.5 inches; wing 10.5 to 11.8; tail 6.9 to 7.5; tarsus 0.95 to 1; bill at gape 2.0 to 2.4; bill at front 1.6 to 1.7.

Hab.—Sind, Mekran Coast, Persian Gulf (Bushire), the Concan (Bombay), Malabar Coast and Ceylon. Breeds on the Laccadive Islands during January and February.

Gen. **ANOUS.**—*Leach.*

Bill long, slender, slightly curved at the tip, angle well marked; nostrils in a groove; wings long; tarsus short; claw of mid-toe serrated.



1442. *Anous stolidus* (Linn.), Gould, B. Austr. vii. pl. 34; Jerd., B. Ind. iii. p. 845; Salvad., Ucc. Born. p. 379; Hume, Str. F. ii. p. 320; Saunders, P. Z. S. 1876, p. 669; Hume, Str. F. viii. p. 116; Legge, B. Ceylon, p. 1043; Murray, Vert. Zool., Sind, p. 326; Oates, B. Br. Burm. ii. p. 434.—The COMMON NODDY.

A black line from the base of the bill to the eye; forehead white; crown fulvous or yellowish grey; neck, nape, chin, throat, breast, greater and lesser wing coverts, under wing coverts, upper and under tail coverts and tail dark chocolate brown; back and primaries darker, or blackish brown; legs and feet black; irides brown.

Length.—Male, 15 inches; wing 11·5; tail 6·5; bill at front 1·6.

Hab.—Sind and Mekran Coasts, also the Bay of Bengal, Laccadives and the West Coast.

1443. *Anous tenuirostris* (Tem.), Saunders, P. Z. S. 1876, p. 670, pl. lxi. fig. 1; Hume, Str. F. viii. p. 116. *Sterna tenuirostris*, Tem. Pl. Col. p. 202. *Anous melanops*, Gould, P. Z. S., 1845, p. 103; *id.*, B. Austr. vii. pl. 35. *Anous senex* (Leach), *apud* Hume, Str. F. ii. p. 321; iv. p. 480.—The GREY-FACED NODDY.

Forehead, crown, nape and upper neck a clear french grey, shading off imperceptibly into the surrounding parts, a black band surrounding the upper half and front of the eye, broader in front; lores, cheeks, and sides of the neck intermediate in colour between the crown and the throat, which with the whole remaining plumage is chocolate brown; wings and tail almost black; outer web of first primary deep black; shafts of the primaries rufous brown; a narrow line of white on the lower eyelid and a still smaller one on the upper. (Oates.)

Length.—About 12 inches; tail 4·5; wing 8·3; tarsus 0·8; bill from gape 2·1.

Hab.—According to Hume, it is said to occur in the Bay of Bengal. One specimen was got at Port Blair. Abundant in the Australian seas. Breeds in some of the Islands in Torres Strait, laying a single egg, which is stone-coloured and marked with red and brown.

1444. *Anous leucocapillus*, Gould, P. Z. S. 1845, p. 103; *id.*, B. Austr. vii. pl. 36; Hume, Str. F. ii. p. 322; iv. p. 480; Saunders, P. Z. S., 1876, p. 670, pl. lxi. fig. 3; Hume, Str. F. viii. p. 116. *Anous tenuirostris* (Tem.), *apud* Jerd., B. Ind. iii. p. 846.—The WHITE-HEADED NODDY.

Forehead, crown and nape white; a narrow line of white on the lower eyelid; lores blackish; whole plumage chocolate brown, the quills darker. Bill black; gullet pale yellow; feet black with the web fleshy yellow. (Jerd.)



RHYNCHOPS.

Length about 13 inches; tail 5; wing 9; tarsus 0·95; bill from gape 2·2.

Hab.—Bay of Bengal.

Gygis alba, Sparrm., The White Noddy, with the whole plumage white, except the feathers round the eye and the shafts of the quills, which are black, is said to have been procured in the Bay of Bengal by Dussumier. As there is no further record of its occurrence, except Mr. Hume's belief that he has seen it twice in the same seas, I do not include it in the Avifauna.

Sub-Family, RHYNCHOPSINÆ.—Bonap.

Upper mandible shorter than the lower, and grooved to receive the sharp cutting edge of the lower one; claws long and curved; tail forked.

Gen. Rhynchops.—Linn.

Characters same as those of the Sub-Family. Hind toe elevated, the tip touching the ground.

1445. *Rhynchops albigollis*, Swains., *Anim. in Menag.* p. 360; *Ferd., B. Ind.* iii. p. 847; *Hume, Nests and Eggs*, p. 656; *id., Str. F.* iii. p. 193; *Blyth, B. Burm.* p. 164; *Wardlaw-Ramsay, Ibis*, 1877, p. 472; *Hume, Str. F.* viii. p. 116; *Oates, Str. F.* x. p. 247; *Murray, Vert. Zool., Sind*, p. 327; *Oates, B. Br. Burm.* ii. p. 436.—The INDIAN SKIMMER.

Forehead, lores, sides of the face, ear coverts, chin, throat, neck all round breast and entire lower parts white; crown of the head, nape, back, lesser and median coverts glossy, sooty blackish brown; lower back and rump and lateral tail feathers white; primaries black; secondaries and tertials tipped with white; bill orange, yellowish at the tip; irides brown; legs and feet bright vermilion.

Length.—16 to 16·5 inches; wing 16; tail 4·75 to 5; bill, upper mandible, 2·9 to 3; lower mandible to gape, 3·75 to 3·9.

Hab.—Throughout India nearly, on the larger rivers and lakes. Occurs in large flocks of several hundreds or in small companies of 6 or a dozen. Breeds throughout the Empire on sandbanks; the ground colour of the eggs is very variable, from a pale pinky buff to stone colour, and the markings are bold—blotches, streaks and spots of chocolate and reddish brown. In size they vary from 1·45 to 1·76 inches in length and from 1·08 to 1·28 in breadth.

ORDER.—STEGANOPODES.

Feet entirely webbed; hind toe articulated on the inner side of the tarsus and joined to the inner front toe by the web; legs short; wings long.

PHÆTONTIDÆ.

Family PHÆTONTIDÆ.

Bill Ternlike, moderate, stout, straight, the culmen curved, and the margins finely serrated; nostrils pervious; tail with the two central feathers much elongated; lower part of tibia naked.

Gen. PHÆTON.—*Lin.*

Characters same as those of the family.

1446. *Phæton rubricauda*, Bodd., *Tabl. Pl. Enl.* p. 57; *Jerd., B. Ind.* ii. p. 849; *Salvad., Ucc. Born.* p. 370; *Hume, Str. F.* ii. p. 322; viii. p. 116. *Oates, B. Br. Burm.* ii. p. 224. *Phæton phoenicurus, Gm., Syst. Nat.* i. p. 583; *Gould, B. Austr.* vii. p. 73 *Phæton ætherius, Bloch, Voy. Blonde. App.* p. 251.—THE RED-TAILED TROPIC BIRD.

Whole plumage silky white, except a mark in front of and behind the eye, and the shafts of the primaries and tail feathers, which are black, lengthened central pair of tail feathers red; feathers of the flanks slate colour mesially, also of most of the tertiaries. Bill yellow; tarsus and basal portion of the toes and webs yellow; remainder of feet black.

Length.—33 inches; tail 19; wing 13'2; tarsus 1'2; bill from gape 3'2.

Hab.—Bay of Bengal. Breeds on islands, laying a single egg in a burrow; egg reddish grey, marked with reddish brown.

1447. *Phæton flavirostris*, Brandt, *Bull. Acad. Sc. St. Petersb.* ii. p. 349; *Hume, Str. F.* ii. p. 323; v. p. 498; viii. p. 116; *Legge, Birds, Ceylon*, p. 1172; *Oates, B. Br. Burm.* ii. p. 225. *Phæton candidus (Briss.), apud. Jerd., B. Ind.* ii. p. 850.—THE WHITE TROPIC BIRD.

Entire plumage white, except a mark in front of the eye continued as a broad band down the sides of the head; the first four primaries with the outer web; the shaft and a narrow portion of the inner web to within an inch of the tip; the basal portion of the shaft of the next few primaries; a broad band along the median wing coverts, greater portion of the tertiaries and the tips of the scapulars; also the shafts of the lengthened tail feathers and the basal two-thirds of the others which are black; longer flank feathers streaked with slate colour. Bill in the dry specimen pale yellow, with a pale plumbeous line along the central portion of both mandibles; tarsus and basal portion of feet yellow; rest of feet black. (*Oates.*)

Length.—30 inches; tail 18; wing 10'6; tarsus 0'9; bill from gape 2'5.

Hab.—Ross Island (Andaman Group). Breeds on Ascension Island. *Oates* adds that a specimen of this *Phæton* was captured at a considerable distance from the sea in Cachar.

1448. *Phæton indicus*, *Hume, Str. F.* iv. p. 381; *Butler, Str. F.* v. p. 302; *Hume and Dav., Str. F.* vi. p. 493; *Hume, Str. F.* viii. p. 116;



Legge, Birds Ceylon, p. 1173; *Murray, Vert. Zool., Sind*, p. 327; *Oates, B. Br. Burm.* ii. p. 226. *Phaëton ætherius* (Linn.), *apud. Hume, Str. F. i.* p. 286; ii. p. 323.—THE SHORT-TAILED TROPIC BIRD.

"A broad, conspicuous black crescent in front of the eye, and a narrow black line from the gape to nostrils and nostrils to culmen, dividing the feathers from the bill; the whole forehead, front part of the crown, ear coverts and entire lower parts, including wing lining and axillaries, pure white; a black line from the posterior angle of the eye, running round the back of the nape, where it forms a more or less conspicuous half collar; hind crown and nape inside the half collar white, each feather with a triangular black bar near the tips; carpal joint of wing, four or five posterior primaries, all the secondaries, the primary coverts, except those of the first five quills, the greater and median coverts pure white; winglet, greater coverts, shafts and outer webs of the first five primaries, together with a narrow stripe along the shaft of the inner web, black; the extreme tips and inner webs of these feathers white; tertiaries and their greater coverts black, narrowly margined on the exterior webs and tipped with white; the lesser secondary coverts similar; the entire back, rump, scapulars, and upper tail coverts white, closely barred with black, the bars being slightly cuspidate on the upper back, and the longest scapulars almost devoid of barring; tail feathers white, their bases black shafted, and the lateral feather mostly with an arrow-head bar or spot near the tip; irides deep brown; legs and hallux and its web white, tinged bluish and creamy yellow; rest of feet and claws black.

"*Male*—*Length*, excluding elongated tail feathers, 16·85 to 17·8 inches; central feathers project beyond the rest of the tail 3 to 5·9; expanse 37 to 39·5; tail from vent, including elongated feathers, 7·5 to 10·3; wing 10·75 to 11·8; bill at front 2·2 to 2·45; tarsus 1·0 to 1·13; mid-toe and claw 1·55 to 1·8. *Female*—*Length*, 18·05 exclusive of elongated feathers, which project 4 inches beyond the others; expanse 39; tail from vent, including elongated feathers, 9·0; wing 11·7; bill at front 2·4; tarsus 1."

This is Mr. Hume's description of specimens secured by him in the Gulf of Oman on the Mekran Coast; whether it is the immature of *P. æthereus*, or a new species, is yet a moot question. Captain Butler, in 1877 (*Str. F. v.* p. 392) also secured two specimens on the Mekran Coast between Oormara and Gwadur, and these, Mr. Hume says, are precisely similar to the four specimens secured in the Bay of Bengal. Mr. Davison also observed it at the extreme southern point of Tenasserim and off Cape Negrais.

Family.—FREGATIDÆ.

Wings highly developed. The single species known to occur in India lives almost entirely in the air, taking its prey on the wing. Form and habits Raptorial.



PELECANIDÆ.

Gen. **Fregata**.—*Briss.*

Bill much hooked at the tip; wings long; tail forked, long; tarsi partially feathered; claws short and curved.

1449. *Fregata aquila* (Linn.), *Salvad., Ucc. Born.* p. 364; *Hume, Str. F.* viii. p. 116; *Legge, Birds of Ceylon*, p. 1204. *Pelecanus aquilus*, Linn., *Syst. Nat.* i. p. 216. *Attagen aquilus*, *Ferd., B. Ind.* iii. p. 853. *Tachypetes aquilus*, *Sharpe, Rep. Trans. Venus Exped.* p. 151.—The FRIGATE BIRD.

Glossy black throughout. The young with the head, neck and lower abdomen white.

Length.—37 inches; wing 26; tail 9.5; tarsus 0.8; bill from gape 5.0. Gular pouch scarlet; bill pale blue.

Hab.—The Malabar Coast and the Bay of Bengal.

Fregata minor, which differs from this in being smaller, is said to be found in the Malay Peninsula and Ceylon. The notice of its find in Burmah is only conjectured.

Family, PELECANIDÆ.—*Leach.*

Bill stout, straight, broad at the base, compressed at the tip, edges irregularly serrated; feet webbed; face nude.

Sub-Family, SULIDÆ.

Bill short, straight, curved and hooked at tip.

Gen. **Sula**.

Characters those of the Sub-Family. Plumage black and white.

1450. *Sula cyanops*, *Sunder., Phys. Salsk. Tidskr.* 1837, p. 218, t. 5; *Legge, Birds of Ceylon*, p. 1180; *Hume, Str. F.* viii. p. 116. *Sula personata*, *Gould, P. Z. S.* 1846, p. 21; *id., B. Austr.* vii. pl. 77. *Dysporus cyanops*, *Oates, B. Br. Burm.* ii. p. 231.—The MASKED BOOBY.

Face to behind the eyes and throat nude; entire head, neck, back, rump, upper tail coverts and entire lower parts white, with a slight fulvous tinge; primaries, secondaries and tertials, also the tail, black; irides lemon yellow; bill horny, blackish at the base; both mandibles denticulated for one-half their length from tip.

Length.—32.5 inches; bill at front 4; gape 4.87; tail from vent 8.0; tarsus 2.25; wing 16.5; legs and feet pale bluish grey.

Hab.—Sind and Beloochistan (Mekran Coast), Bengal, Ceylon, and the Western Coast near Alibag.



1451. *Sula australis*, Steph., Gen. Zool. xiii. p. 104; Hume, Str. F. v. p. 318. *Pelecanus sula*, Linn., Syst. Nat. i. p. 218. *Sula fusca* (Linn.), apud Jerd., B. Ind. iii. p. 851. *Dysporus sula*, David et Oust. Ois Chine, p. 530; Oates, B. Br. Burm. ii. p. 229.—The BROWN BOOBY.

Breast, abdomen, sides of the body, vent and under tail coverts white; sides of the under tail coverts, also under wing coverts, marked with brown on the edges of the feathers; remaining plumage umber brown; the feathers of the back, scapulars, and rump edged with whity brown; quills and tail dark umber brown; irides white; bill creamy white, with a bluish tinge in veins; pouch, gape, lores and orbital space pale hoary greenish yellow; legs and feet pale yellow. (Hume.)

Length.—About 30 inches; tail 8; wing 16.5; tarsus 1.9; bill from gape 4.5.

Hab.—The Bay of Bengal and the Tenasserim Coast.

1452. *Sula piscator* (Linn.), Gould, B. Austr. vii. pl. 79; Jerd., B. Ind. iii. p. 852; Hume, Str. F. viii. p. 116. *Sula piscatrix*, Salvad. Ucc. Born. p. 368; Hume, Str. F. iv. p. 483. *Pelecanus piscator*, Linn., Syst. Nat. i. p. 217.—The RED-LEGGED BOOBY.

Whole plumage white, tinged with yellowish on the head and neck; quills and greater wing coverts blackish, variegated with silvery grey. (Oates.) Legs and feet red; young birds are brown.

Length.—26 inches; tail 8; wing 13.8; bill from gape 4.3.

Hab.—Bay of Bengal.

Sub-Family, PELECANINÆ.

Bill long, flattened, compressed and hooked at tip; tail short; lower mandible and throat with a membranous pouch; orbits nude.

Gen. *Pelecanus*.—Lin.

Characters those of the Sub-Family; second quill of wing longest; secondaries nearly as long as the quills; a membranous mandibular and gular pouch.

Pelicans live in large congregated flocks and feed entirely on fish. They fly high into the air, and go up vast heights by circling; they do not however obtain their prey by diving either under water from the surface, nor by diving into it after the manner of sea gulls and terns, but arrange themselves in some suitable or likely spot on the water in two, three or even four rows, or if there is not a sufficient number, form into a large semi-circle, and beat the water on the surface with their wings, clapping also their huge bills, and so drive the fish towards a shallow spot, where with their bills they gorge



all they get. They breed either on high trees or according to situation low thorny ones, making a huge nest of sticks. Not more than from five to twenty breed on one tree. Eggs, three in number, white and extremely chalky.

1453. *Pelecanus crispus*, Bruch., Berl. Trans. 1838, t. 3, 4; Naum. Vog. t. p. 283; Gould, B. Eur. pl. 406; Str. F. i. p. 288; vii. p. 288; Murray, Hdbk., Zool., &c., Sind., p. 248g; id., Vert. Zool. Sind, p. 328—The LARGE CRESTED PELICAN.

In the adult in spring plumage, excepting the quills, primary coverts and winglet, the whole plumage is white, with more or less of a pearly grey tinge on both the upper and under surfaces according to the light in which it is looked at; there is a broad band at the base of the neck in front, and at the sides faintly tinged with very pale straw colour; there is not the faintest tinge of rosy anywhere; the whole of the feathers of the head and neck are very narrow, long, soft and silky, much curled and twisted on the head, especially behind and just above the eye; and the feathers of the back of the head are much elongated, so as to form a dense, full crest, some 4.25 inches long; a line of feathers, about 1.5 inches wide down the whole back of the neck, is of a more snowy and less pearly white than the rest of the neck; the scapulars, rump, and upper tail coverts and median and greater wing coverts are conspicuously black shafted; and all these, except the longest of the scapulars, are very long and lanceolate. A few of the longest scapulars are broad and round, or mucronate at the end; back, scapulars and tail with a beautiful satiny gloss; the two exterior tail feathers with nearly the whole shafts black and generally with a decided grey tinge on the outer web to near the tip; the rest of the tail feathers with only the terminal third of the shafts black; primaries (all of which are white at the base) and their coverts and winglet very dark brown almost black; the second to the fifth primary emarginate on the outer web and silvered with grey on the last above the emargination, which in the second is hidden by the coverts; there is more or less silvering of grey on the outer webs of all the other primaries, their coverts and winglet; the first five primaries are faintly notched on the inner web, and more pale or greyish white on the latter above the notches, while the rest of the primaries have the inner portions of the inner webs white, this is still more conspicuous in the secondaries, most of which have their whole outer webs a silver grey; the tertials are pure white; the feathers of the base of the neck and breast thickly set, very narrow and pointed, the filaments along the margin a good deal separated.

The young bird wants the linear lanceolate feathers. It has the whole head, neck, and upper and lower surface white; the back of the neck more or less shaded with grey; tips of the quills and a row of small coverts near the margin of the wing pale wood brown; the feathers of the head shorter and more fur-like than in the male; crest small; scapulars and shoulder feathers



broadly tipped with pale brown, with dark shafts; tail feathers white at the base on both webs; greater part of the rest of the inner webs white; primaries and secondaries white at their bases; a large portion of their inner webs white; the rest a darkish brown.

Adult.—Irides white; in the young pale yellow; legs and feet pale plumbeous; edges of upper and lower mandible for the terminal two-thirds yellowish, and in the young a horny whitish brown, or yellowish grey; the nail orange or pale orange. In the breeding plumage the pouch is a deep orange red, with a black patch on either side, just at the base of the lower mandible; in the non-breeding plumage a dirty primrose, or pale fleshy, tinged with lemon yellow.

Length.—*Male*, 70 to 74.5 inches; expanse 114 to 122; tail 9.5 to 10; wing 26.25 to 29.28; bill at front including nail 15.4 to 16.6. *Females* smaller; length 66 to 68; wing 25 to 28. (*Str. F.* vii. p. 448; *Hume Monog. Pelecanus*.)

Hab.—Sind, Punjab, N.-W. Provinces and Oudh, also Beloochistan (Mekran Coast).

1454. *Pelecanus manillensis*, Gm., Syst. Nat. i. p. 571. *Pelecanus philippensis*, Gm. *Syst. Nat.* i. p. 571; *Ferd.*, *B. Ind.* iii. p. 858, No. 1004; *Hume, Nests and Eggs, Ind. B.* p. 658; *id.*, *Str. F.* viii. p. 116; *Murray, Vert. Zool. Sind*, p. 330; *Oates, B. Br. Burm.* ii. p. 326. *Pelecanus rufescens*, *apud. Elliot. P. Z. S.* 1869, p. 583 (part). *Pelecanus philippinensis*, *Blyth, B. Burm.* p. 164; *Legge, Birds Ceylon*, p. 1198.—The SPOTTED-BILLED OR GREY PELICAN.

Breeding Plumage.—Head, neck and upper plumage greyish white or in some pure white, with dark bases visible only on lifting the feathers; feathers of the head long, soft, silky and greyish brown, forming a mane-like ridge to the upper back; occipital crest short, the feathers slightly recurved, of a brownish colour and tipped with white; scapulars white at the base, of a grey colour and black shafted; upper back and scapulars with the feathers sharply pointed; lower back, rump and flanks rich vinaceous, the shafts like those of the upper tail coverts hair brown; lesser and median coverts like the back; greater coverts grey, black shafted; primaries dusky grey, white at the base; secondaries and tertiaries dusky grey; feathers of the tail grey, black shafted; the basal half or more of the inner webs and shafts white; under tail coverts, greyish white, mottled with brown and like the under wing coverts tinged with vinaceous; bill pale bluish, tinged with fleshy, the tip yellowish; mandibular and gular pouch dusky; the gular pouch with reddish venations and tinged ochreous or yellow; irides pale or dusky brown; legs fleshy. *In non-breeding plumage* there is no vinaceous tinge.



PELECANIDÆ.

Length.—60 to 62 inches; wing 24 to 25.5; tail 8 to 8.7; tarsus 2.9 to 3.1; bill at front 12.5 to 14.3.

Hab.—Sind, Kutch, Rajputana, Guzerat, Deccan and Bengal, also Southern India, Burmah, and Ceylon. Breeds in vast numbers about the end of October, also in February and March, in the Persian Gulf, Ceylon, and parts of Burmah.

1455. *Pelecanus roseus*, Gm., *Syst. Nat.* i. p. 570; *Oates, B. Br. Burm.* ii. p. 239. *Pelecanus javanicus*, *Horsf., Trans. Linn. Soc.* xiii. p. 197; *Ferd., B. Ind.* iii. p. 857; *Elliot, P. Z. S.* 1869, p. 581; *Hume, Str. F.* vii. p. 116. *Pelecanus onocrotalus*, *Ferd., B. Ind.* iii. p. 854. *Pelecanus minor*, *apud. Oates, Str. F. x.* p. 247. *Pelecanus mitratus* (*Licht.*), *Ferd. B. Ind.* iii p. 856.—THE EASTERN WHITE PELICAN.

Occipital crest small, yellowish white; head, neck, upper and lower surface of body white, with a roseate tinge; primaries dusky; secondaries grey externally; tertiaries white, with broad black margins, internally greyish; tail white; bill blue in the centre, red and yellow on the sides, the tip blood red; lower mandible bluish posteriorly, yellow in front; pouch yellow; irides blood red; legs fleshy pink.

Length.—56 inches; wing 24 to 25; tail 6.5; tarsus 4; mid-toe and claw 4.5; bill 12 to 13 inches.

Hab.—Nearly throughout India and Burmah, arriving in August, and leaving during January and February.

Sub-Family, GRACULINÆ OR PHALACROCORACIDÆ.

Bill moderately long, straight and hooked at the tip; face partially nude, also the gullet, which is capable of distension; wings moderate; upper and lower tail coverts short; tail with stiff feathers.

Gen. *Phalacrocorax*.—Briss.

Characters the same as those of the Sub-Family.

1456. *Phalacrocorax carbo* (*Linn.*), *Dav. et Oust. Ois Chine*, p. 532; *Dresser, B. Eur.* vi. p. 151, pl.; *Legge, Birds of Ceylon*, p. 1182; *Doig, Str. F.* vii. p. 468; *Hume, Str. F.* viii. p. 116; *Oates, B. Br. Burm.* ii. p. 231. *Pelecanus carbo*, *Linn., Syst. Nat.* i. p. 216. *Pelecanus sinensis*, *Shaw and Nodd., Nat. Misc.* pl. 529. *Graculus carbo*, *Ferd., B. Ind.* iii. p. 861; *Hume, Nests and Eggs*, p. 659; *Murray, Vert. Zool., Sind*, p. 330.—THE LARGE CORMORANT.

In summer or breeding plumage, the head and neck are black with white feathers intermixed; nape with a short black erectile crest; lower neck, breast



and entire under surface, except a white thigh patch, glossy black; rump, upper tail coverts and tail black; chin and a fillet of white running up to the eye white, bounded behind by a black band; primaries and their coverts dull black; scapulars, tertials, greater, median and lesser wing coverts bronze brown, the feathers margined with black; legs and feet black; bill brownish, irides deep or sea-green; facial skin pale greenish; gular pouch yellow, spotted bluish in some.

Length.—32 to 35 inches; wing 13·2 to 14·7; tail 7 to 7·5; bill at front 2·3 to 2·5.

In winter the neck is black; the white feathers and white thigh patch disappear.

Hab.—Sind, N.-West Provinces, Western and Central India, also Beloochistan and Persia, extending to Eastern Turkestan, Nepaul and Cashmere. Distribution almost universal.

Breeds wherever found. In Sind in the middle of the Samara Dhund in the Eastern Narra Districts. Nest a platform of sticks, lined with grass and rushes. Eggs 4 to 6 in number, white or greenish white, glossless, and of a chalky texture.

Whether on sea or on the inland lakes, Cormorants make terrible havoc among the fishes inhabiting the waters they affect. Sometimes, though seldom so seen, they swoop down from mid air on the object of their prey, and pursue it under the surface of the water with great dexterity and unerring certainty. They, however, must necessarily rise to the surface to swallow their prey, and this trait no doubt has led to their being trained by fishermen for the purpose of catching fish. In Sind as well as in China and other countries fishermen always have a dozen or more of these birds sitting, when not employed, lazily on the cross beam of the prow of their boats, quite sullen and stern; the whole deportment of the bird gives it the aspect of an unrelenting tyrant.

In fishing a leathern collar is put round their necks, to prevent the fish being swallowed, and it is said the fishermen in Sind make a livelihood by the amount of fish caught by Cormorants when their nets fail. They are not, however, hooded, as falcons are, when unemployed.

1457. *Phalacrocorax fuscicollis*, Steph., Gen. Zool. xiii. pt. 1, p. 91; Legge, B. Ceylon, p. 1182; Hume and Dav., Str. F. vi. p. 496; Hume, Str. F. viii. p. 116; Oates, B. Br. Burm. ii. p. 233. *Phalacrocorax sinensis*, Steph., Gen. Zool. xiii. pt. 1, p. 96. *Graculus sinensis* (Shaw), Ferd., B. Ind. iii. p. 862; Hume, Nests and Eggs, Ind. B. p. 660; Murray,



Vert. Zool., Sind, p. 331. *Graculus fuscicollis*, *Blyth, B. Burm.* p. 164; *Oates, Str. F.* v. p. 170.—The WHITE-TUFTED CORMORANT.

Breeding Plumage.—Whole plumage deep black; glossed with blue and green, the feathers of the back and wing coverts with black margins; a tuft of decomposed soft white feathers about an inch in length on either side of the head just behind the ear coverts; the female has not the white tufts.

Non-breeding Plumage—Adult Male.—Entire head and neck glossy black; back, scapulars, rump and upper tail coverts bronze, some of the feathers of the back and wing coverts margined with black; throat white; cheeks, pale brown; entire lower surface black. *No white thigh or cheek patch*. Bill, gular skin and orbits as in the last; irides bluish green; feet black.

Length.—24 to 27 inches; wing 11; tail 6; bill at front 2.25. In the breeding plumage the forehead and sides of the head are speckled with white, there is a white tuft of feathers behind the ears, and the chin is white.

Hab.—Sind, Kutch, Guzerat, Rajputana, the Deccan, Burmah and Ceylon; also in South Ceylon. Very abundant and resident everywhere it occurs in India. Breeds during November; in some parts as early as July and August.

1458. *Phalacrocorax pygmæus* (Pall.), Dresser, B. Eur. vi. p. 173, pl.; Legge, B. Ceylon, p. 1191. *Pelecanus pygmæus*, Pall., *Reis. Russ. Reichs.* ii. p. 712. *Graculus javanicus*, *Ferd., B. Ind.* iii. p. 863; Murray, *Vert. Zool., Sind*, p. 332. *Graculus melanognathos*, *Hume, Nests and Eggs, Ind. B.* p. 660. *Graculus pygmæus*, *Blyth, B. Burm.* p. 164.—The LITTLE CORMORANT.

In Summer Plumage.—A white triangular patch on the head; lores and a line through the eyes white; a few white hair-like feathers on the nape and sides of the neck; chin black; whole body glossy black; head with a short occipital crest; wing coverts, scapulars, secondaries and tertiaries glossed silvery, the feathers margined with black; bill brownish or purplish brown; gular and orbital skin livid fleshy; legs dusky.

Length.—19 to 20 inches; wing 8.5; tail 5.5; bill at front 1.25; tarsus 1.3.

Hab.—Sind, Punjab, N.-W. Provinces, Kutch, Guzerat, Rajputana, Concan, the Deccan, Burmah and Ceylon. Breeds wherever found from August to December according to locality.

Sub-Family, PLOTINÆ.

Bill with edges finely notched; neck longer than the body.

Gen. **Plotus**.—*Lin.*

Bill long, straight, slender; second and third quills longest; nostrils basal, covered by a shield; tail long and rounded.



Plotus melanogaster.

1459. *Plotus melanogaster* (*Penn.*), *Ferd.*, *B. Ind.* iii. p. 865, No. 1008; *Hume, Nests and Eggs Ind. B.* p. 661; *Str. F.* vol. i. p. 469; *id.*, *Str. F.* i. p. 194; *Blyth, B. Burm.* p. 165; *Legge, B. Ceylon*, p. 1194; *Hume and Dav.*, *Str. F.* vi. p. 496; *Oates, Str. F.* x. p. 248; *Murray, Hdbk., Zool., &c. Sind.*, p. 249; *id.*, *Vert. Zool. Sind.* p. 332. *Anhinga melanogaster, Penn., Ind. Zool.*, p. 27, pl. 12 (*Sili, Sind.*).—The INDIAN SNAKE BIRD.

Head, nape and neck brown, the feathers edged with pale ferruginous; back of the neck slightly darker; chin and throat white, also a line from below the eye to half way down the neck, and a narrow streak from the base of the bill; back and entire under surface glossy black; primaries, secondaries, tertiaries, scapulars and wing coverts black, very slightly glossed;

PLOTIDÆ.

some of the inner secondaries, all the wing coverts, scapulars and tertials mesially white; upper tail coverts and tail black, the central feathers with barred ridges; under wing coverts black; legs and feet black; bill dusky on the upper mandible, yellowish on the lower; irides yellow.

Length.—32 to 33 inches; wing 13·2 to 14; tail 8·3 to 9·2; bill at front 3·5.

Hab.—Sind, Bengal, Rajputana, Kutch, Guzerat, Concan, Deccan and India generally; also Burmah and Ceylon, extending to the Malay Peninsula.

Breeds in Sind and wherever found from June to December in large societies. Eggs, white or bluish white, with a chalky coat.



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No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Balochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
1	1	<i>Vultur monachus, Lin.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
2	3bis.	<i>Gyps fulvescens, Hume.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
3	3ter.	<i>Gyps himalayensis, Hume.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
4	4	<i>Gyps indicus, Scop.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
5	4bis.	<i>Gyps pallescens, Hume.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
6	5	<i>Pseudogyps bengalensis, Gm.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
7	2	<i>Otogyps calvus, Scop.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
8	6	<i>Neophron ginginianus, Lath.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
9	50	<i>Circus cyaneus, Lin.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
10	53	<i>Circus melanoleucus, Forst.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
11	52	<i>Circus pygargus, Lin.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
12	51	<i>Circus macrurus, S.G. Gm.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
13	54	<i>Circus aeruginosus, Lin.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
14	21	<i>Astur palumbarius, Lin.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
15	22	<i>Astur trivirgatus, Tem.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
16	23	<i>Astur badius, Gm.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
17	23bis.	<i>Astur poliopsis, Hume.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
18	23ter.	<i>Astur soloensis, Horsf.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
19	24	<i>Accipiter nisus, Lin.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
20	25	<i>Accipiter virgatus, Temm.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
21	45	<i>Buteo ferox, S. G. Gm.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
22	44bis.	<i>Buteo desertorum, Daud.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
23	47	<i>Buteo plumipes, Hodgs.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
24	49	<i>Archibuteo strophiatu Hodgs.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
25	7	<i>Gypaëtus barbatus, Lin.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
26	26	<i>Aquila chrysaëtus, Lin.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
27	27	<i>Aquila heliaca, Savig.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
28	27bis.	<i>Aquila mogilnik, S.G. Gm.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
29	29	<i>Aquila vindhiana, Frankl.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
30	30	<i>Aquila hastata, Less.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
31	28	<i>Aquila clanga, Pall.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
32	33	<i>Nisaëtus fasciatus, Vieill.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
33	31	<i>Nisaëtus pennatus, Gm.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
34	37	<i>Lophotriorchis kieneri, Geoff.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
35	32	<i>Neopus malayensis, Tem.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
36	36	<i>Spizaëtus nipalensis, Hodg.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
37	35	<i>Spizaëtus cirrhatus, Gm.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
38		<i>Spizaëtus alboniger, Bly.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
39	34	<i>Spizaëtus limnaëtus, Horsf.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
40	38	<i>Circnëtus gallicus, Gm.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
41	39	<i>Spilornis cheela, Lath.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
42	39bis.	<i>Spilornis melanotis, Jerd.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
43	39sex.	<i>Spilornis pallidus</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
44	48	<i>Butastur teesa, Frankl.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×

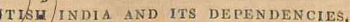


DISTRIBUTION TABLE OF THE BIRDS OF

CSL

No. in Avifauna.	Jordon's Nos.	SPECIES.	Sind.	Belochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
45	48 ter.	<i>Butastur liventer, Tem.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	X	X
46	48 bis.	<i>Butastur indicus, Gm.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	X	..
47	42 bis.	<i>Haliaetus albicillus, Lin.</i>	X	X	X	..	X	X	X	X	..	..	..	X	..	X	X	..	..	..
48	43	<i>Haliaetus leucogaster, Gm.</i>	..	..	..	..	X	X	X	X	X	..	..	X	X	X	..	..	X	..
49	42	<i>Haliaetus leucoryphus, Pall.</i>	X	X	X	X	..	X	X	X	X	..	..	X	X	X	..	..	X	X
50	55	<i>Haliastur indus, Bodd.</i>	X	X	X	..	X	X	X	X	X	..	..	X	X	X	..	..	X	..
51	56	<i>Milvus govinda, Sykes.</i>	X	X	X	X	..	X	X	X	X	..	..	X	X	X	..	..	X	X
52	56 bis.	<i>Milvus melanotis, Tem.</i>	..	..	..	..	X	X	X	X	..	..	..	X	X	X	..	..	X	X
53	56 ter.	<i>Milvus affinis, Gould.</i>	X	..	..	..	X	X	X	..	..	..	..	X	..	..	..	..	X	..
54	..	<i>Milvus korschum, Gm.</i>	X	X	..	X	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55	59	<i>Elanus caeruleus, Desf.</i>	X	..	..	..	..	..	X	..	X	X	X	X	X	X	X	..	X	X
56	..	<i>Machæramphus alcinus, Westr.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
57	57 ter.	<i>Pernis ptilorhynchus, Tem.</i>	..	..	..	..	X	X	X	X	X	..	..	..	..	X	X	X	X	X
58	58	<i>Baza lophotes, Cuv.</i>	..	..	..	..	..	..	..	X	..	..	X	..	..	..	..	X	..	..
59	58 bis.	<i>Baza sumatrensis, Lafr.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	X	..
60	..	<i>Baza ceylonensis, Legge.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
61	20	<i>Microhierax caerulescens, Lin.</i>	..	..	..	..	..	..	..	X	..	..	..	..	..	..	..	X	..	X
62	20 ter.	<i>fringillarius, Drap.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	X	..
63	16 bis.	<i>Poliobierax insignis, Wald.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	X	..
64	8	<i>Falco communis, Gm.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
65	9	<i>Falco peregrinator, Sund.</i>	..	..	X	X	X	X	X	X	X	X	X	..	..	..	..	X	X	X
66	12 bis.	<i>Falco barbarus, Lin.</i>	X	X	X	X	X	X	X	X	..	..	..	..	X	..	..	..	..	X
67	12	<i>Falco babylonicus, Gurn.</i>	X	X	X	X	X	X	X	X	..	..	X	..	..	..	..	..	..	..
68	11	<i>Falco jugger, J. E. Gr.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..	..	..
69	13	<i>Falco subbuteo, Lin.</i>	X	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
70	14	<i>Falco severus, Horsf.</i>	..	..	..	..	..	..	X	X	..	..	..	..	..	..	..	X	X	X
71	16	<i>Falco chiquera, Daud.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..	..
72	15	<i>Falco regulus, Pall.</i>	X	..	..	..	..	..	X	X	..	..	..	..	..	..	..	..	..	..
73	10	<i>Hierofalco sacer, Gm.</i>	X	X	X	X	..	X	X	X	X	X	X	X	X	X	X	..	X	X
74	17	<i>Cerchneis tinnuncula, Lin.</i>	X	X	X	X	..	X	X	X	X	X	X	X	X	X	X	X	X	X
75	18	<i>Cerchneis naumanni, Fleisch.</i>	..	..	X	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
76	18 bis.	<i>Cerchneis pekimensis, Swinh.</i>	..	..	..	..	..	X	X	X	..	..	..	..	..	..	..	..	..	..
77	19 bis.	<i>Cerchneis amurensis, Radde.</i>	..	..	..	..	..	X	X	X	..	..	..	..	..	..	..	..	..	..
78	40	<i>Pandion haliaetus, Lin.</i>	X	X	X	..	..	X	X	X	X	X	X	X	X	X	X	X	X	X
79	41	<i>Polionætus ichtyaætus, Horsf.</i>	..	..	..	..	..	X	X	X	X	X	X	X	..	..	..	..	..	..
80	41 ter.	<i>Polionætus humilis, S. Müll. & Schl.</i>	..	..	..	..	..	..	..	X	..	..	..	..	..	..	..	..	X	X
81	72	<i>Ketupa ceylonensis, Gm.</i>	X	X	..	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
82	73	<i>Ketupa javanensis, Less.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
83	69	<i>Bubo bengalensis, Frankl.</i>	X	X	..	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
84	70	<i>Bubo coromandus, Lath.</i>	X	..	..	..	X	X	X	X	X	X	X	X	X	X	X	X	X	X
85	71	<i>Bubo nipalensis, Hodgs.</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	X	X
86	..	<i>Bubo orientalis, Horsf.</i>
87	74	<i>Scops pennatus, Hodgs.</i>	X	X	..	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

* Also the Malabar Coast.



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88	74B.	Scops rufipennis, Sharpe.																		
89	74sept	Scops bruicii, Hume.	X	X		X										X			X	
90		Scops spilocephalus, Bly.							X	X										
91	74bis.	Scops sunia, Hodg.						X												
92	74bis.	Scops plumipes, Hume.						X												
93	75	Scops lettia, Hodg.														X				
94	75qnt.	Scops lempiji, Horsf.						X	X	X				X		X			X	
95	75 qt.	Scops malabaricus, Jerd.	X			X	X	X	X			X			X	X			X	
96		Scops sagittatus, Sharpe																		
97	74oct.	Scops balli, Hume.																	X	X
98	74qnt.	Scops modestus, Wald.																	X	
99	76	Carine brama, Tem.	X	X	X	X	X	X	X	X									X	X
100	76 qt.	Carine pulchra, Hume.																	X	
101	76qnt.	Heteroglaux blewitti, Hume.										X	X							
102	81	Ninox lugubris, Tick.					X	X	X				X			X				X
103	81 qt.	Ninox affinis, Tyt.																	X	
104	81bis.	Ninox scutulata, Raffl.					X	X		X	X					X			X	X
105	81qnt.	Ninox obscura, Hume.								X										
106	80	Glaucidium brodiei, Burt.						X		X										
107	77	Glaucidium radiatum, Tick.						X				X				X			X	
108	78	Glaucidium malabaricum, Bly														X		X		
109	79	Glaucidium cuculoides, Vig.					X	X		X			X						X	X
110	67	Asio otus, Lin.	X	X	X	X	X	X	X					X					X	
111	68	Asio accipitrinus, Pall.	X	X	X	X	X	X	X		X	X	X		X	X		X	X	
112	67bis.	Syrnium butleri, Hume		X																
113	66	Syrnium nivicolium, Hodg.					X	X												
114	65bis.	Syrnium sinense, Lath.																	X	X
115	65	Syrnium ocellatum, Less.						X	X			X	X		X	X		X	X	
116	64	Syrnium newarense, Hodg.					X	X												
117	63	Syrnium indrane, Sylkes.																	X	
118	60	Strix flammea, Lin.	X	X		X	X	X	X	X	X	X	X	X	X				X	X
119	61	Strix candida, Tick.				X	X	X	X	X		X	X						X	X
120	62	Phodilus badius, Horsf.								X	X								X	X
121	664	Trypanocorax frugilegus, Lin.			X	X	X	X												
122	657	Corvus corax, Lin.	X	X	X	X	X	X												
123	660bis.	Corvus umbrinus, Hedenb.	X	X	X	X	X	X												
124	661	Corvus lawrencei, Hume	X	X		X	X	X		X	X			X	X					X
125	665	Colæus monedula, Lin.			X	X	X	X												
126	659 bis.	Corone cornix, Lin.		X	X	X	X	X												
127	663	Corone splendens, Vieill.	X				X	X	X	X	X	X	X	X	X				X	X
128	659	Corone corone, Lin.					X	X												
129	660bis.	Corone macrorhynchus, Wagl.	X				X	X	X	X	X	X	X			X	X	X	X	X
130	666	Nucifraga hemispila, Vig.																		
131	668 bis.	Pica rustica, Scop.		X	X	X														
132	671	Urocissa occipitalis, Bly.					X	X												



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133	672	<i>Urocissa flavirostris</i> , Bly.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
134	674	<i>Dendrocitta rufa</i> , Scop.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
135	677	„ <i>frontalis</i> , Mc Clell.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
136	678	„ <i>leucogastra</i> , Gould.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
137	676	„ <i>himalayensis</i> , Bly.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
138	678 bis.	„ <i>bayleyi</i> , Tyt.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
139	678 qt.	<i>Crypsirhina varians</i> , Lath.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
140	678 ter.	<i>Crypsirhina cucullata</i> , Jerd.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
141	673	<i>Cissa chinensis</i> , Bodd.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
142	678 qnt.	<i>Platysmurus leucopterus</i> , <i>Tem</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
143		<i>Garrulus atricapillus</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
144	669 bis.	<i>Garrulus leucotis</i> , Hume	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
145	669	<i>Garrulus bispecularis</i> , Vig.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
146	670	<i>Garrulus lanceolatus</i> , Vig.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
147	679	<i>Graculus eremita</i> , Lin.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
148	680	<i>Pyrhocorax alpinus</i> , Koch.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
149	470 bis.	<i>Oriolus galbula</i> , Lin.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
150	470	<i>Oriolus kundoo</i> , Sylkes.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
151	473 bis.	<i>Oriolus diffusus</i> , Sharpe	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
152	471 ter.	<i>Oriolus tenuirostris</i> , Bly.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
153	471 bis.	<i>Oriolus andamanensis</i> , Tyt.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
154		„ <i>xanthonotus</i> , Horsf.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
155	472	<i>Oriolus melanocephalus</i> , Lin	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
156	474	<i>Oriolus trailli</i> , Vig.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
157	279	<i>Dicrurus annectans</i> , Hodgs.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
158	286	<i>Chibia hottentottus</i> , Lin.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
159	282	<i>Chaptia ænea</i> , Vieill.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
160	282 bis.	<i>Chaptia malayensis</i> , Hay	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
161	278	<i>Buchanga atra</i> , Herm.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
162	280	<i>Buchanga longicaudata</i> , <i>Hay</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
163	280 bis.	<i>Buchanga cineracea</i> , Sharpe	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
164	280 qnt.	<i>Buchanga leucogenys</i> , <i>Wald.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
165	281	<i>Buchanga cerulescens</i> , Lin.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
166	283 ter.	<i>Dissemuroides andamanensis</i> , Hume.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
167	283	<i>Bhringa remifer</i> , Tem.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
168	285	<i>Dissemurus paradiseus</i> , Lin.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
169	469	<i>Irena puella</i> , Lath	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
170	265	<i>Tephrodornis pondicerianus</i> , Gm.	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
171	263	<i>Tephrodornis pelvica</i> , <i>Hodgs.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
172	264	<i>Tephrodornis sylvicola</i> , <i>Jerd.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
173	..	<i>Tephrodornis grisola</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×

Also the Malabar Coast.

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174	267	<i>Hemipus picatus</i> , <i>Sykes</i>					X	X	X	X			X						X	X
175		<i>Hemipus obscurus</i> , <i>Horsf.</i>						X	X	X			X						X	X
176	267 <i>A.</i>	<i>Hemipus capitalis</i> , <i>McClell.</i>			X			X											X	X
177	269 <i>qt.</i>	<i>Hypocolius ampelinus</i> , <i>Bp.</i>	X					X												
178	668 <i>ter.</i>	<i>Platylophus ardesiacus</i> , <i>Cab.</i>																		
179	608	<i>Cochoa viridis</i> , <i>Hodgs.</i>						X												X
180	607	<i>Cochoa purpurea</i> , <i>Hodgs.</i>						X											X	X
181	270 <i>ter.</i>	<i>Artamides dobsoni</i> , <i>Ball.</i>								X†									X	
182	270	<i>Graucalus macii</i> , <i>Less.</i>					X	X	X		X	X						X	X	X
183	269	<i>Campophaga lugubris</i> , <i>Sund.</i>						X	X		X	X							X	X
184	269 <i>bis.</i>	<i>Campophaga intermedia</i> , <i>Hume.</i>																		X
185	268 <i>bis.</i>	<i>Campophaga melanoptera</i> , <i>Rupp.</i>																		X
186	268 <i>qt.</i>	<i>Campophaga neglecta</i> , <i>Hume.</i>																		X
187	271	<i>Pericrocotus speciosus</i> , <i>Lat.</i>					X	X	X		X	X								X†
188	271 <i>ter.</i>	<i>Pericrocotus elegans</i> , <i>McClell.</i>						X	†										X	
189	271 <i>bis.</i>	<i>Pericrocotus andamanensis</i> , <i>Tyt.</i>							X†										X	
190	273 <i>qt.</i>	<i>Pericrocotus flammifer</i> , <i>Hume.</i>																	X	
191	272	<i>Pericrocotus flammeus</i> , <i>Forst.</i>													X		X†		X	
192		<i>Pericrocotus igneus</i> , <i>Bly.</i>																	X	
193		<i>Pericrocotus cinereus</i> , <i>Laf.</i>																	X	
194	276	<i>Pericrocotus peregrinus</i> , <i>Lin.</i>	X			X	X	X	X†	X	X	X	X	X	X	X	X	X	X	X
195	273	<i>Pericrocotus brevirostris</i> , <i>Vig.</i>	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
196	273 <i>ter.</i>	<i>Pericrocotus neglectus</i> , <i>Hume.</i>																	X	
197	275	<i>Pericrocotus roseus</i> , <i>Vieill.</i>				X	X§	X	X									X	X	X
198	274	<i>Pericrocotus solaris</i> , <i>Bly.</i>					X	X										X	X†	
199	277	<i>Pericrocotus erythropygus</i> , <i>Jerd.</i>					X	X			X	X	X	X		X	X	X	X	
200	277 <i>bis.</i>	<i>Pericrocotus albifrons</i> , <i>Jerd.</i>																	X	
201	277 <i>ter.</i>	<i>Pericrocotus immodestus</i> , <i>Hume.</i>																	X	
202	268	<i>Lalage sykesi</i> , <i>Strickl.</i>							X		X					X	X	X	X	
203		<i>Lalage melanothorax</i> , <i>Sharpe</i>																X	X	
204	269 <i>ter.</i>	<i>Lalage terat</i> , <i>Bodd.</i>																		
205	296	<i>Hemichelidon sibirica</i> , <i>Gm.</i>					X	X	X										X	X†
206	299	<i>Hemichelidon ferruginea</i> , <i>Hodgs.</i>						X											X	X†

† Andamans.

§ Assam.

† Sikkim.



DISTRIBUTION TABLE OF THE BIRDS OF

CSL

No. in. Avianna.	Jerdon's Nos.	SPECIES.	Sind.	Beloohistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
207	297	<i>Alseonax latirostris, Raff.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
208		<i>Muscicapa grisola, Lin.</i>	×	×	×	×	...	...	...	×	×	...	...	...	×	×	×	...	...	...
209		„ <i>sordida, God.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	×	×	...	...	...
		<i>Aust.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
210	323bis.	<i>Muscicapa parva, Bechst.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
211	323	<i>Muscicapa albicilla, Pall.</i>	...	...	...	...	...	×	×	×	...	...	...	...	...	×	...	...	×	×
212	323ter.	<i>Muscicapa hyperythra, Cab.</i>	...	...	...	...	...	×	...	...	...	×	...	...	...	...	...	...	...	...
213	488bis.	<i>Pratincola macrorhyncha,</i> <i>Stol.</i>	×	×	...	×	×	×	...	×	...	...	...	...	×	...	...	×	...	...
214	485	<i>Pratincola insignis, Hodgs.</i>	...	...	...	...	...	×	...	×	...	...	...	...	...	...	...	×	...	...
215	483	<i>Pratincola sapphira, Pall.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
216	484	<i>Pratincola leucura, Bly.</i>	×	...	...	×	×	×	×	×	...	...	...	...	...	...	...	×	...	...
217	481	<i>Pratincola caprata, Lin.</i>	...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	...	...
218	322	<i>Poliomyias hodgsoni, Verr.</i>	...	...	...	...	×	...	×	...	...	...	...	...	...	...	...	...	×	+
219	310	<i>Muscicapula supercilialis,</i> <i>Jerd.</i>	...	...	...	...	×	×	×	×	...	×	...	...	...	...	...	...	×	×
220	311	<i>Muscicapula astigma, Hodgs.</i>	...	...	...	...	×	×	×	×	...	×	...	...	...	...	...	...	×	×
221	326	<i>Muscicapula maculata, Tick.</i>	...	...	...	...	×	×	×	...	...	...	...	...	...	...	...	...	×	+
222	312	<i>Muscicapula sapphira, Tick.</i>	...	...	...	...	×	×	×	...	...	...	...	...	...	...	...	...	×	+
223	508	<i>Tarsiger ruflatus, Hodgs.</i>	...	...	...	...	×	...	...	...	...	...	...	...	...	...	...	...	×	+
224	509	<i>Tarsiger hyperythrus, Bly.</i>	...	...	...	...	×	...	...	...	...	...	...	...	...	...	...	...	×	+
225	313	<i>Tarsiger hodgsoni, Moore.</i>	...	...	...	...	×	...	...	...	...	...	...	...	...	...	...	...	×	+
226	510	<i>Tarsiger indicus, Hodgs.</i>	...	...	...	...	×	...	...	...	...	...	...	...	...	...	...	...	×	+
227	511	<i>Tarsiger chrysæus, Hodgs.</i>	...	...	...	...	×	...	...	...	...	...	...	...	...	...	...	...	×	+
228	290	<i>Hypothymis azurea, Bodd.</i>	...	...	...	...	×	×	×	...	×	×	...	...	...	×	×	×	×	+
229	290 bis.	<i>Hypothymis occipitalis, Vig.</i>	...	...	...	...	...	×	...	...	...	...	...	...	...	...	...	...	×	...
230		<i>Xanthopygia fuliginosa, Vig.</i>	...	...	...	...	...	×	+	×	...	...	...	...	...	...	...	...	×	...
231	487	<i>Oreicola jerdoni, Bly.</i>	...	...	...	...	×	×	×	...	...	...	...	...	...	...	...	...	×	...
232	486	<i>Oreicola ferrea, Hodgs.</i>	...	...	...	...	×	×	×	...	...	...	...	...	...	...	...	...	×	+
233	294	<i>Chelidorhynch hypoxantha,</i> <i>Bly.</i>	...	...	...	...	×	×	×	×	×	...	...	...	...	...	...	...	×	+
234	291	<i>Rhipidura albicollis, Vieill.</i>	...	...	...	...	×	×	×	...	×	...	...	...	...	...	×	×	×	+
235	293 bis.	<i>Rhipidura javanica, Sparrm.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
236	293	<i>Rhipidura pectoralis, Cur.</i>	...	...	...	...	...	...	...	...	...	...	...	...	×	...	...	...	...	...
237	292	<i>Rhipidura albifrontata,</i> <i>Sharpe.</i>	×	...	...	...	×	×	×	×	×	×	×	×	×	×	×	×	×	...
238	288	<i>Terpsiphone paradisi, Lin.</i>	×	×	...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	...
239	289	„ <i>affinis, Hay.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
240		<i>Philentoma velatum, Tem.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
241		„ <i>pyrrhopterum,</i> <i>Tem.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
242	295	<i>Culicicapa ceylonensis, Sws.</i>	...	...	...	...	...	×	×	+	×	×	...	...	...	...	...	×	×	...
243	569	<i>Cryptolopha burkii, Burt.</i>	...	...	...	...	...	×	×	×	...	×	...	...	...	...	...	...	×	+
244	570	„ <i>cantatrix, Tick.</i>	...	...	...	...	...	...	...	×	...	×	...	...	...	...	...	...	×	+
245	576	„ <i>affinis, Hodgs.</i>	...	...	...	...	...	...	...	×	...	×	...	...	...	...	...	...	×	+
246	572et.	„ <i>xanthoschista,</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	×	...
	573	„ <i>Hodgs.</i>	...	...	...	...	×	×	...	×	...	×	...	...	...	...	...	...	×	+
247	571	„ <i>schisticeps, Hodgs.</i>	...	...	...	...	×	×	...	...	...	...	...	...	...	...	...	...	×	+

* Malabar Coast.

Andamans.

† Sikkim.

§ Assam.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
248	574	<i>Cryptolopha superciliaris</i> , <i>Tick</i>								X									X	†
249	575	„ <i>poliogenys</i> , <i>Bly</i>								X										†
250	578	„ <i>castaneiceps</i> , <i>Hodgs.</i>								X										†
251	577	„ <i>albigularis</i> , <i>Hodgs.</i>																		†
252	579	„ <i>hodgsoni</i> , <i>Moore</i>																		†
253		„ <i>flavicularis</i> , <i>Godwin-Austen</i>								†										
254	302	<i>Stoporala albicaudata</i> , <i>Jerd.</i>																X		
255	301	„ <i>melanops</i> , <i>Vig.</i>					X				X					X	X	X	X	†
256	309	<i>Siphia pallidipes</i> , <i>Sharpe</i>													X		X		X	†
257	303	„ <i>unicolor</i> , <i>Bly</i>																		†
258	304	„ <i>rubeculoides</i> , <i>Vig.</i>					X	X	X	X								X	X	†
259	306	„ <i>tickelliae</i> , <i>Bly</i>						X	X	X	X	X	X	X	X	X	X	X	X	
260	308	„ <i>magnirostris</i> , <i>Bly</i>								X									X	†
261	300	„ <i>nigrorufa</i> , <i>Jerd.</i>																X		
262	319	„ <i>strophia</i> , <i>Hodgs.</i>					X		X							X	X	X		†
263	307	„ <i>ruficauda</i> , <i>Sus.</i>					X	X							X	X	X	X		
264	307 bis.	„ <i>mandellii</i> , <i>Hume.</i>																		†
265	307 ter.	„ <i>olivacea</i> , <i>Hume.</i>																X		
266	320	<i>Digenea leucomelanura</i> , <i>Hodgs.</i>						X	X											†
267		„ <i>cerviniventris</i> , <i>Sharpe</i>								†									X	
268	317	„ <i>moniliger</i> , <i>Hodgs.</i>						X		§									X	
269	317 bis.	„ <i>submoniliger</i> , <i>Hume</i>																	X	
270	314	<i>Niltava sundara</i> , <i>Hodgs.</i>					X	X	X	§									X	†
271		„ <i>vivida</i> , <i>Swinh.</i>																		
272	316	„ <i>grandis</i> , <i>Bly.</i>						X	X	†	X	X	X						X	†
273		„ <i>leucoprocta</i> , <i>Tweed.</i>																	X	
274	315	„ <i>maegrigoriae</i> , <i>Burt.</i>						X	X	†									X	†
275		<i>Sylvia cinerea</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
276	581	„ <i>jerdoni</i> , <i>Bly.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
277	582	„ <i>affinis</i> , <i>Bly.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
278	582 ter.	„ <i>althæa</i> , <i>Hume.</i>	X	X	X	X	X	X	X		X				X	X	X			
279	582 bis.	„ <i>minuscula</i> , <i>Hume</i>	X	X	X	X	X	X		X				X	X					
280	583 bis.	„ <i>nana</i> , <i>Hemp.</i>	X	X	X	X	X			X										
281		„ <i>familiaris</i> , <i>Mene.</i>	X	X	X	X				X				X						
282	556 bis.	<i>Phylloscopus borealis</i> , <i>Blas.</i>																	X	
283	559	„ <i>nitidus</i> , <i>Bly.</i>	X	X				X	X	X		X						X	X	
284	560	„ <i>viridanus</i> , <i>Bly.</i>						X	X	X		X						X	X	
285	558 bis.	„ <i>plumbeitarsus</i> , <i>Swinh.</i>																	X	
286	556 qt.	„ <i>tenellipes</i> , <i>Swinh.</i>																	X	
287	556	„ <i>magnirostris</i> , <i>Bly.</i>					X	X	X			X				X	X	X	X	

§ Assam.

† Sikkim.



DISTRIBUTION TABLE OF THE BIRDS OF

CSL

No. in. Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
288	558	<i>Phylloscopus lugubris</i> , Bly.						X		X								X	X	X†
289	563	„ <i>occipitalis</i> , Jerd.	X				X	X	X	X		X	X					X	X	X
290	564	„ <i>coronatus</i> , Tem.																	X	
291	564	} „ <i>reguloides</i> , Bly.						X	X	X									X	X†
292	567																			
293	554	„ <i>viridipennis</i> , Bly.								X									X	X
294	561	„ <i>tristis</i> , Bly.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X†
295	560bis.	„ <i>affinis</i> , Tick.						X		X									X	X†
296	566bis.	„ <i>tytleri</i> , Brooks.																X		X†
297	565	„ <i>humii</i> , Brooks.				X	X	X	X	X	X	X								X
		„ <i>superciliosus</i> , Gm.					X	X	X	X†	X							*	X	†
298	566ter.	„ <i>maculipennis</i> , Blyth						X												X†
299	566	„ <i>proregulus</i> , Pall.						X		X									X	X
300	568	„ <i>pulcher</i> , Hodgs						X	X										X	X†
301	566bis.	„ <i>subviridis</i> , Brooks	X				X	X	X											X
302		„ <i>sindianus</i> , Brooks.	X																	
303	553ter.	<i>Hypolais pallida</i> , Hemp.	X	X	X	X					X	X	X	X	X	X	X	X	X	
304	553	„ <i>rama</i> , Sykes.	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	
305	553bis.	„ <i>caligata</i> , Licht.	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	
306	517bis.	„ <i>obsoleta</i> , Severtz.	X																	
307		<i>Acrocephalus bistrigiceps</i> , Swinh																	X	
308	515bis.	„ <i>orientalis</i> , Tem.																	X	
309	515	„ <i>stentoreus</i> , Hemp.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
310	516	„ <i>dumetorum</i> , Bly	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X
311	517	„ <i>agricola</i> , Jerd.	X	X			X	X	X	X		X	X	X	X	X	X	X	X	X
312	520	} <i>Locustella certhiola</i> , Pall.						X	X	X		X							X	
313	521																			
314		„ <i>traminea</i> , Severtz.						X												
315	518	„ <i>lanceolata</i> , Tem.								†									X	
316	519bis.	<i>Luscinola sedon</i> , Pall.					X	X	X	X						X			X	X
317	522	„ <i>thoracica</i> , Bly.					X	X	X										X	
		„ <i>luteiventris</i> , Hodgs																		X
318	562	„ <i>indica</i> , Jerd.						X	X	X		X	X			X				
319	555	„ <i>fuscatus</i> , Bly.						X	X	X									X	X
320	556ter.	„ <i>schwarzi</i> , Radde.																	X	
321		„ <i>fuliginiventris</i> , Hodgs.																		
322	554bis.	„ <i>neglectus</i> , Hume.	X	X	X		X	X												

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§ Assam.

No. in Avifauna	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Decan.	S. India.	British Burmah.	Nepaul.
323		<i>Luscinola melanopogon</i> , <i>Tem.</i>	x	x	x	x	x	x	x											
324		<i>Cettia cetti</i> , <i>Marm.</i>	x	x	x	x														
325	526	<i>Cettia fortipes</i> , <i>Hodgs.</i>								x									x	x
326	552	<i>Cettia flavo-olivacea</i> , <i>Hodgs.</i>								x									x	x
327		<i>Cettia pallidipes</i> , <i>Blanf.</i>								x									x	x
328	527	<i>Cettia brunneifrons</i> , <i>Hodgs.</i>																	x	x
329	529	<i>Cettia major</i> , <i>Hodgs.</i>																	x	x
330	442	<i>Schænicola platyura</i> , <i>Jerd.</i>																x		
331	443	<i>Laticilla burnesi</i> , <i>Blyth.</i>	x				x	x	x	x										
332		<i>Laticilla cinerascens</i> , <i>Wald.</i>								x										
333	440	<i>Megalurus palustris</i> , <i>Horsf.</i>					x	x	x	x		x	x						x	
334	441	<i>Chætornis locustelloides</i> , <i>Blyth.</i>								x		x								
335	547	<i>Suya crinigera</i> , <i>Hodgs.</i>	x				x	x	x										x	x
336	549	<i>Suya atrigularis</i> , <i>Hodgs.</i>																	x	x
337		<i>Suya khasiana</i> , <i>Godw.-Aust.</i> .....								||										
338		<i>Suya albigularis</i> , <i>Hume.</i>																	x	
339		<i>Suya superciliaris</i> , <i>Anderson</i>																	x	
340	543, 544	<i>Prinia inornata</i> , <i>Sykes.</i>	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x
341	545	<i>Prinia sylvatica</i> , <i>Jerd.</i>	x				x	x	x	x	x									
342	532	<i>Burnesia flaviventris</i> , <i>Deless.</i>	x						x	x	x									
343	534, 535	<i>Burnesia socialis</i> , <i>Sykes.</i>					x	x	x	x	x	x	x						x	
344	550	<i>Burnesia lepida</i> , <i>Blyth.</i>	x	x	x	x	x	x	x	x	x	x	x						x	
345		<i>Scotocerca inquieta</i> , <i>Sund.</i>	x	x	x	x	x	x	x	x	x	x	x						x	
346	530	<i>Sutoria sutoria</i> , <i>Forst.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
347		<i>Sutoria atrigularis</i> , <i>Tem.</i>								x									x	
348		<i>Sutoria ruficeps</i> , <i>Less.</i>																	x	
349	531	<i>Phyllergates coronatus</i> , <i>Jerd. and Blyth.</i>								x									x	x
350	542	<i>Graminicola bengalensis</i> , <i>Jerd.</i>								x										
351	551	<i>Cisticola buchanani</i> , <i>Blyth.</i>	x				x	x	x	x	x	x	x	x	x	x	x	x	x	
352	536	<i>Cisticola gracilis</i> , <i>Franklin.</i>								x									x	
353		<i>Cisticola beavani</i> , <i>Wald.</i>																	x	x
354		<i>Cisticola cinereicapilla</i> , <i>Moore.</i>							x											
355	537	<i>Cisticola poliocephala</i> , <i>Anderson.</i>						x												
356	539	<i>Cisticola cisticola</i> , <i>Tem.</i>	x				x	x					x	x	x	x	x	x	x	
357	540	<i>Cisticola exilis</i> , <i>Fig. and</i> <i>Horsf.</i>								x					x		x	x	x	
358	371	<i>Geocichla dauma</i> , <i>Lath.</i>					x	x	x	x		x							x	x
359	372	<i>Geocichla nilgiriensis</i> , <i>Bly.</i>																	x	
360	370	<i>Geocichla mollissima</i> , <i>Bly.</i>						x											x	
361		<i>Geocichla dixonii</i> , <i>Seebh.</i>																	x	
362	350	<i>Geocichla monticola</i> , <i>Fig.</i>						x		x									x	

* Malabar.

† Sikkim.

§ Assam.

|| Khasia Hills.



DISTRIBUTION TABLE OF THE BIRDS OF

CSL OF

No in Avifauna.	Jerdon's Nos.	SPECIES.	Sind	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.W.-Provinces.	Ondh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch	Guzerat.	Concan.	Deccan.	S. India.	British Barmah.	Nepaul.
363		<i>Geocichla marginata, Bly...</i>				X				X									X	†
364	354	<i>Geocichla cyanonotus, Lath.</i>								X		X					X		X	†
365	355	<i>Geocichla citrina, Bly.....</i>								X			X					X		†
366	357	<i>Geocichla wardi, Jerd.....</i>					X	X										X		
367		<i>Geocichla sibirica, Pall.....</i>																	X	
368	369	<i>Turdus iliacus, Lin.....</i>																		
369	368	<i>Turdus viscivorus, Lin.....</i>					X	X	X											X
370	367	<i>Turdus pilaris, Lin.....</i>						X												†
371	362	<i>Merula albocincta, Royle.....</i>						X		X										†
372	361	<i>Merula bouboul, Lath.</i>						X		X								X		
373	359	<i>Merula nigropile, Lafr.....</i>								X						X				
374	360	<i>Merula simillima, Jerd.....</i>																X		
375		<i>Merula Bourdilloni, Seebh.....</i>																X		
376	363	<i>Merula castanea, Gould.....</i>						X												†
377		<i>Merula fuscata, Bechst.....</i>						X		S										X
378		<i>Merula protomomelæna, Cab.....</i>						X												
379	365	<i>Merula atrigularis, Tem.....</i>	X	X	X	X	X	X	X	X										X
380	364	<i>Merula ruficollis, Pall.....</i>						X		S								X		X
381	356	<i>Merula unicolor, Tick.....</i>	X				X	X	X		X	X						X		X
382		<i>Merula obscurus, Gmel.....</i>						X		S									X	X
383		<i>Merula pallida, Gmel.....</i>						X		X									X	X
384		<i>Monticola saxatilis, Lin.....</i>						X		X	X	X	X	X	X	X	X	X	X	X
385	351	<i>Monticola cyanus, Lin.....</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
386	353	<i>Monticola cinclorhynchus, Vig.....</i>	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X
387	352	<i>Monticola erythrogaster, Vig.....</i>					X	X		S								X		†
388	507	<i>Erithacus brunneus, Jerd.....</i>						X		X								X		†
389		<i>Erithacus cyaneus, Pall.....</i>						X										X		X
390	512	<i>Erithacus calliope, Gmel.....</i>								X		X								X
391	513	<i>Erithacus pectoralis, Gould.....</i>					X	X		S										X
392		<i>Erithacus tschebaiewi, Preje.....</i>																		†
393	514	<i>Erithacus caerulescens, Jerd.....</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
394	478	<i>Sialia caelestis, Hodgs.....</i>						X												X
395	495	<i>Ruticilla phoeniceus, Lin.....</i>					X	X	X											X
396		<i>Ruticilla mesoleuca, Hemp.....</i>	X	X	X	X	X	X	X		X			X	X	X	X	X	X	X
397	497	<i>Ruticilla rufiventris, Vieill.....</i>					X	X		S										X
398	498	<i>Ruticilla Hodgsoni, Moore.....</i>					X	X		S										X
399	500	<i>Ruticilla aurora, Gmel.....</i>								X										X
400	499	<i>Ruticilla erythrogastra, Güld.....</i>						X												X
401		<i>Ruticilla erythronota, Everm.....</i>				X	X	X												X
402	503	<i>Ruticilla frontalis, Vig.....</i>					X	X		S										†

‡ Sikkim.

§ Assam.

|| Khasia Hills.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Balochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
403	501	<i>Ruticilla schisticeps</i> , <i>Hodgs.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x†
404	504	<i>Ruticilla cæruleocephala</i> , <i>Fig.</i> .....	...	...	...	x	x	x	...	...	...	...	...	...	...	...	...	...	...	x
405	494	<i>Myrmecocichla fusca</i> , <i>Blyth</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	...	...
406		<i>Saxicola albonigra</i> , <i>Hume.</i>	x	x	x	x	x	x	...	x	x	x	x	x	x	x	x	x	...	...
407	489	<i>Saxicola picata</i> , <i>Bly.</i>	x	x	x	x	x	x	...	x	x	x	x	x	x	x	x	x	...	...
408		<i>Saxicola capistrata</i> , <i>Hemp.</i>	x	x	x	...	x	...	...	...	x	...	...	...	...	...	...	...	...	...
409		<i>Saxicola monacha</i> , <i>Rüpp.</i> ...	x	x	x	x	...	...	...	...	...	...	...	...	...	...	...	...	...	...
410		<i>Saxicola morio</i> , <i>Hemp. et</i> <i>Ehr.</i>	x	x	x	x	...	...	...	...	...	...	...	...	...	...	...	...	...	...
411	488	<i>Saxicola opistholeuca</i> , <i>Strickl.</i>	x	x	...	x	x	x	x	...	x	x	x	x	x	x	x	x	...	...
412	492	<i>Saxicola deserti</i> , <i>Rüpp.</i>	x	x	x	x	x	x	...	...	x	x	x	x	x	x	x	x	...	...
413		<i>Saxicola chrysopygia</i> , <i>DeF.</i>	x	x	x	x	x	x	...	...	x	x	x	x	x	x	x	x	...	...
414	491	<i>Saxicola isabellina</i> , <i>Rüpp.</i> ...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	...	...
415		<i>Ægithina viridissima</i> , <i>Tem.</i>...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...
416	468	<i>Ægithina tiphia</i> , <i>Lin.</i> .....	...	...	...	...	...	x	x	x	x	x	x	x	x	x	x	x	x†	...
417		<i>Ægithina nigrolutea</i> , <i>Marsh.</i> .....	...	...	...	...	x	x	x	x	...	x	x	x	x	...	...	...	...	...
418		<i>Aethorhynchus Lafresnayii</i> , <i>Hartl.</i> .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...
419	466	<i>Chloropsis Hardwickii</i> , <i>Jerd.</i>	...	...	...	...	x	...	§x	||	...	...	...	...	...	...	...	...	x†	...
420	465	<i>Chloropsis aurifrons</i> , <i>Tem.</i>...	...	...	...	...	x	...	§x	||	...	...	...	...	...	...	...	...	x	...
421	464	<i>Chloropsis malabaricus</i> , <i>Gm.</i>...	...	...	...	...	...	...	...	...	x	...	...	...	...	...	x	x	...	...
422		<i>Chloropsis zosterops</i> , <i>Fig.</i>...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...
423	403	<i>Chloropsis Jerdoni</i> , <i>Bly.</i>...	...	...	...	...	...	x	...	...	...	...	...	...	...	...	...	x	...	...
424		<i>Chloropsis chlorocephala</i> , <i>Wald.</i> .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...
425		<i>Chloropsis cyanopogon</i> , <i>Tem.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...
426	444	<i>Hypsipetes psaroides</i> , <i>Fig.</i>...	...	...	...	x	x	x	x†	||	...	...	...	...	...	...	...	...	x†	...
427		<i>Hypsipetes concolor</i> , <i>Bly.</i>...	...	...	...	...	...	...	...	||	...	...	...	...	...	...	...	...	x	...
428	446	<i>Hypsipetes ganeesa</i> , <i>Sykes.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	x	x	x	...	...
429	448	<i>Hemixus flavala</i> , <i>Hodgs.</i>	...	...	...	...	x	...	x†	...	...	...	...	...	...	...	...	x	x†	...
430		<i>Hemixus hildebrandti</i> , <i>Hume.</i> .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...
431		<i>Hemixus Davisoni</i> , <i>Hume.</i>	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...
432		<i>Hemixus malaccensis</i> , <i>Blyth</i> .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...
433		<i>Iole viridescens</i> , <i>Bly.</i> .....	...	...	...	...	...	x	x	||	...	...	...	...	...	...	...	...	x	...
434	447	<i>Iole MacClellandi</i> , <i>Horsf.</i>...	...	...	...	...	x	x	§||	...	...	...	...	...	...	...	...	...	x†	...
435		<i>Iole Tickelli</i> , <i>Bly.</i> .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...
436		<i>Pinarocichla euptilosa</i> , <i>Jard. & Selb.</i> .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...
437		<i>Micropus melanocephalus</i> , <i>Gmel.</i> .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...
438		<i>Micropus fusciflavescens</i> , <i>Hume.</i> .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	†	...

† Andamans.

† Sikkim.

§ Assam.

|| Khasia Hills.

No. in Avifauna	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kuch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
439		<i>Micropus cinereiventris</i> , <i>Blyth.</i>																		X
440	457	<i>Micropus phaeocephalus</i> , <i>Jerd.</i>														*		X		
441		<i>Criniger phaeocephalus</i> , <i>Hartl.</i>																	X	
442	451	<i>Criniger flaveolus</i> , <i>Gould.</i>								§									X	†
443		<i>Criniger griseiceps</i> , <i>Hume.</i>																	X	
444		<i>Criniger gutturalis</i> , <i>Bp.</i>																	X	
445		<i>Tricholestes criniger</i> , <i>Bly.</i>																	X	
446	449	<i>Alceurus striatus</i> , <i>Bly.</i>							x										X	†
447		<i>Trachycomus ochrocephalus</i> , <i>Gmel.</i>																	X	
448	450	<i>Xenocichla icterica</i> , <i>Strickl.</i>														*		X		
449	462	<i>Pycnonotus haemorrhous</i> , <i>Gm.</i>	X				X	X	X	X	X	X	X	X	X	X	X	X	X	
450		<i>Pycnonotus burmanicus</i> , <i>Sharpe.</i>																	X	
451		<i>Pycnonotus nigripileus</i> , <i>Bp.</i>																	X	
452		<i>Pycnonotus atricapillus</i> , <i>Vieil.</i>																	X	
453	461	<i>Pycnonotus pygæus</i> , <i>Hodgs.</i>				X	X	X	X	§		X							X	†
454	459	<i>Pycnonotus leucotis</i> , <i>Gould.</i>	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	
455		<i>Pycnonotus analis</i> , <i>Horsf.</i>																	X	
456		<i>Pycnonotus flavescens</i> , <i>Bly.</i>																	X	
457	452	<i>Pycnonotus luteolus</i> , <i>Less.</i>								X		X				*		X		
458		<i>Pycnonotus Finlaysoni</i> , <i>Strickl.</i>																	X	
459		<i>Pycnonotus Davisoni</i> , <i>Hume.</i>																	X	
460	453	<i>Pycnonotus xantholemus</i> , <i>Jerd.</i>																	X	
461		<i>Pycnonotus Blanfordi</i> , <i>Jerd.</i>																	X	
462		<i>Pycnonotus plumosus</i> , <i>Blyth</i>																	X	
463		<i>Pycnonotus simplex</i> , <i>Less.</i>																	X	
464		<i>Pycnonotus salvadorii</i> , <i>Sharpe</i>																	X	
465	460	<i>Otocompsa jocosus</i> , <i>Lin.</i>					X	X	X	§						X			X	†
466		<i>Otocompsa emeria</i> , <i>Lin.</i>														X	X		X	
467	458	<i>Otocompsa leucogenys</i> , <i>E. Gr.</i>								X										
468	456	<i>Otocompsa flaviventris</i> , <i>Tick.</i>						X	X	§		X				*			X	†
469	455	<i>Rubigula gularis</i> , <i>Gould.</i>																	X	
470		<i>Rubigula cyaniventris</i> , <i>Bly.</i>																	X	
471		<i>Spizixus canifrons</i> , <i>Bly.</i>																		
472	332	<i>Urocichla longicaudata</i> , <i>Moore.</i>																		

* Malabar.

† Sikkim.

§ Assam.

|| Khasia Hills.

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloohistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Decan.	S. India.	British Barmah.	Nepaul.
473	333	Anorthura nipalensis, <i>Hodgs.</i>						×												†
474		Anorthura formosa, <i>Wald</i>								§										
475		Sphenocichla humii, <i>Mandell</i>																		†
476	329	Pnoepyga albiventris, <i>Hodgs</i>						×											×	×
477	330	Pnoepyga pusilla, <i>Hodgs</i>																	×	×
478	331	Pnoepyga caudata, <i>Bly.</i>						×												×
479	348	Cinclus cashmeriensis, <i>Gould</i>		×																×
480	347	Cinclus asiaticus, <i>Swains</i>			×	×	×	×												×
481	343	Myiophoneus Temminckii, <i>Fig.</i>				×		×												×
482		Myiophonus Eugeni, <i>Hume.</i>																	×	
483	342	Myiophonus Horsfieldi, <i>Fig.</i>									×	×						×		
484	440	Callene frontalis, <i>Blyth.</i>																		†
485		Callene albiventris, <i>Blanf</i>																		
486	339	Callene rufiventris, <i>Jerd.</i>																×		
487	477	Notodola leucura, <i>Hodgs</i> .....								||									×	×
488	338	Brachypteryx eruralis, <i>Hodgs.</i>																	×	×
489	337	Brachypteryx hyperythra, <i>Jerd. and Bly</i>																		†
490	336	Brachypteryx nipalensis, <i>Moore</i> .....								||									×	×
491		Brachypteryx stellata, <i>Gould</i>																		†
492	506	Chimarrhornis leucoce- phala, <i>Fig.</i>			×	×														×
493	479	Thamnobia fulicata, <i>L.</i>									×					×	×	×		
494	480	Thamnobia cambaiensis, <i>Luth.</i>	×		×	×	×	×	×	×	×	×	×	×	×	×	×	×		×
495	475	Copsychus saularis, <i>L.</i>				×	×		×		×	×	×	×	×	×	×	×		×
496	613	Lioptila annectens, <i>Blyth</i> .....								||									×	†
497	341	Hodgsonius phœnicuroides, <i>Hodgs.</i>					×	×												×
498	476	Cittocincl tricolor, <i>Vieill.</i>							×		×							×	×	×
499		Cittocincl albiventris, <i>Blyth.</i>								†										
500		Henicurus leschenaulti, <i>Vieill.</i>								§										×

* Malabar † Andamans. ‡ Sikkim. § Assam. || Khasia Hills.



DISTRIBUTION TABLE OF THE BIRDS OF

CSL

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burma.	Nepal.
501	585	<i>Henicurus immaculatus</i> , <i>Hodgs.</i> .....								||	§								×	×
502	586	<i>Henicurus schistaceus</i> , <i>Hodgs.</i>																	×	×
503		<i>Henicurus guttatus</i> , <i>Gould.</i> .....								||									×	×
504	584	<i>Henicurus maculatus</i> , <i>Vig.</i>						×		§									×	†
505		<i>Hydrocichla ruficapilla</i> , <i>Temm.</i>																	×	
506		<i>Hydrocichla frontalis</i> , <i>Elyth.</i>																	×	
507	587, 588	<i>Microcichla scouleri</i> , <i>Vig.</i>						×		§										×
508	419	<i>Trochalopterum affine</i> , <i>Blyth.</i>								§										×
509	418	<i>Trochalopterum variegatum</i> , <i>Vig.</i>					×	×												×
510	415	<i>Trochalopterum erythrocephalum</i> , <i>Hodgs.</i>						×												×
511	416	<i>Trochalopterum chrysopterum</i> , <i>Gould.</i>						×												×
512		<i>Trochalopterum ruficapillum</i> , <i>Blyth.</i> .....								||										
513		<i>Trochalopterum erythrolaema</i> , <i>Hume.</i>								¶										
514		<i>Trochalopterum melano stigma</i> , <i>Blyth.</i>																	×	
515	421	<i>Trochalopterum rufigulare</i> , <i>Gould.</i> .....					×	×		||										×
516		<i>Trochalopterum cineraceum</i> , <i>Godw.-Aust.</i>								¶										
517	420	<i>Trochalopterum squamatum</i> , <i>Gould.</i>																		×
518	417	<i>Trochalopterum subunicolor</i> , <i>Blyth.</i>																		×
519		<i>Trochalopterum austeni</i> , <i>Jerd.</i>								A										×
520	422	<i>Trochalopterum phoeniceum</i> , <i>Gould.</i>																		×
521	423	<i>Trochalopterum cacinans</i> , <i>Jerdon.</i>																	×	
522	424	<i>Trochalopterum Jerdoni</i> , <i>Blyth.</i>																	×	
523		<i>Trochalopterum Fairbanki</i> , <i>Blanf.</i>																	×	
524		<i>Trochalopterum meridionale</i> , <i>Blanf.</i>																	×	
525	425	<i>Trochalopterum lineatum</i> , <i>Vig.</i>							×											×

A. N.-E. Bengal Hills. † Andamans. ‡ Sikkim. § Assam. || Khasia Hills. ¶ Manipur Hills.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloohistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces.	Ondh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
526	426	Trochalopteron imbricat- tum, <i>Ilyth.</i>								B										
527		Trochalopteron virgatum, <i>Godw.-Aust.</i>								¶	D									
528	431	Acanthoptila nipalensis, <i>Hodgs.</i>					×													×
529	414	Ianthocincla ocellata, <i>Vig.</i>																		×†
530	384	Gampsorhynchus rufulus, <i>Blyth.</i>																		×
531		Gampsorhynchus torqua- tus, <i>Hume.</i>																		×
532	437	Argya subrufa, <i>Jerd.</i>														×	×	×		
533		Argya hyperythra, <i>Sharpe.</i>																×		
534	439	Argya earlii, <i>Blyth</i>	×				×	×	×	×	×	×	×	×	×	×	×	×	×	
535	438	Argya caudata, <i>Drap.</i>	×			×	×	×	×	×	×	×	×	×	×	×	×	×	×	
536		Argya eclipses, <i>Hume.</i>				×														
537		Argya gularis, <i>Blyth.</i>	×				×	×	×	×	×	×	×	×	×	×	×	×	×	
538	436	Argya Malcolmii, <i>Sykes.</i>	×				×	×	×	×	×	×	×	×	×	×	×	×	×	
539	430	Sibia picoides, <i>Hodgs.</i> .....							||											×
540	429	Malacias capistrata, <i>Vig.</i>					×													×
541		Malacias melanoleuca, <i>Blyth.</i>																		×
542		Malacias gracilis, <i>McClell.</i> .....								||										
543		Malacias pulchella, <i>Godw.-</i> <i>Aust.</i>								D										×
544	402	Pomatorhinus schisticeps, <i>Hodgs.</i>																		×
545		Pomatorhinus pinwilli, <i>Sharpe</i>					×													
546	404	Pomatorhinus Horsfieldi, <i>Sykes.</i>															×			
547		Pomatorhinus ochraceiceps, <i>Wald.</i>																		×
548		Pomatorhinus Austeni, <i>Hume.</i>								¶										
549	401	Pomatorhinus ferruginosus, <i>Hodgs.</i>																		×
550		Pomatorhinus Phayrii, <i>Blyth</i>								¶										
551		Pomatorhinus albigularis, <i>Blyth.</i>																		×
552		Pomatorhinus stenorhyn- chus, <i>Godw.-Aust.</i>							§											
553	400	Pomatorhinus ruficollis, <i>Hodgs.</i>																		×

B. Bhootan. D. Naga Hills. † Sikkim. § Assam || Khasia Hills. ¶ Manipur Hills.



DISTRIBUTION TABLE OF THE BIRDS OF

CSL

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
554		<i>Pomatorhinus hypoleucus</i> , <i>Blyth</i>.....								||									X	
555		<i>Pomatorhinus Tickelli</i> , <i>Blyth</i>																	X	
556	405	<i>Pomatorhinus erythroge-</i> <i>nys, Vig.</i>				X	X	X	X										X	X B
557		<i>Pomatorhinus Maclellandi</i> , <i>Jerd.</i>							S											
558	406	<i>Xiphoramphus supercili-</i> <i>aris, Blyth</i>																		†
559	407	<i>Garrulax leucolophus</i> , <i>Hardw.</i>					X												X	
560		<i>Garrulax belangeri, Less.</i>																	X	
561		<i>Garrulax diardi, Less.</i>																	X	
562	411	<i>Garrulax albigularis</i> , <i>Gould.</i>					X												X	X I
563	412	<i>Garrulax pectoralis, Gould.</i>								B									X	X I
564	413	<i>Garrulax moniliger, Hodgs.</i> .....								||									X	X
565		<i>Garrulax galbanus, Godw.-</i> <i>Aust.</i>								¶										
566		<i>Garrulax gularis, McClell.</i>								§										
567	409	<i>Garrulax delesserti, Jerd.</i>																X		
568		<i>Staetocichla merulina</i> , <i>Blyth</i>								D										
569	382	<i>Grammatoptila striata, Vig.</i>				X	X			B										X I
570	410	<i>Dryonastes ruficollis, Jard</i> <i>& Seib.</i>								§									X	X I
571		<i>Dryonastes chinensis, Scop.</i>																	X	
572		<i>Dryonastes nuchalis, Godw.-</i> <i>Aust.</i>								D										
573		<i>Dryonastes strepitans, Tick.</i>																	X	
574		<i>Dryonastes sannaio, Swinh.</i> .....								||										
575	408	<i>Dryonastes caeruleatus</i> , <i>Hodgs.</i>																		
576		<i>Dryonastes subcaeruleatus</i> , <i>Hume</i>								D										
577	427	<i>Actinodura Egertoni, Gould.</i> .....								||									X	X I
578		<i>Actinodura Ramsayi, Wald.</i>																	X	
579		<i>Actinodura Waldeni, Godw.-</i> <i>Aust.</i>								¶									X	
580	428	<i>Actinodura nipalensis</i> , <i>Hodgs.</i>								S										X I
581		<i>Actinodura Daffaensis</i> , <i>Godw.-Aust.</i>								K										
582		<i>Actinodura Oglei, Godw.-</i> <i>Aust.</i>								§								X		
583	432, 434	<i>Crateropus canorus, Linn.</i>	X				X	X	X	X								X	X	
584	433	<i>Crateropus griseus, Gmel.</i>																X	X	

D. Naga Hills.

E. Garo Hills.

B. Bhootan.

K. Daffa Hills,

* † Sikkim.

§ Assam.

|| Khasia Hills.

¶ Manipur Hills.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
585	435	Crateropus Somervillii, <i>Sykes.</i>														×	×			
586	381	Conostoma æmodium, <i>Hodgs.</i>																		x†
587		Suthora Humii, <i>Sharpe</i> ...																		x†
588	379	Suthora poliotis, <i>Blyth.</i> ...							D	P	K									
589	378	Suthora nipalensis, <i>Hodgs.</i> ...																	×	
590	375	Suthora ruficeps, <i>Blyth.</i> ...								B								×	x†	
591	374	Suthora gularis, <i>Gray</i>.....								||										x†
592	376	Suthora unicolor, <i>Hodgs.</i> ...																		x†
593	377	Chleuasiscus ruficeps, <i>Blyth.</i>							§	L										†
594	380	Chleuasiscus fulvifrons, <i>Hodgs.</i>																		x†
595	373	Paradoxornis flavirostris, <i>Gould.</i>																		x†
596		Paradoxornis guttaticollis, <i>David.</i>																		x†
597	396	Timelia pileata, <i>Horsf.</i> ..							x†	B	||	L						×	x†	
598		Timelia longirostris, <i>Moore.</i>																		×
599	385	Pyctorhis sineensis, <i>Gmel.</i> ...	×			×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
600	386	Pyctorhis altirostris, <i>Jerd.</i> ...							§	B										×
601	398	Dumetia albigularis, <i>Blyth.</i>														×	×	×		
602	397	Dumetia hyperythra, <i>Frankl.</i>																		†
603		Pellorneum nipalense, <i>Hodgs.</i>							×											x†
604		Pellorneum intermedium, <i>Sharpe</i>								L									×	
605	399	Pellorneum ruficeps, <i>Swains.</i>															×	×		
606		Pellorneum subochraceum, <i>Swinh.</i>																		×
607		Pellorneum palustre, <i>Gould.</i>...							§	||										×
608	391	Stachyris nigriceps, <i>Hodgs.</i>...								||	B								×	x
609		Stachyris guttata, <i>Blyth.</i> ...																	×	
610	387	Turdinus Abbotti, <i>Blyth.</i>...							×	||									×	×
611		Turdinus magnirostris, <i>Moore</i>																		×
612		Erythroicichla bicolor, <i>Less.</i>																	×	
613		Drymocapthus nigricapi- tatus, <i>Eyton.</i>																	×	
614		Drymocapthus ignotus, <i>Hume.</i> .....								×	||									
615		Drymocapthus Assamen- sis, <i>Sharpe</i>								§										
616		Drymocapthus Tickelli, <i>Blyth.</i>																		×

D. Naga Hills.

P.

K. Dacca Hills.

L. Cachar.

B. Bhootan.

* Malabar.

† Andamans.

‡ Sikkim.

§ Assam.

|| Khasia Hills.



DISTRIBUTION TABLE OF THE BIRDS OF

CSL

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
617		<i>Drymocapthus rubiginosus, Wald.</i>																		×
618		<i>Gypsophila crispifrons, Blyth.</i>																	×	
619		<i>Trichostoma rostratum, Blyth.</i>																	×	
620		<i>Malacopternum magnum, Eyton.</i>																	×	
621		<i>Mixornis gularis, Raffles.</i>																	×	
622	395	<i>Mixornis rubricapilla, Tick.</i>																	×	×
623		<i>Mixornis erythroptera, Blyth.</i>																	×	
624		<i>Corythocichla brevicaudata, Blyth.</i>																	×	
625		<i>Corythocichla striata, Wald.</i>																	×	
626		<i>Turdinulus murinus, Blyth.</i>																	×	
627	335	<i>Rimator malacoptilus, Blyth.</i>																		
628	393	<i>Stachyridopsis ruficeps, Blyth.</i>																		×
629		<i>Stachyridopsis rufifrons, Hume</i>																	×	
630	392	<i>Stachyridopsis pyrrhops, Hodgs.</i>					×													×
631	394	<i>Stachyridopsis chrysea, Hodgs.</i>																	×	×
632		<i>Stachyridopsis assimilis, Wald.</i>																	×	
633	327	<i>Oligura castaneocoronata, Burt.</i>																		×
634	328	<i>Oligura cyaniventris, Hodgs.</i>																		×
635	618	<i>Minla igneotincta, Hodgs.</i>																		×
636	619	<i>Minla castaneiceps, Hodgs.</i>																		×
637		<i>Minla brunneicauda, Sharpe.</i>																		×
638	620	<i>Minla cinerea, Blyth.</i>																		×
639		<i>Minla ruficularis, Mandelli.</i>																		×
640		<i>Minla mandelli, Godwin-Austen</i>																		×
641		<i>Minla dubia, Hume</i>																		×
642	623	<i>Ixulus flavicollis, Hodgs.</i>					×													×
643	624	<i>Ixulus occipitalis, Blyth.</i>																		×
644		<i>Ixulus humilis, Hume</i>																		×
645		<i>Staphidea castaneiceps, Moore</i>																		×
646		<i>Staphidea rufigenis, Hume.</i>																		×
647	625	<i>Staphidea striata, Blyth.</i>					×													×
648	622	<i>Aleippe virepectus, Hodgs.</i>					×													×

B. Bhootan. L. Cachar. † Sikkim. || Khasia Hills. ¶ Manipur Hills.



INDIAN BIRDS AND ITS DEPENDENCIES.

CSL

No. in Avifauna	Jerdon's Nos.	SPECIES.	Sind.	Belochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Orissa.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Barmah.	Nepal.
649	388	<i>Alcippe nipalensis, Hodgs.</i>								||	L	B							x	
650	389	<i>Alcippe phaeocephala, Jerd.</i>									x						x	x		
651		<i>Alcippe Phayrii, Blyth.</i>																x		
652	390	<i>Alcippe atriceps, Jerd.</i>															x	x		
653		<i>Alcippe Bourdilloni, Hume.</i>																x		
654	621	<i>Alcippe chryseus, Hodgs.</i>																		
655	626	<i>Yuhina gularis, Hodgs.</i>								||	B							x	x	
656	627	<i>Yuhina occipitalis, Hodgs.</i>									B								x	
657	628	<i>Yuhina nigrimentum, Hodgs.</i>					x				D									x
658	629	<i>Myzornis pyrrhura, Hodgs.</i>																		x
659	630	<i>Herpornis xantholeuca, Hodgs.</i>									||								x	x
660	616	<i>Siva strigula, Hodgs.</i>					x													x
661		<i>Siva castaneicauda, Hume.</i>									B								x	
662	617	<i>Siva cyanoptera, Hodgs.</i>									§									x
663		<i>Siva sordida, Hume.</i>																	x	
664	615	<i>Mesia argenteauris, Hodgs.</i>									||								x	x
665	614	<i>Liothrix lutea, Scop.</i>					x				B								x	x
666	612	<i>Cutia nipalensis, Hodgs.</i>									B	K							x	x
667	650	<i>Parus sultaneus, Hodgs.</i>								§ x										x
668		<i>Parus cinereus, Bonn. et Vieil.</i>				x	x	x	x	§ B	x	x						x	x	x
669	644	<i>Parus monticolus, Vigors.</i>				x	x			B	||									x
670	647	<i>Parus xanthogenys, Vigors.</i>				x	x				x									x
671	648	<i>Parus haplonotus, Jerd.</i>									x							x		
672	649	<i>Parus spilnotus, Blyth.</i>								§ B	||								x	x
673	638	<i>Parus melanolophus, Vigors.</i>				x	x	x												x
674	640	<i>Parus rufonuchalis, Blyth.</i>									||									x
675	640	<i>Parus rubidiventer, Blyth.</i>																		x
676	637	<i>Parus dichrous, Hodgs.</i>					x													x
677	632	<i>Parus modestus, Burton.</i>									x									†
678		<i>Parus nuchalis, Jerd.</i>																x		
679	642	<i>Parus æmodius, Hodgs.</i>																		x
680	651	<i>Accentor immaculatus, Hodgs.</i>																		x
681	655	<i>Accentor atrigularis, Brandt.</i>				x	x	x												x
682	656	<i>Accentor rubeculoides, Moore.</i>																		†
683	654	<i>Accentor strophiatius, Hodgs.</i>																		x
684		<i>Accentor Jerdoni, Brooks.</i>				x														x
685	653	<i>Accentor altaicus, Brandt.</i>				x	x													x
686	652	<i>Accentor nipalensis, Hodgs.</i>					x													x
687	634	<i>Acredula erythrocephala, Vigors.</i>					x	x	x	§ ||									x	x

B. Bhootan. D. Naga Hills. † Sikkim. § Assam. || Khasia Hills.
L. Cachar. K. Dacca Hills.



DISTRIBUTION TABLE OF THE BIRDS OF

SL

No. in Avifauna	Jerdon Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	S. India.	British Burmah.	Nepaul.
688	635	<i>Acredula Jouschistos,</i> <i>Hodgs.</i>								B									x†
689	636	<i>Acredula niveogularis,</i> <i>Moore</i>						×											
690	633	<i>Ægithalus flammiceps,</i> <i>Burton</i>				×	×												×
691	580	<i>Regulus cristatus, Koch.</i>					?												x†
692	609	<i>Ptererythrus erythrop-</i> <i>terus, Vigors.</i>					×	×	§	B									x†
693		<i>Ptererythrus aeralatus,</i> <i>Tickell.</i>																×	
694	610	<i>Ptererythrus rufiventer,</i> <i>Blyth.</i>																	x†
695		<i>Ptererythrus intermedius,</i> <i>Hume.</i>																×	
696	611	<i>Ptererythrus melanotis,</i> <i>Hodgs.</i>								B ||								×	x†
697		<i>Ptererythrus xantho-</i> <i>chloris, Hodgs.</i>								|| B									x†
698		<i>Lanius fallax, Finsch.</i>	?	×		×				|| B									x†
699		<i>Lanius assimilis, Brehm.</i>	×			×	×												
700	256	<i>Lanius lahtora, Sykes.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×		
701	258	<i>Lanius tephronotus, Vigors.</i>							xB	§								×	x†
702	257	<i>Lanius erythronotus,</i> <i>Vigors.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×		×
703	259	<i>Lanius nigriceps, Frankl.</i>							||	B	§	×						×	x†
704	261	<i>Lanius cristatus, Lin.</i>	×	×			×	×	×	×	B	§						×	
705		<i>Lanius lucionensis, Lin.</i>									†							×	
706	262	<i>Lanius isabellinus, Ehrenb.</i>	×	×	×	×	×	×	×	×				×					
707		<i>Lanius phoeniceuroides,</i> <i>Severts.</i>	×	×	×	×	×	×	×	×	×								
708	260	<i>Lanius vittatus, Valenc.</i>	×	×		×	×	×	×	×	×	×	×	×	×	×	×		×
709		<i>Lanius collyrioides, Less.</i>									§							×	
710	243	<i>Certhia himalayana, Vigors.</i>				×	×				B								×
711	245	<i>Certhia discolor, Blyth.</i>									B								x†
712	244	<i>Certhia nipalensis, Hodgs.</i>									B §								x†
713	246	<i>Salpornis spilonotus,</i> <i>Frankl.</i>										×							
714	247	<i>Tichodroma muraria, Lin.</i>				×	×	×											×
715		<i>Sitta nagaensis, Godw-</i> <i>Austen.</i>								×									
716		<i>Sitta magna, Wardlaw-</i> <i>Ramsay.</i>																	×
717		<i>Sitta himalayensis, Jard.</i> <i>et Selby.</i>					×	×											x†
718		<i>Sitta neglecta, Wald.</i>																×	
719	250	<i>Sitta castaneoventris,</i> <i>Frankl.</i>										×	×					×	

B. Bhootan. † Sikkin. § Assam. || Khasia Hills. ‡ Andamans. * Malabar.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
720	251	<i>Sitta cinnamomeiventris</i> , <i>Blyth</i> .								X									X	X
721	249	<i>Sitta leucopsis</i> , <i>Gould</i> .						X		X										X
722	252	<i>Sitta formosa</i> , <i>Blyth</i> .						X		X										
723	253	<i>Sitta frontalis</i> , <i>Swains</i> .								X	X	X				X	X	*	X	
724		<i>Chalcostetha insignis</i> , <i>Jard</i> .																	X	
725	231	<i>Æthopyga saturata</i> , <i>Hodgs</i> .								§	B									X†
726	226	<i>Æthopyga Vigorsi</i> , <i>Sykes</i> .															X	X		
727	225	<i>Æthopyga seheriæ</i> , <i>Tickell</i> .						X		§	B								X	X†
728	228	<i>Æthopyga ignicauda</i> , <i>Hodgs</i> .						X		B										X†
729	230	<i>Æthopyga nipalensis</i> , <i>Hodgs</i> .						X		||										X†
730		<i>Æthopyga sanguinipectus</i> , <i>Wald</i> .																	X	
731	227	<i>Æthopyga gouldiæ</i> , <i>Vigors</i> .						X												X†
732		<i>Æthopyga dabryi</i> , <i>J. Verr</i> .																	X	
733	234	<i>Cinnyris asiatica</i> , <i>Lath</i> .	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
734		<i>Cinnyris brevirostris</i> , <i>Blanf</i> .	X	X																
735	235	<i>Cinnyris lotenia</i> , <i>Linn</i> .															X	X		
736	233	<i>Cinnyris minima</i> , <i>Sykes</i> .															X	X		
737	232	<i>Cinnyris zeylonica</i> , <i>Linn</i> .								§	X						X	X		
738		<i>Cinnyris Hasseltii</i> , <i>Temm</i> .																	X	
739		<i>Cinnyris flammimaxillaris</i> , <i>Blyth</i> .								†									X	
740	224	<i>Arachnothera longirostris</i> , <i>Vieil</i> .								X	†							*	X	
741	223	<i>Arachnothera magna</i> , <i>Hodgs</i>.								§	||									X†
742		<i>Arachnothera modesta</i> , <i>Eyton</i> .																	X	
743		<i>Arachnothera chrysogenys</i> , <i>Temm</i> .																	X	
744		<i>Anthothreptes hypogram-</i> <i>mica</i> , <i>S. Mull</i> .																	X	
745		<i>Anthothreptes simplex</i> , <i>S. Mull</i> .																	X	
746		<i>Anthothreptes phœnicotis</i> , <i>Temm</i> .																	X	
747		<i>Anthothreptes malaccensis</i> , <i>Scop</i> .																	X	
748	631	<i>Zosterops palpebrosa</i> , <i>Temm</i> .	X			X	X	X	X	X	X	X				X	X	X	X	X
749		<i>Zosterops aureiventer</i> , <i>Hume</i> .																	X	
750		<i>Zosterops siamensis</i> , <i>Blyth</i> .																	X	
751	236	<i>Dicaeum cruentatum</i> , <i>Linn</i> .								X									X	X
752		<i>Dicaeum trigonostigma</i> , <i>Scop</i> .								X									X	

B. Bhootan. * Malabar. † Andamans. ‡ Sikkim. § Assam. || Khasia Hills.

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Belochoistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Decan.	S. India.	British Barmah.	Nepal.
753	241	<i>Dicaeum ignipectus, Hodgs.</i>						X		AB†									X	X
754	237	<i>Dicaeum chrysorrhaeum,</i> <i>Temm.</i>						X		AX									X	X
755	239	<i>Dicaeum concolor, Jerd.</i>								B								*X	X	X
756		<i>Dicaeum inornatum, Hodgs.</i>																	X	X
757	238	<i>Dicaeum erythrorhynchum,</i> <i>Lath.</i>							X	§	X	X			X	X	X	X	X	X
758		<i>Prionochilus ignicapillus,</i> <i>Eyton.</i>																	X	
759		<i>Prionochilus maculatus,</i> <i>Tem.</i>																	X	
760	242	<i>Prionochilus melano-</i> <i>xanthus, Hodgs.</i>								§										X
761	240	<i>Prionochilus squalidus,</i> <i>Burton</i>						X											X	X
762		<i>Prionochilus modestus,</i> <i>Hume.</i>																	X	
763	92	<i>Chelidon urbica, Linn.</i>			X			X										X		
764	93	<i>Chelidon cashmiriensis,</i> <i>Gould.</i>						X												
765		<i>Chelidon lagopus, Pallas.</i>																	X	
766	94	<i>Chelidon nipalensis, Hodgs.</i>								†X									X	X
767	87	<i>Cotile riparia, Linn.</i>	X	X	X	X				X				X	X	X	X	X	X	X
768	88-89	<i>Cotile sinensis, J. E. Gray.</i>	X			X	X	X		X		X	X	X	X	X	X	X	X	X
769	90	<i>Cotile concolor, Sykes</i>				X	X					X	X			X	X	X	X	X
770	91	<i>Cotile rupestris, Scop.</i>				X	X			BX	§...	X	X					*X		X
771		<i>Cotile obsoleta, Cab.</i>	X	X						BX	§...			X	X			*X		X
772	82	<i>Hirundo rustica, Lin.</i>	X	X	X	X	X	X	X	§	X	X	X	X	X	X	X	X	X	X
773		<i>Hirundo gutturalis, Scop.</i>						X		B §		X			X		X	X	X	X
774		<i>Hirundo erythrogastra,</i> <i>Bodd.</i>																	X	
775		<i>Hirundo tytleri, Jerd.</i>								4X	||...								X	
776	83	<i>Hirundo javanica, Sparrm.</i>																	X	
777	84	<i>Hirundo smithi, Leach.</i>	X	X	X	X	X	X	X	X	X	X	X	?	X	X	X	X	X	X
778		<i>Hirundo nipalensis, Hodgs.</i>						X		§X									X	X
779		<i>Hirundo japonica, Tem.</i>																	X	
780	85	<i>Hirundo erythropygia,</i> <i>Sykes.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
781	86	<i>Petrochelidon fluvicola,</i> <i>Blyth</i>					X	X			X	X	X	X	X					
782		<i>Motacilla alba, Linn.</i>	X	X	X	X	X	X			X					X	X		X	X
783		<i>Motacilla ocularis, Swinh.</i>								X									X	X
784	591	<i>Motacilla personata, Gould.</i>	X	X	X	X	X	X			X								X	X
785	590	<i>Motacilla leucopsis, Gould.</i>								†X	§								X	X
786		<i>Motacilla hodgsoni, Blyth.</i>								B §									X	X
787	589	<i>Motacilla madraspatensis,</i> <i>Gm.</i>	X	X		X	X	X		X	X	X	X	X	X	X	X	X	X	X
788	592	<i>Motacilla melanope, Pall.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

B. Bhootan. * Malabar. † Andamans. ‡ Sikkim. § Assam. || Khasia Hills.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
789		<i>Motacilla citreola</i> , <i>Pall.</i> ...	×	×	×	×	×	×	×	†	×	×	×	×	×	...	×	...	×	×
790	594	<i>Motacilla citreoloides</i> , <i>Hodgs.</i> ...	×	×	×	×	...	...	...	§	×	×	×	×	...	×	×	...	×	×
791		<i>Motacilla beema</i> , <i>Sykes.</i> ...	×	×	×	×	...	...	...	†	×	×	×	...	...	...	...	...	×	×
792	593	<i>Motacilla borealis</i> , <i>Sunder.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
793		<i>Motacilla Feldeggii</i> , <i>Mich.</i>...	×	...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	...	...
794	595	<i>Limondromus indicus</i> , <i>Gould.</i> ...	...	...	...	...	...	...	...	×	×	×	×	×	×	×	×	×	×	×
795	597	<i>Anthus trivialis</i> , <i>Linn.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
796	596	<i>Anthus maculatus</i> , <i>Hodgs.</i>...	...	...	...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
797	598	<i>Anthus nilgheriensis</i> , <i>Sharpe.</i> ...	...	...	...	...	...	...	...	||	×	×	×	×	×	×	×	×	×	×
798	604	<i>Anthus sordidus</i> , <i>Rupp.</i>...	...	...	...	...	×	×	...	...	...	...	...	...	...	...	...	×	...	...
799	603	<i>Anthus Jerdoni</i> , <i>Finch.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
800	599	<i>Anthus Richardi</i> , <i>Vieill.</i>...	...	...	×	...	...	...	...	×	×	×	×	×	×	×	×	×	×	×
801	601	<i>Anthus striolatus</i> , <i>Blyth.</i>...	...	...	...	×	×	×	×	†	×	×	×	×	×	×	×	×	×	×
802	602	<i>Anthus campestris</i> , <i>Linn.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
803	600	<i>Anthus rufus</i> , <i>Vieill.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
804		<i>Anthus cervinus</i> , <i>Pall.</i>...	...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
805	605	<i>Anthus rosaceus</i> , <i>Hodgs.</i>...	...	...	×	×	×	×	...	||	×	×	×	×	×	×	×	×	×	×
806		<i>Anthus spiolella</i> , <i>Linn.</i>...	×	×	×	×	×	×	...	...	...	...	...	...	...	...	...	...	...	...
807	606	<i>Oreocorys sylvanus</i> , <i>Hodgs.</i>...	...	...	...	...	×	×	...	...	...	...	...	...	...	...	...	...	...	×
808		<i>Coccothraustes humii</i> , <i>Sharpe.</i> ...	...	...	...	×	×	×	...	...	...	...	...	...	...	...	...	...	...	...
809	727	<i>Mycerobas melanocephalus</i> , <i>Hodgs.</i> ...	...	...	...	...	×	×	...	†	...	...	...	...	...	...	...	...	...	×
810	725	<i>Pycnoramphus icteroides</i> , <i>Vigors.</i> ...	...	...	...	...	×	×	...	...	...	...	...	...	...	...	...	...	...	×
811	726	<i>Pycnoramphus affinis</i> , <i>Blyth.</i> ...	...	...	...	×	×	×	...	†	...	...	...	...	...	...	...	...	...	×
812	728	<i>Pycnoramphus carneipes</i> , <i>Hodgs.</i> ...	...	...	...	×	×	×	...	†	...	...	...	...	...	...	...	...	...	×
813	752	<i>Fringilla montifringilla</i> , <i>Linn.</i>...	...	...	×	×	×	×	...	...	...	...	...	...	...	...	...	...	...	...
814	746	<i>Procarduelis nipalensis</i> , <i>Hodgs.</i> ...	...	...	...	×	×	×	...	†	...	...	...	...	...	...	...	...	...	×
815		<i>Procarduelis rubescens</i> , <i>Blanf.</i> ...	...	...	...	...	...	...	...	†	...	...	...	...	...	...	...	...	...	×
816	749	<i>Carduelis caniceps</i> , <i>Vigors.</i>...	...	...	×	×	×	×	...	...	...	...	...	...	...	...	...	...	...	...
817	750	<i>Chrysomitris spinoides</i> , <i>Vigors.</i> ...	...	...	...	×	×	×	...	†	...	...	...	...	...	...	...	...	...	...
818		<i>Chrysomitris tibetana</i> , <i>Hume.</i> ...	...	...	...	...	...	...	...	†	...	...	...	...	...	...	...	...	...	...
819	748	<i>Callacanthus Burtoni</i> , <i>Gould.</i> ...	...	...	...	?	×	×	...	...	...	...	...	...	...	...	...	...	...	...
820		<i>Acanthis brevirostris</i> , <i>Bp.</i>...	...	...	...	×	×	×	...	...	...	...	...	...	...	...	...	...	...	...
821		<i>Acanthis fringillirostris</i> , <i>Bp.</i> ...	×	×	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

B. Bhootan. * Malabar. † Andamans. ‡ Sikkim. § Assam. || Khasia Hills.



DISTRIBUTION TABLE OF THE BIRDS OF

CSL

No in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
822		Montifringilla Adamsi, Moore.	E				×	×												
823		Montifringilla ruficollis, Blanf.						×		†										
824		Montifringilla blanfordi, Hume.								†										
825	745	Montifringilla sordida, Stol.				×	×	×												
826	753	Montifringilla nemoricola, Hodgs.																		×
827		Montifringilla Brandti, Bp.						×		†										
828		Rhodopechys sanguinea, Gould.	×		×	×														?
829		Erythrospiza githaginea, Licht.		×	×	×	×	×			×									
830	711	Petronia flavicollis, Frankl.	×	×	×	×	×	×			×	×	×	×			×			
831	710	Passer montanus, Koch. ...	×	×	×	×	×	×		§		×	×	×			×		×	×
832	706	Passer domesticus, Linn. .	×	×	×	×	×	×		§	×	×	×	×	×	×	×	×		
833	709	Passer pyrrhonotus, Blyth.	×								×	×	×	×	×	×	×	×		
834	707	Passer hispaniolensis, Tem.	×	×	×	×	×	×			×			×						
835	708	Passer cinnamomeus, Gould.				×	×	×	§											×
836		Passer assimilis, Walden. ...																		×
837		Passer flaveolus, Blyth.																		×
838		Serinus pectoralis, Murray.	×																	
839	751	Serinus pusillus, Pall.		×	×	×	×	×												
840	733	Pyrrhoplectus epauletta, Hodgs.																		×
841	738	Carpodacus erythrinus, Pall.	×	×	×	×	×	×	×	§		×						×	×	×
842	735	Carpodacus sipahi, Hodgs. ...																		×
843	737	Carpodacus rubicilla, Gould.					×													×
844	741	Carpodacus grandis, Blyth. ...				×	×													×
845	742	Carpodacus rhodochrous, Vigors.				×														×
846	739	Carpodacus rhodopeplus, Vigors.				×	×													×
847		Carpodacus Edwardsi, Verr.								B										×
848	740	Carpodacus thura, Bp. & Schleg.																		×
849	744	Carpodacus dubius, Prgr. ...																		×
850		Carpodacus ambiguus, Hume.					×													×
851	743	Carpodacus pulcherrimus, Hodgs.						×												×
852	747	Pyrrhospiza punicea, Hodgs.																		×
853	734	Loxia curvirostra, Lin.																		×

B. Bhootan.

E. Indus Valley.

† Sikkim.

§ Assam.

* Malabar.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
854	729	<i>Pyrhula erythrocephala</i> , <i>Vigors.</i>					x	x												x†
855	731	<i>Pyrhula nipalensis</i> , <i>Hodgs.</i>																		x†
856	730	<i>Pyrhula erithacus</i> , <i>Blyth.</i>																		+
857	732	<i>Pyrhula aurantiaca</i> , <i>Gould.</i>					x	x												
858	736	<i>Propyrhula subhimalayensis</i> , <i>Hodgs.</i>																		x†
859		<i>Emberiza schœniclus</i> , <i>Lin.</i>				x	x	x												
860	720	<i>Emberiza pusilla</i> , <i>Pall.</i> .....								|| §									x	x†
861	719	<i>Emberiza fucata</i> , <i>Pall.</i>					x	x											x	x
862	721	<i>Emberiza melanocephala</i> , <i>Scop.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
863	722	<i>Emberiza luteola</i> , <i>Sparrm.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
864	723	<i>Emberiza aureola</i> , <i>Pall.</i>								§									x†	
865		<i>Emberiza rutila</i> , <i>Pall.</i>								B									x†	
866	717	<i>Emberiza spodocephala</i> , <i>Pall.</i>								§ B									x	x
867	716	<i>Emberiza buchanani</i> , <i>Blyth.</i>	x	x	x	x	x	x	x			x		x		x	x			
868	714	<i>Emberiza Stracheyi</i> , <i>Moore.</i>	x	x			x	x												
869	718	<i>Emberiza Stewarti</i> , <i>Blyth.</i>	x	x	x	x	x	x	x											
870	712	<i>Emberiza leucocephala</i> , <i>Gm.</i>		x		x	x	x	x											
871		<i>Fringillaria striolata</i> , <i>Licht.</i>	x	x	x	x	x	x			x					x				
872	724	<i>Melophus melanicterus</i> , <i>Gm.</i>								x	x	x	x	x	x	x	x	x	x	x
873	694	<i>Ploceus phillipinus</i> , <i>Lin.</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
874		<i>Ploceus baya</i> , <i>Blyth.</i>					x	x		x										x
875	695	<i>Ploceus manyar</i> , <i>Horsf.</i>	x				x	x		x §		x	x	x	x	x				
876		<i>Ploceus bengalensis</i> , <i>Lin.</i>	x				?	?		§ x										
877	696	<i>Ploceus javanensis</i> , <i>Less.</i>									x					*		x		
878	697	<i>Amadina malacca</i> , <i>Lin.</i>								x		x								
879	698	<i>Amadina atricapilla</i> , <i>Vieill.</i>					x	x	x	§		x						x		
880	699	<i>Amadina punctulata</i> , <i>Lin.</i>	x				x	x	x	§	x					x		x		
881	700	<i>Amadina pectoralis</i> , <i>Jerd.</i>																		
882		<i>Amadina leucogastra</i> , <i>Blyth.</i>																		x
883	702	<i>Amadina acuticauda</i> , <i>Hodgs.</i>								§									x	†
884	701	<i>Amadina striata</i> , <i>Linn.</i>								x		x				*		x		
885	703	<i>Amadina malabarica</i> , <i>Linn.</i>	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	
886		<i>Erythrura prasina</i> , <i>Sparrm.</i>																		
887		<i>Estrilda punicea</i> , <i>Horsf.</i>																		
888	704	<i>Estrilda amandava</i> , <i>Linn.</i>	x	x	x	x	x	x	x	§ x	x	x	x	x	x	x	x	x	x	
889	705	<i>Estrilda formosa</i> , <i>Lath.</i>																		
890	754	<i>Mirafrassamica</i> , <i>McClell.</i>					x	x	x	§		x								
891	755	<i>Mirafrassamica</i> , <i>Jerd.</i>																		
892	756	<i>Mirafrassamica</i> , <i>Jerd.</i>	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	
893	757	<i>Mirafrassamica</i> , <i>Jerd.</i>	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	
894	759	<i>Ammomanes lusitania</i> , <i>Gm.</i>	x	x	x	x	x	x	x											

* Malabar.

† Sikkim.

§ Assam.

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B. Bhootan.

DISTRIBUTION TABLE OF THE BIRDS OF

No. in Avifauna.	Jerdon's Nos.	SPECIES	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burma.	Nepaul.
895	758	<i>Ammomanes phœnicura</i> , <i>Frankl.</i>						X	X	X		X						X	X	
896	760	<i>Pyrrhulauda grisea</i> , <i>Scop.</i> ..	X				X	X	X	X	X	X	X	X		X	X	X	X	
897		<i>Pyrrhulauda melanauchen</i> , <i>Cab.</i>	X	X	X						X			X						
898	761	<i>Calandrella brachydactyla</i> , <i>Leisl.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
899		<i>Melanocorypha bimaculata</i> , <i>Menetr.</i>	X	X	X	X														
900	762	<i>Alaudula raytal</i> , <i>Blyth</i> ..	X							X			X							X
901		<i>Alaudula Adamsi</i> , <i>Hume</i> ..	X				X	X	X											
902	763	<i>Otocorys penicillata</i> , <i>Gould.</i> ..				X	X					X	X					X	X	
903	765	<i>Spizalauda deva</i> , <i>Sykes.</i> ..				X	X	X				X	X					X	X	
904	767	<i>Alauda gulgula</i> , <i>Frankl.</i> ..	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
905	769	<i>Galerida cristata</i> , <i>Lin.</i> ..	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
906	770	<i>Certhilauda desertorum</i> , <i>Stanley.</i>	X	X	X	X	X	X	X											
907	681	<i>Sturnus vulgaris</i> , <i>Lin.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
908		<i>Sturnus minor</i> , <i>Hume.</i> ..	X																	
909	682	<i>Sturnus unicolor</i> , <i>Marmora.</i> ..	X	X		X	X													
910		<i>Sturnopaster superciliaris</i> , <i>Blyth.</i>																		X
911	683	<i>Sturnopaster contra</i> , <i>Lin.</i> ..					X	X	X	X	X	X	X	X	X	X	X	X	X	
912	684	<i>Aceridotheres tristis</i> , <i>Lin.</i> ..	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
913	685	<i>Aceridotheres ginginianus</i> , <i>Lath.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
914	686	<i>Aceridotheres fuscus</i> , <i>Tem.</i> ..	X				X	X		X	X	X	X	X	X	X	X	X	X	
915		<i>Aceridotheres siamensis</i> , <i>Swinh.</i>																		X
916	687	<i>Sturnia pagodarum</i> , <i>Gmel.</i> ..	X				X	X	X	X						X	X	X	X	
917		<i>Sturnia sturnina</i> , <i>Pall.</i> ..																		X
918		<i>Sturnia sinensis</i> , <i>Gmel.</i> ..																		X
919		<i>Sturnia Burmannica</i> , <i>Jerd.</i> ..																		X
920		<i>Sturnia leucocephala</i> , <i>Gigl.</i> ..																		X
		<i>& Salv.</i>																		X
921	688	<i>Sturnia malabarica</i> , <i>Gmel.</i> ..					X	X	X	X	X					X	X	X	X	
922	689	<i>Sturnia Blythi</i> , <i>Jerd.</i> ..																		X
923		<i>Sturnia nemoricola</i> , <i>Jerd.</i> ..																		X
924		<i>Calonnis chalybea</i> , <i>Horsf.</i> ..								X										X
925	690	<i>Pastor roseus</i> , <i>Lin.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
926	693	<i>Gracula intermedia</i> , <i>A. Hay.</i>																		X
927	692	<i>Gracula religiosa</i> , <i>Lin.</i> ..									X		X	X						X
928	691	<i>Saraglossa spiloptera</i> , <i>Vigors.</i>					X	X												X
929		<i>Ampeliceps coronatus</i> , <i>Blyth.</i>																		X
930		<i>Gracupica nigricollis</i> , <i>Payk.</i> ..																		X

* Malabar.

§ Assam.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Belochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Borneo.	Nepaul.
931		<i>Anthocincla Phayrii</i> , <i>Blyth</i>																	×	×
932	344	<i>Pitta nipalensis</i> , <i>Hodgs.</i>								§									×	×
933		<i>Pitta Oatesi</i> , <i>Hume</i>																	×	×
934		<i>Pitta cærulea</i> , <i>Raffles</i>																	×	×
935		<i>Pitta cyanea</i> , <i>Blyth</i>									B								×	×
936		<i>Pitta cyanoptera</i> , <i>Tem.</i>																	×	×
937		<i>Pitta megarhyncha</i> , <i>Schl.</i>																	×	×
938	345	<i>Pitta brachyura</i> , <i>Lin.</i>					×	×	×	×	×	×	×	×	×	×	×	*	×	†
939		<i>Pitta coccynea</i> , <i>Eyton</i>																	×	×
940	346	<i>Pitta cucullata</i> , <i>Hartl.</i>									§								×	×
941		<i>Encichla Gurneyi</i> , <i>Hume</i>																	×	×
942		<i>Calyptomena viridis</i> , <i>Raffles</i>																	×	×
943	138	<i>Psarisomus Dalhousiæ</i> <i>Jameson</i>					×	×		B	§								×	×
944		<i>Serilophus lunatus</i> , <i>Gould</i>																	×	×
945	139	<i>Serilophus rubropygius</i> , <i>Hodgs</i>									§	§							×	×
946		<i>Eurylæmus javanicus</i> , <i>Horsf.</i>																	×	×
947		<i>Eurylæmus ochromelas</i> , <i>Raffles</i>																	×	×
948		<i>Corydon sumatranus</i> , <i>Raffles</i>																	×	×
949		<i>Cimborhynchus macror-</i> <i>hynchus</i> , <i>Gm.</i>																	×	×
950	98	<i>Cypselus melba</i> , <i>Lin.</i>	×	×	×	×	×	×	×					×	×	×	×	×	×	×
951	99	<i>Cypselus apus</i> , <i>Lin.</i>	×	×	×	×	×	×	?		×			×	×	×	×	×	×	×
952	100	<i>Cypselus affinis</i> , <i>Gray</i>	×	×	×	×	×				×			×	×	×	×	×	×	×
953		<i>Cypselus acuticaudus</i> , <i>Blyth</i>						×											×	×
954		<i>Cypselus pacificus</i> , (<i>Lath.</i>)																	×	×
955		<i>Cypselus subfasciatus</i> , <i>Blyth</i>. . . . .									||							*	×	×
956	101	<i>Cypselus leuconyx</i> , <i>Blyth</i>																*	×	×
957	102	<i>Cypselus batassiensis</i> , <i>Gray</i>					×		×	×		×					*	×	×	×
958		<i>Cypselus infumatus</i> , <i>Sclater</i>								§									×	×
959		<i>Hirundinapus giganteus</i> , <i>Van Hass</i>																	×	×
960	96	<i>Hirundinapus indicus</i> , <i>Hume</i>															*	×	×	×
961		<i>Hirundinapus leucopygi-</i> <i>alis</i> , <i>Blyth</i>																	×	×
962	95	<i>Hirundinapus sylvatica</i> , <i>Tick</i>					×	×			×								×	×

* Malabar.

† Sikkim.

§ Assam.

|| Khasia Hill.

B. Bhootan.

No. in Avifauna	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces	Oudh.	Bengal.	Bajpura.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
963	97	<i>Hirundinapus caudacuta</i> , <i>Lath.</i>								B										
964	103	<i>Collocalia unicolor</i> , <i>Jerd.</i>								S							*	×		+
965		<i>Collocalia innominata</i> , <i>Hume.</i>																	×	
966		<i>Collocalia spodiopygia</i> , <i>Peale.</i>																	×	
967		<i>Collocalia Linchi</i> , <i>Horsf. &</i> <i>Moore.</i>																	×	
968		<i>Dendrochelidon coronatus</i> , <i>Tick.</i>					×				×	×					*	×	×	+
969		<i>Dendrochelidon longipennis</i> , <i>Rafn.</i>																	×	
970		<i>Dendrochelidon comatus</i> , <i>Tem.</i>																	×	
971	105	<i>Batrachostomus moniliger</i> , <i>Blyth.</i>										×					*	×		
972	106	<i>Batrachostomus affinis</i> , <i>Blyth.</i>																×		+
973	112	<i>Caprimulgus asiaticus</i> , <i>Lath.</i>	×			?				×		×	×	×	×	×	×	×		
974	113	<i>Caprimulgus maharattensis</i> , <i>Sykes.</i>	×	×		×	×				×	×	×	×	×	×	×	×		
975	114	<i>Caprimulgus monticolus</i> , <i>Frankl.</i>								×	×	×							×	
976	109	<i>Caprimulgus albonotata</i> , <i>Tick.</i>					×		×		×	×							×	+
977	111	<i>Caprimulgus atripennis</i> , <i>Jerd.</i>															*	×		
978		<i>Caprimulgus Unwini</i> , <i>Hume.</i>	×	×	×	×												×		
979	107	<i>Caprimulgus indicus</i> , <i>Lath.</i>															×			
980		<i>Caprimulgus Kelaarti</i> , <i>Blyth.</i>										×						×		
981		<i>Caprimulgus jotaka</i> , <i>Tem.</i>																×	×	
982		<i>Lyncornis cerviniceps</i> , <i>Gould.</i>																	×	
983	115	<i>Harpactes fasciatus</i> , <i>Gmel.</i>									×						*			
984	116	<i>Harpactes erythrocephalus</i> , <i>Gould.</i>								S									×	+
985		<i>Harpactes oreskios</i> , <i>Tem.</i>																	×	
986		<i>Harpactes Duvauccelli</i> , <i>Temm.</i>																	×	
987	199	<i>Cuculus canorus</i> , <i>Lin.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
988	200	<i>Cuculus strintus</i> , <i>Drap.</i>								S									×	+
989	201	<i>Cuculus poliocephalus</i> , <i>Lath.</i>																	×	
990	202	<i>Cuculus sonneratti</i> , <i>Lath.</i>															*	×	×	

* Malabar.

† Sikkim.

§ Assam.

|| Khasia Hill.

B. Bhootan.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Decan.	S. India.	British Burmah.	Nepaul.
991	203	<i>Cuculus micropterus</i> , <i>Gould.</i>								x ₃	x						*	x	x	...
992	207	<i>Hierococyx sparveroides</i> , <i>Vigors.</i>																x	x	x
993	209	<i>Hierococyx varius</i> , <i>Vahl.</i>					x		x									x	x	...
994		<i>Hierococyx nanus</i> , <i>Hume.</i>																	x	...
995	206	<i>Hierococyx nasicolor</i> , <i>Hodgs.</i>																	x	x
996		<i>Cacomantis threnodes</i> , <i>Cab. et Hein.</i>								x									x	...
997	208	<i>Cacomantis nigra</i> , <i>Jerd.</i> ...								x		x						x		...
998	210	<i>Surniculus lugubris</i> , <i>Horsf.</i> ..									x							*	x	†
999	211	<i>Chrysococyx maculatus</i> , <i>Gm.</i>										x							x	†
1000		<i>Chrysococyx xanthorhyn-</i> <i>chus</i> , <i>Horsf.</i>										x							x	...
1001		<i>Chrysococyx Limborgi</i> , <i>Tweed</i>																	x	...
1002	212	<i>Coccyzus Jacobinus</i> , <i>Bodd.</i> x	x			x	x	x	x	x	x	x	x	x	x	x	x	*		x
1003	213	<i>Coccyzus coromandus</i> , <i>Linn.</i>								x	x	x					*		x	...
1004	214	<i>Eudynamis honorata</i> , <i>Linn.</i> ..										x		x	x	x	x		x	x
1005		<i>Eudynamis malayana</i> , <i>Cab.</i> <i>et Hein.</i>							x										x	...
1006		<i>Rhinortha chlorophaea</i> , <i>Raffles</i>																	x	...
1007	215	<i>Rhopodytes tristis</i> , <i>Less.</i> ..							x ₃		x								x	†
1008		<i>Rhopodytes diardi</i> , <i>Less.</i> ..																	x	...
1009		<i>Rhopodytes sumatranus</i> , <i>Raffles</i>																	x	...
1010	216	<i>Rhopodytes viridirostris</i> , <i>Jerd.</i>															x	x		...
1011		<i>Rhamphococyx erythro-</i> <i>nathus</i> , <i>Hartl.</i>																	x	...
1012		<i>Zanclostomus Javanicus</i> , <i>Horsf.</i>																	x	...
1013		<i>Centrocoocyx maximus</i> , <i>Hume.</i>	x			x	x	x												...
1014	217	<i>Centrocoocyx rufipennis</i> , <i>Illigr.</i>								x	x	x	x	x	x	x	x	x		...
1015		<i>Centrocoocyx intermedius</i> , <i>Hume.</i>							x										x	...
1016	218	<i>Centrocoocyx bengalensis</i> , <i>Gmel.</i>							x	x	x							x	x	...
1017	219	<i>Taccocua Leschenaulti</i> , <i>Less.</i>														x	x	x		...
1018	220	<i>Taccocua sirkeer</i> , <i>Gray.</i> ...	x			x	x	x	x	x	x		x	x	x	x	x			...
1019	221	<i>Taccocua infusata</i> , <i>Blyth.</i> ..					x													x†

* Malabar.

† Sikkim.

§ Assam.

No. in Avifauna	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
1020		<i>Megalæma marshallorum</i> , <i>Swinh.</i>								×									×	...
1021		<i>Megalæma virens</i> , <i>Bodd</i> ...																	×	...
1022		<i>Megalæma mystacophanus</i> , <i>Tem.</i>																	×	...
1023	192	<i>Megalæma Hodgsoni</i> , <i>Donap.</i>								×	§								×	tx
1024	193	<i>Megalæma caniceps</i> , <i>Frankl.</i>					×	×	×	×	×	×	×	×						
1025		<i>Megalæma inornata</i> , <i>Wald.</i>									×						*	×		...
1026	194	<i>Megalæma viridis</i> , <i>Gmel.</i> ...															*	×		...
1027	195	<i>Cyanops asiatica</i> , <i>Lath.</i> ...					×		×		§								×	†
1028		<i>Cyanops Davisoni</i> , <i>Hume.</i> ...																	×	...
1029		<i>Cyanops incognita</i> , <i>Hume.</i> ...																	×	...
1030		<i>Cyanops Ramsayi</i> , <i>Wald.</i> ...																	×	...
1031	197	<i>Xantholæma hæmacephala</i> , <i>P. L. S. Mull.</i>	×	?			×	×	×	×	×	×	×	×	×	×	×	×	×	×
1032	198	<i>Xantholæma malabarica</i> , <i>Blyth.</i>															*	×		...
1033		<i>Xantholæma cyanotis</i> , <i>Blyth.</i>								×	§								×	...
1034		<i>Caloramphus Havi</i> , <i>Gray.</i> ...									×								×	...
1035	188	<i>Yunx torquilla</i> , <i>Linn.</i> ...	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	...
1036	190	<i>Indicator xanthonotus</i> , <i>Blyth.</i>																		tx
1037	186	<i>Vivia innominata</i> , <i>Burton.</i> ...								||	§							×	×	tx
1038	187	<i>Sasia ochracea</i> , <i>Hodgs.</i> ...								||x	§								×	×
1039		<i>Gauropicoides Rafflesi</i> , <i>Vigors.</i>																	×	...
1040	177	<i>Gecinulus Grantia</i> , <i>McOlell.</i> ...									§								×	...
1041		<i>Gecinulus viridis</i> , <i>Blyth.</i> ...																	×	...
1042	184	<i>Tiga Javanensis</i> , <i>Ljungh.</i> ...									×						*	×	×	×
1043	180	<i>Brachypternus aurantias</i> , <i>Linn.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
1044	181	<i>Brachypternus chrysonotus</i> , <i>Less.</i>														×	*	×		...
1045	178	<i>Micropternus phæoceps</i> , <i>Blyth.</i>								×	§	×	×						×	tx
1046		<i>Micropternus brachyurus</i> , <i>Vieil.</i>																	×	...
1047	179	<i>Micropternus gularis</i> , <i>Jerd.</i> ...															×	*	×	...
1048	176	<i>Venilia pyrrhotis</i> , <i>Hodgs.</i> ...								×									×	tx
1049		<i>Venilia porphyromelas</i> , <i>Boie.</i>																	×	...
1050		<i>Callolophus mentalis</i> , <i>Tem.</i> ...																	×	...
1051		<i>Callolophus malaccensis</i> , <i>Lath.</i>																	×	...
1052		<i>Callolophus puniceus</i> , <i>Horsf.</i> ...																	×	...

* Malabar.

† Sikkim.

§ Assam.

|| Khasia Hills.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepal.
1053	173	<i>Chrysophlegma flavinucha</i> , <i>Gould.</i>								×	§	×§							×	×
1054	174	<i>Chrysophlegma chlorolo-</i> <i>phus, Vieill.</i>								×	§	×§							×	×
1055	175	<i>Chrysophlegma chlorigas-</i> <i>ter, Jerd.</i>															*	×		
1056	170	<i>Gecinus squamatus, Vigors</i>			×	×	×	×	×										×	×
1057	171	<i>Gecinus striolatus, Blyth.</i>			×	×	×	×	×	§	×§			×				×	×	×
1058	172	<i>Gecinus occipitalis, Vigors.</i>			×		×	×	§	B									×	×
1059		<i>Gecinus viridanus, Blyth.</i>																	×	×
1060		<i>Gecinus erythropygius,</i> <i>Elliot.</i>																	×	×
1061	169	<i>Thriponax hodgsoni, Jerd.</i>															*	×		
1062		<i>Thriponax Javensis, Horsf.</i>																	×	×
1063		<i>Thriponax Feddeni, Blanf.</i>																	×	×
1064	168	<i>Mulleripicus pulverulentus,</i> <i>Tem.</i>					×	×	||										×	×
1065	166	<i>Chrysocolaptes strictus,</i> <i>Horsf.</i>				×	×	×	×	×	§	×	×				*	×	×	×
1066	167	<i>Chrysocolaptes festivus,</i> <i>Bodd.</i>								×	×							×	×	×
1067	165	<i>Hemicercus cordatus, Jerd.</i>									×	×				*	×	×	×	×
1068		<i>Hemicercus sordidus,</i> <i>Eyton.</i>																	×	×
1069	154	<i>Picus himalayanus, Jard.</i> <i>and Selby.</i>				×	×	×												×
1070	155	<i>Picus majoroides, Hodgs.</i>																		×
1071	156	<i>Picus cathpharius, Hodgs.</i>											B							×
1072	158	<i>Picus scindianus, Gould....</i>	×	×	×	×	×	×	×											×
1073	157	<i>Picus macii, Vieill.</i>				×	×	×	×										×	×
1074		<i>Picus analis, Tem.</i>																	×	×
1075		<i>Picus atratus, Blyth.</i>																	×	×
1076	159	<i>Picus brunneifrons, Vigors.</i>				×	×	×											×	×
1077	160	<i>Picus mahrattensis, Lath.</i>	×	×		×	×	×		×	×		×	×	×	×	×	×	×	×
1078		<i>Picus canicapillus, Blyth.</i>							×	§									×	×
1079		<i>Picus pumilus, Hargith.</i>																	×	×
1080	161	<i>Hypopicus hyperythrus,</i> <i>Vigors.</i>				×	×													×
1081	162	<i>Iyngipicus rubricatus,</i> <i>Blyth.</i>																		×
1082	163	<i>Iyngipicus pygmæus</i> <i>Vigors.</i>				×	×													×
1083	164	<i>Iyngipicus Hardwickii,</i> <i>Jerd.</i>				×	×	×			×							×		×
1084		<i>Meiglyptes grammithorax,</i> <i>Mesh.</i>																	×	×
1085		<i>Meiglyptes jugularis,</i> <i>Blyth.</i>																	×	×

* Malabar. † Sikkim. § Assam. || Khasia Hills. B. Bhootan.



DISTRIBUTION TABLE OF THE BIRDS OF

CSL

No in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
1086		<i>Meiglyptes tukki, Less.</i> ...																		
1087		<i>Psittinus incertus, Shaw.</i> ...																		
1088	153	<i>Loriculus vernalis, Sparrm.</i> ...					X	X	X	X	S	B			X		*x	X	X	†
1089	152	<i>Palæornis fasciatus, P.L.S.</i> <i>Mull.</i> ...					X	X	X	X	S								X	
1090	151	<i>Palæornis columboides,</i> <i>Vigors.</i> ...															*	X		
1091	147	<i>Palæornis indoburmannicus</i> <i>Hume.</i> ...					X	X	X	X			X			*	X	X	X	†
1092	150	<i>Palæornis schisticeps,</i> <i>Hodgs.</i> ...					X	X	X	X	S							X	X	
1093	148	<i>Palæornis torquatus, Bodd.</i>	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X
1094		<i>Palæornis cyanocephalus,</i> <i>Linn.</i> ...					X	X	X	X	X	X	X	X	X	X	X	X	X	
1095	149	<i>Palæornis rosa, Bodd.</i> ...					X	X	X	X	X	S	X	X	X	X	X	X	X	
1096	254	<i>Upupa epops, Linn.</i> ...	X	X	X	X				X	X	X	X	X	X	X	X	X	X	
1097		<i>Upupa longirostris, Jerd.</i>							X											
1098	255	<i>Upupa ceylonensis, Reich.</i>					X													
1099	117	<i>Merops viridis, Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
1100	118	<i>Merops philippinus, Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
1101	119	<i>Merops Leschenaulti, Vieill.</i>																		
1102	120	<i>Merops persicus, Pall.</i> ...	X	X	X	X	X	?												
1103	121	<i>Merops apiaster, Linn.</i> ...	X	X	X	X	X	X		X				X		X				
1104	122	<i>Nyctiorhis Athertonii, Jard</i> <i>and Selb.</i> ...						X	X	S								X	X	
1105		<i>Nyctiorhis amicta, Tem.</i> ...							X	S								X		
1106	125	<i>Coracias garrula, Linn.</i> ...	X	X	X	X	X	X										X	X	
1107	123	<i>Coracias indica, Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
1108		<i>Coracias affinis, McClell.</i>								X	S									
1109	126	<i>Eurystomus orientalis,</i> <i>Linn.</i> ...						X	X	S									X	
1110	134	<i>Alcedo bengalensis, Gm.</i> ...	X	X		X	X	X		X	X	X	X	X	X	X	X	X	X	
1111		<i>Alcedo grandis, Blyth.</i> ...																		†
1112		<i>Alcedo ispida, Linn.</i> ...	X	X	X	X														
1113		<i>Alcedo asiatica, Sws.</i> ...																		
1114		<i>Alcedo euryzona, Tom.</i> ...																		
1115	137	<i>Ceryle guttata Vig.</i> ...					X	X	X	X	X	X	X	X	X	X	X	X	X	
1116	136	<i>Ceryle rudis, Linn.</i> ...	X	X						X	X	X	X	X	X	X	X	X	X	
1117	131	<i>Halcyon coromanda, Lath.</i>							X	X	X	X	X	X	X	X	X	X	X	†
1118	129	<i>Halcyon smyrnensis, Linn.</i>	X				X	X	X	X	X	X	X	X	X	X	X	X	X	†
1119	130	<i>Halcyon pileata, Bodd.</i> ...															*			
1120	132	<i>Halcyon chloris, Bodd.</i> ...								X										
1121		<i>Halcyon concreta, Tem.</i> ...																	X	
1122		<i>Carcinantes pulchellus,</i> <i>Horsf.</i> ...																		
1123	133	<i>Ceyx tridaetyln, Pall.</i> ...							X							X	X	X		

* Malabar.

† Sikkim.

§ Assam.

B. Bhootan.

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Cocon.	Deccan.	S. India.	British Burmah.	Nepaul.
1124	127	Pelargopsis gural, <i>Pearson.</i>						×		×		×	×		*			ox		
1125	128	Pelargopsis amauroptera, <i>Pearson.</i>								×								ox	×	
1126		Pelargopsis burmanica, <i>Sharpe.</i>																	×	
1127	140	Dichoceros bicornis, <i>Linn.</i>							§	×						×		*x	×	†
1128	141	Anthracoceros coronatus, <i>Bodd.</i>										×						*x		
1129	142	Anthracoceros albirostris, <i>Shaw.</i>					×		§x	×									×	
1130	143	Anthracoceros affinis, <i>Hutton.</i>						×												
1131		Rhinoplax vigil, <i>J. R. Forst.</i>																	×	
1132	145	Rhinoplax griseus, <i>Lath.</i>													*			×		
1133	144	Ocyrceros birostris, <i>Scop.</i>													*x			×		
1134		Rhytidoceros subruficollis, <i>Blyth.</i>																	×	
1135		Rhytidoceros undulatus, <i>Shaw.</i>																	×	
1136		Aceros nipalensis, <i>Hodgs.</i>				×	×	?	×										×	†x
1137		Anorrhinus comatus, <i>Raffles.</i>																	×	
1138		Anorrhinus galeritus, <i>Tem.</i>																	×	
1139		Anorrhinus Tickelli, <i>Blyth.</i>																	×	
1140	771	Treron nipalensis, <i>Hodgs.</i>							§x										×	×
1141	772	Crocopus phænicopterus, <i>Lath.</i>				×	×	×	x§	×	×								×	
1142	773	Crocopus chlorigaster, <i>Blyth.</i>	×						×	×		×			×		×	×		
1143		Crocopus viridifrons, <i>Blyth.</i>																	×	
1144	774	Osmotreron bicincta, <i>Jerd.</i>						×	×	§	×	×						C	×	×
1145		Osmotreron vernans, <i>Linn.</i>																	×	
1146	775	Osmotreron malabarica, <i>Jerd.</i>													×			*x	×	
1147	776	Osmotreron Phayrii, <i>Blyth.</i>							×	§									×	
1148		Osmotreron fulvicollis, <i>Wagl.</i>																	×	
1149	777	Osmotreron pompadoura, <i>Gmel.</i>																	×	
1150	778	Sphenocercus sphenurus, <i>Vigors.</i>				×	×		§										×	
1151	779	Sphenocercus apicaudus, <i>Hodgs.</i>							x§										×	
1152	780	Carpophaga tenua, <i>Linn.</i>							×		×	×			*			×	×	×

†

* Malabar.

‡ Sikkim

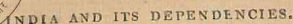
§ Assam

C. Ceylon.

DISTRIBUTION TABLE OF THE BIRDS OF

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah	Nepaul.
1153	781	<i>Carpophaga insignis</i> , <i>Hodgs.</i>.....									||								×	...
1154		<i>Carpophaga griseicapilla</i> , <i>Wald.</i>																		×
1155		<i>Carpophaga bicolor</i> , <i>Scop.</i>																	A	...
1156	785	<i>Palumbus pulchricollis</i> , <i>Hodgs.</i>																		×†
1157	784	<i>Palumbus casiotis</i> , <i>Bonap.</i>	×	×	×	×	×	×												×
1158	786	<i>Palumbus Elphinstonei</i> , <i>Sykes.</i>															×	×	×	...
1159	787	<i>Palumbæna Eversmanni</i> , <i>Bp.</i>	×									×						×		...
1160	788	<i>Columba intermedia</i> , <i>Strickl.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
1161		<i>Columba livia</i> , <i>Bonap.</i>	×	×	×	×														...
1162	789	<i>Columba rupestris</i> , <i>Pall.</i>					×	×												...
1163	790	<i>Columba leuconota</i> , <i>Vigors.</i>					×	×												...
1164	782	<i>Alsocomus puniceus</i> , <i>Tickell.</i>								×	§	×	×						C	×
1165	783	<i>Alsocomus Hodgsoni</i> , <i>Vigors.</i>						×												×
1166	791	<i>Macropygia leptogram-</i> <i>mica</i> , <i>Temm.</i>.....								×	||									×
1167		<i>Macropygia assimilis</i> , <i>Hume.</i>																		×
1168	792	<i>Turtur pulchratus</i> , <i>Hodgs.</i>			×	×	×	×			×	×								×
1169	793	<i>Turtur meena</i> , <i>Sykes.</i>.....							×	||	§									×
1170	794	<i>Turtur senegalensis</i> , <i>Linn.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×		...
1171	795	<i>Turtur suratensis</i> , <i>Gmel.</i>	×			×	×	×	×	×	×	×	×	×	×	×	×	×		...
1172		<i>Turtur tigrinus</i> , <i>Tem.</i>.....																		...
1173	796	<i>Turtur risorius</i> , <i>Linn.</i>	×	×		×	×	×	×	×	×	×	×	×	×	×	×	×		...
1174	797bis.	<i>Turtur humilis</i> , <i>Tem.</i>	×	×			×	×	×	×	×	×	×	×	×	×	×	C		...
1175	798	<i>Chalcophaps indica</i> , <i>Linn.</i>						?	×	A.	N.							?	×	...
1176		<i>Geopelia striata</i> , <i>Linn.</i>.....																		...
1177		<i>Caloenas nicobarica</i> , <i>Linn.</i>										M.	N.							...
1178	801ter.	<i>Pterocles coronatus</i> , <i>Licht.</i>	×	×	×	×	×													...
1179	801bis.	<i>Pterocles senegallus</i> , <i>Linn.</i>	×	×																...
1180	799	<i>Pterocles arenarius</i> , <i>Pall.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×		...
1181	802	<i>Pterocles exustus</i> , <i>Tem.</i>	×	×		×	×	×	×	×	×	×	×	×	×	×	×	×		...
1182	801	<i>Pterocles alchata</i> , <i>Linn.</i>	×	×	×	×	×													...
1183	800bis.	<i>Pterocles Lichtenstenii</i> , <i>Tem.</i>	×	×			×													...
1184	800	<i>Pterocles fasciatus</i> , <i>Scop.</i>	×				×	×		×	×				×		×			...
1185		<i>Syrhaptes tibetanus</i> , <i>Gould.</i>						×												×
1186	803	<i>Pavo cristatus</i> , <i>Linn.</i>	×				×	×	×	×	×	×	×	×	×	×	×	×		...
1187		<i>Pavo muticus</i> , <i>Linn.</i>.....																		...
1188		<i>Argusianus argus</i> , <i>Linn.</i>.....																		...

* Malabar. † Sikkim. § Assam. || Khasia Hills. O. Ceylon.
 M. Morgui Archipel. A. Andamans. N. Nicobars.



No. in Avianna.	Jerdon's Nos.	SPECIES.	Sind.	Beloohistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces	Ondh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
1189		<i>Polyplectron thibetanum,</i> <i>Gm.</i>								B.	||								X	..
1190		<i>Megapodius nicobariensis,</i> <i>Blyth.</i>								N										
1191		<i>Crossoptilon thibetanum,</i> <i>Hodgs.</i>																		X
1192	804	<i>Lophophorus Impeyanus,</i> <i>Lath.</i>					X			B.									X†	..
1193		<i>Lophophorus Selateri, Jerd.</i>					X			S.									X†	..
1194	805	<i>Cerionis satyra, Linn.</i>					X	X		B.									X†	..
1195	806	<i>Cerionis melanocephalus,</i> <i>Gray.</i>					X	X											X†	..
1196	807	<i>Ithaginis cruentus, Hardw.</i>																	X†	..
1197	808	<i>Pucrasia macrolopha,</i> <i>Lesson.</i>					X			B									X	..
1198	809	<i>Phasianus Wallichi,</i> <i>Hardw.</i>					X	X											X	..
1199	810	<i>Euplocamus alboeristatus,</i> <i>Vigors.</i>					X	X											X	..
1200		<i>Euplocamus leucomelanus,</i> <i>Lath.</i>																	X	..
1201	811	<i>Euplocamus melanotus,</i> <i>Blyth.</i>								B.									†	..
1202		<i>Euplocamus horsfieldi,</i> <i>G. R. Gray.</i> .....								|| § s										..
1203		<i>Euplocamus lineatus,</i> <i>Elliott.</i>																	X	..
1204		<i>Euplocamus Cuvieri, Temm.</i>								H.										..
1205		<i>Euplocamus Andersoni,</i> <i>Elliott.</i>																	X	..
1206		<i>Euplocamus Vieilloti,</i> <i>G. R. Gray.</i>																	X	..
1207	812	<i>Gallus ferrugineus, Gm.</i>					X	X	§ x u x	X	X	X						X		..
1208	813	<i>Gallus sonnerati, Tem.</i>										X						X		..
1209	814	<i>Galloperdix spadiceus,</i> <i>Gmel.</i>									X	X		X	X			X	X	..
1210	815	<i>Galloperdix lunulatus,</i> <i>Valenc.</i>								X								X		..
1211	816	<i>Tetraogallus Himalayensis,</i> <i>G. R. Gray.</i>					X													..
1212		<i>Tetrao thibetanus, Gould.</i>					X													..
1213	817	<i>Lerwa nivicola, Hodgs.</i>					X												X†	..
1214	818	<i>Francolinus vulgaris,</i> <i>Steph.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X					..
1215	819	<i>Francolinus pictus, Jard.</i> <i>and Selby.</i>									X	X					X	X		..
1216		<i>Francolinus chinensis, Osb.</i>																	X	..
1217	820	<i>Caccabis chukor, Gray.</i>	X	X	X	X	X	X											X	..
‡ Sikkin.			§ Assam.			|| Khasia Hills.			B. Bhootan.			N. Nicobars.								
			S. Sadya.			H. Arracan Hills.														



CSL

DISTRIBUTION TABLE OF THE BIRDS OF

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
1218	821	<i>Ammoperdix bonhami</i> , <i>Gray.</i>	x	x	x	x	x	x												
1219	822	<i>Ortygornis ponticeriana</i> , <i>Gmel.</i>	x	x	x	x	x	x	x	x	x	x	x	x			x	ex		
1220	823	<i>Ortygornis gularis</i> , <i>Tem.</i>							x	x	s									
1221	824	<i>Arboricola torqueola</i> , <i>Valenc.</i>						x		B.										xt
1222		<i>Arboricola atrogularis</i> , <i>Blyth.</i>																		
1223		<i>Arboricola brunneipectus</i> , <i>Tick.</i>																		
1224		<i>Arboricola chloropus</i> , <i>Tick.</i>															x		x	
1225		<i>Arboricola intermedia</i> , <i>Blyth.</i>																		
1226	825	<i>Arboricola rufogularis</i> , <i>Blyth.</i>																		
1227		<i>Arboricola mandelli</i> , <i>Hume.</i>																		
1228		<i>Bambusicola Fytchi</i> , <i>Andr.</i>																		
1229		<i>Caloperdix ocella</i> , <i>Tem.</i>																		
1230		<i>Rollulus roulroul</i> , <i>Scop.</i>																		
1231	826	<i>Perdica asiatica</i> , <i>Lath.</i>					x	x	x			x	x		x	x	x	ex		
1232	827	<i>Perdica argoondah</i> , <i>Sykes.</i>					x	x	x		x	x	x	x	x	x	x			
1233		<i>Ophrysia superciliosa</i> , <i>J. E.</i> <i>Gray.</i>					x													
1234	828	<i>Microperdix erythrorhyn-</i> <i>cha</i> , <i>Sykes.</i>															x	x		
1235		<i>Microperdix Blewitti</i> , <i>Hume.</i>															x	x		
1236	829	<i>Coturnix communis</i> , <i>Linn.</i>	x	x	x	x	x	x	sy.	x	A.	x	x	x	x	x	x	x	x	x
1237	830	<i>Coturnix coromandelica</i> , <i>Gmel.</i>	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x
1238		<i>Exallactoria chinensis</i> <i>Linn.</i>																		
1239	{832} {833}	<i>Turnix plumbeus</i> , <i>Hodgs.</i>					x	x												
1240	834	<i>Turnix joudera</i> , <i>Hodgs.</i>	x				x	x	x	x					x	x	x	ex		
1241	835	<i>Turnix Dussumieri</i> , <i>Tem.</i>	x				x	x	x	x					x	x	x	x		
1242		<i>Turnix maculosa</i> <i>Tem.</i>																		
1243		<i>Turnix albiventris</i> , <i>Hume.</i>																		
1244		<i>Otis tarda</i> , <i>Linn.</i>																		
1245		<i>Otis tetrax</i> , <i>Linn.</i>																		
1246	836	<i>Eupodotis Edwardsi</i> , <i>Gray</i>	x				x	x			x	x	x	x	x	x				
1247	837	<i>Houbara Macqueeni</i> , <i>Gray</i>	x	x	x	x	x	x		x	x	x	x	x	x					
1248	838	<i>Sypheotides bengalensis</i> , <i>Gmel.</i>					x	x	x	x	I.	sy.	s							
1249	839	<i>Sypheotides auritus</i> , <i>Lath.</i>	x				x	x	x	x	x	x	x	x	x	x	x			

† Sikkim § Assam. || Khasia Hills.
Sy. Sylhet. G. Garo Hills.

A. Arracan.
T. Tipperah.

B. Bhootan C. Ceylon.
Ch. Chittagong.

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
1250	840	<i>Cursorius coromandelicus</i> , <i>Gmel.</i>	X	X			X	X	X	X	X		?	X	X	X	X			
1251	840bis.	<i>Cursorius gallicus</i> , <i>Gmel.</i> ..	X	X	X	X	X	X		X				X	X					
1252	841	<i>Rhinoptila bitorquata</i> , <i>Jerd.</i>																		
1253	842	<i>Glareola orientalis</i> , <i>Leach.</i> ..	X							X								X		
1254	842bis.	<i>Glareola pratincola</i> , <i>Linn.</i> ..	X		X	X											X	C.	X	
1255	843	<i>Glareola lactea</i> , <i>Tem.</i>	X				X	X									X			
1256	844	<i>Squatarola helvetica</i> , <i>Linn.</i> ..	X	X						X				X				X		
1257	845	<i>Charadrius fulvus</i> , <i>Gm.</i>	X				X			?				X			X	X		
1258	845bis.	<i>Charadrius pluvialis</i> , <i>Linn.</i> ..	X	X			X							X			X	X		
1259	846	<i>Ægialitis Geoffroyi</i> <i>Wagl.</i> ..	X	X	X					X	X			X			X	X		
1260	847	<i>Ægialitis mongolica</i> , <i>Pall.</i> ..	X	X	X	X				X				X			X	X		
1261	848	<i>Ægialitis cantiana</i> , <i>Lath.</i> ..	X	X	X	X	X	X		X	X			X			X	X		
1262	849	<i>Ægialitis dubia</i> , <i>Scop.</i>	X	X	X	X	X	X	X	X	X			X	X		X	C.	X	
1263	850	<i>Ægialitis Jerdoni</i> , <i>Legge.</i> ..	X							X				X			X	C.	X	
1264	851	<i>Vanellus cristatus</i> , <i>Meyer</i> ..	X	X	X	X	X	X						X			X			
1265	852	<i>Chettusia gregaria</i> , <i>Pall.</i> ..	X	X	X	X	X	X		X	X			X			X			
1266	853	<i>Chettusia leucura</i> , <i>Licht.</i> ..	X	X	X	X	X	X		X	X			X			X			
1267	854	<i>Chettusia cinerea</i> , <i>Blyth.</i> ..	X							X	X			X			X			
1268	857	<i>Hoplopterus ventralis</i> , <i>Linn.</i> ..	X				X	X	X	X	X			X			X	X		
1269	855	<i>Lobivanellus indicus</i> , <i>Bod.</i> ..	X	X	X	X	X	X	X	X	X			X			X	X		
1270	855bis.	<i>Lobivanellus atronuchalis</i> , <i>Blyth</i>																		
1271	856	<i>Sarcophorus bilobus</i> , <i>Gmel.</i>	X				X	X	X	X	X			X	X	X	X	C.	X	
1272	858	<i>Æsacus recurvirostris</i> , <i>Cuv.</i> ..	X				X	X	X	X	X			X	X	X	X	C.	X	
1273	859	<i>Ædionemus crepitans</i> , <i>Tem.</i> ..	X		X		X	X	X	X	X			X			X			
1274	860	<i>Streptilas interpres</i> , <i>Linn.</i>	X	X	X					X							X	C.		
1275	861	<i>Dromas ardeola</i> , <i>Paykull.</i> ..	X	X	X									X			X	C.		
1276	862	<i>Hæmatopus ostralegus</i> , <i>Linn.</i>	X	X	X	X				X				X			X	C.		
1277	863	<i>Grus antigone</i> , <i>Linn.</i>	X			X	X	X	X	X	X			X			X	C.		
1278	864	<i>Grus leucogeranus</i> , <i>Pall.</i> ..	X			X	X	X	X	X	X			X			X			
1279	865	<i>Grus cinerea</i> , <i>Bechst.</i>	X			X	X	X	X	X	X			X			X			
1280	866	<i>Anthropoides virgo</i> , <i>Linn.</i> ..	X	X	?	X	X	X	X	X	X			X			X			
1281	867	<i>Scolopax rusticola</i> , <i>Linn.</i> ..	X	X	X	X	X	X	X	X	X			X			X			
1282	868	<i>Gallinago nemoricola</i> , <i>Hodgs.</i>					X													
1283	869	<i>Gallinago solitaria</i> , <i>Hodgs.</i> ..				X				B.								C.		
1284	870	<i>Gallinago stenura</i> , <i>Kuhl.</i> ..	X	X	X	X	X	X	X	AN XX				X	X	X	X	C.		
1285	871	<i>Gallinago scolopacina</i> , <i>Bonap.</i>	X	X	X	X	X	X	X	X	X			X			X			
1286	872	<i>Gallinago gallinula</i> , <i>Linn.</i> ..	X	X	X	X	X	X	X	X	X			X			X			
1287	873	<i>Rhynchœa capensis</i> , <i>Linn.</i> ..	X	X	X	X	X	X	X	X	X			X			X			
1288	886	<i>Limicola platyrhyncha</i> , <i>Tem.</i>	X	X						X				X			X			

Bhootan.

O. Ceylon.

§ Assam.

Note.—Marks in the columns Beloochistan and Persia refer chiefly to the coast and gulf of those countries.



CSL

DISTRIBUTION TABLE OF THE BIRDS OF

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Belochoistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces	Oudh.	Bengal.	Bajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Decan.	S. India.	British Burmah.	Nepaul
1289	887	Eurynorhynchus pygmaeus, Linn.							X										C.	X
1290	884	Tringa minuta, Leisl.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	
1291		Tringa subminuta, Midd.	X							X								C	X	
1292	885	Tringa temmincki, Leisl.	X							X								C	X	
1293		Tringa crassirostris, Tem. Schleg.	X	X																X
1294	882	Tringa subarquata, Gould.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	
1295	883	Tringa cinclus, Linn.	X				X	X	X	X	X	X	X	X	X	X				
1296	880	Machetes pugnax, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	X
1297	888	Calidris arenaria, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	X
1298	890	Phalaropus hyperboreus, Linn.	X	X	X													C.		
1299	889	Phalaropus fulicarius, Linn.								X								C.		
1300	893	Actitis hypoleucos, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	
1301	892	Actitis ochropus, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	
1302	891	Totanus glareola, Gmel.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	
1303	894	Totanus canescens, Gmel.	X				X	X	X	X	X	X	X	X	X	X	X	C	X	
1304	895	Totanus stagnatilis, Bechst.	X				X	X	X	X	X	X	X	X	X	X	X	C	X	
1305	897	Totanus calidris, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	
1306	896	Totanus fuscus, Linn.	X	X														C	X	
1307		Totanus Haughtoni, Hume.								X										X
1308		Totanus dubius, Murray.	X																	
1309	876	Terekia cinerea, Gould.	X	X				X		X				X	X	X		C	X	
1310	874	Pseudosclopax semipalmatus, Jerd.																		X
1311	875	Limosa egocephala, Linn.	X	X	X	X				X				X	X	X	X	C	X	
1312		Limosa lapponica, Linn.	X	X	X	X								X	X	X	X	C	X	
1313	878	Numenius phaeopus, Linn.	X	X	X	X				X				X	X	X	X	C	X	
1314	877	Numenius arquatus, Linn.	X	X	X	X	X	X	X	X				X	X	X	X	C	X	
1315	979	Ibidorhynchus Struthersii, Vig.																		X
1316	899	Recurvirostra avocetta, Linn.	X	X	X	X	X	X	X	X				X	X	X	X	X		
1317	898	Himantopus candidus, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	
1318	900	Metopodius indicus, Lath.								X		X	X	X	X	X	X	X		
1319	901	Hydrophasianus chirurgus, Scop.	X				X	X	X	X	X	X	X	X				C	B.	
1320	902	Porphyrio poliocephalus, Lath.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	
1321	903	Fulica atra, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	
1322		Podica personata, G.R. Gray.								S										X
1323	913	Hypotenidia striata, Linn.								S		X				X		C		
1324	914	Rallus indicus, Blyth.							S		X							C	X	
1325	912	Rallina eurizonoides, Lafresn.					X	X	†	X	B							C	X	X

C. Cashmere.

Note.—Marks in the columns Belochoistan and Persia refer chiefly to the coast and gulf of those countries.

BRITISH INDIA AND ITS DEPENDENCIES.

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloohistan.	Persia.	Afghanistan.	Punjab.	N. W. Provinces	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concea.	Deccan.	S. India.	British Barmah.	Nepaul.
1326		<i>Rallina fasciata, Raffl.</i> ...																	X	...
1327		<i>Rallina Canningi, Tytler</i> ...								A									?	...
1328	910	<i>Porzana Bailloni, Vieill.</i> ...	X	X	X	X	X	X	X	X	?	?	X	X	X	X	X	X	X	...
1329	906	<i>Porzana maruetta, Linn.</i> ...	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	?
1330	911	<i>Porzana fusca, Linn.</i> ...											C					X		...
1331		<i>Porzana minuta, Pall.</i> ...	X															X		...
1332	908	<i>Porzana akool, Sykes</i> ...					X	X	X	X	X	X			X	X	X	X	X	...
1333	905	<i>Gallinula chloropus, Linn.</i> ...	X	X	X	X	X	X	X	X	?				X	X	X	X	X	...
1334	907	<i>Gallinula phœnicura, Penn.</i> ...	X	X			X	X	X	X					X	X	X	X	X	...
1335	904	<i>Gallix rex cinereus, Gm.</i> ...	X							X		X			X	X	X	X	X	...
1336	915	<i>Leptoptilos argala, Lath.</i> ...	X				X	X	X	X	X	X	X	X	X	X	X	X	X	...
1337	916	<i>Leptoptilos javanicus, Horsf.</i> ...					X	?	?		X	X	X					X	X	...
1338	917	<i>Xenorhynchus asiaticus, Lat</i> ...	X				X	X	X	X	X	X	X			X	X	X	X	...
1339	918	<i>Ciconia nigra, Linn.</i> ...	X	X		X	X	X	X	X	X	X	X		X	X	X	X	X	...
1340	919	<i>Ciconia alba, Belon.</i> ...	X				X	X	X	X	X	X	X		X	X	X	X	X	...
1341	920	<i>Ciconia leucocephala, Gm</i> ...	X				X	X	X	X	?		?					X	X	...
1342	921	<i>Ardea goliath, Temm.</i> ...									||								X	...
1343		<i>Ardea sumatrana, Raf.</i> ...																	X	...
1344	922	<i>Ardea insignis, Hodgson.</i> ...								X	\$								X	...
1345	923	<i>Ardea cinerea, Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X				X	X	X	...
1346	924	<i>Ardea purpurea, Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X				X	X	X	...
1347	925	<i>Herodias alba, Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X				X	X	X	...
1348	926	<i>Herodias intermedia, Von Hasselt.</i> ...	X	X	X	X	X	X	X	X	X	X	X				X	X	X	...
1349	927	<i>Herodias garzetta, Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X				X	X	X	...
1350		<i>Herodias eulophotes, Swinh.</i> ...																	X	...
1351	928	<i>Demi-egretta gularis, Bosc.</i> ...	X	X						X			X					X	X	...
1352		<i>Demi-egretta sacra, Gmel</i> ...								N	A								X	...
1353	929	<i>Bubulcus coromandus, Bodd.</i> ...	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	...
1354	930	<i>Ardeola grayi, Sykes</i> ...	X	X	X	X	X	X	X	X	X	X	X				X	X	X	...
1355		<i>Ardeola prasinocetes, Swinh.</i> ...																	X	...
1356	931	<i>Butorides javanica, Horsf.</i> ...	X	X	X	X	X	X	X	X	X	X	X				X	X	X	...
1357	932	<i>Ardetta flavicollis, Lath.</i> ...	X				X	X	X	X					X	X	X	X	X	...
1358	933	<i>Ardetta cinnamomea, Gmel.</i> ...	X				X	X	X	X					X	X	X	X	X	...
1359	934	<i>Ardetta sinensis, Gmel.</i> ...	X				X	X	X	X					X	X	X	X	X	...
1360	935	<i>Ardetta minuta, Linn.</i> ...	X	X	X		X			X								X	X	...
1361	936	<i>Botaurus stellaris, Linn.</i> ...	X	X	X	X	X	X	X	X					X	X	X	X	X	...
1362	937	<i>Nycticorax griseus, Lian.</i> ...	X	X	X	X	X	X	X	X	X	X	X				X	X	X	...
1363		<i>Gorsachius melanolophus, Raf.</i> ...								N								X	X	...
1364	938	<i>Tantalus leucocephalus, Penn.</i> ...	X	X	X	X	X	X	X	X	X	X	X				X	X	X	...
1365	939	<i>Platalea leucorodia, Linn.</i> ...	X	X	X	X	X	X	X	X	X	X	X				X	X	X	...

Note.—Marks in the columns Beloohistan and Persia refer chiefly to the coast and gulf of those countries.

DISTRIBUTION TABLE OF THE BIRDS OF

No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Belochoistan.	Persia.	Afghanistan.	Punjab.	N.-W. Provinces	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burma	Nepaul.
1366	940	Anastomous oscitans, <i>Bodd.</i>	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1367	938	Threskiornis melanocephalus, <i>Lath.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1368	942	Geronticus papillosus, <i>Temm.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1369		Graptoccephalus Davisoni, <i>Hume.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1370	943	Falcinellus igneus, <i>Linn.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1371	944	Phœnicopterus antiquorum, <i>Tem.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1372		Phœnicopterus minor, <i>Ge.f. St. Hil.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1373		Cygnus olor, <i>Gm.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1374	945	Anser cinereus, <i>Meyer.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1375	946	Anser brachyrhynchus, <i>Bailon</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1376	947	Anser albifrons, <i>Gm.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1377	948	Anser erythropus, <i>Linn.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1378	949	Anser indicus, <i>Lath.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1379	950	Sarkidiornis melanotos, <i>Pen.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1380	951	Nettapus coromandelianus, <i>Gmel.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1381	952	Dendrocygna javanica, <i>Horsf.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1382	953	Dendrocygna fulva, <i>Gmel.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1383	954	Casarca rutula, <i>Pall.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1384	955	Casarca scutulata, <i>Mull.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1385	956	Tadorna cornuta, <i>Gm.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1386	957	Spatula clypeata, <i>Linn.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1387	958	Anas boschas, <i>Linn.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1388	959	Anas pœcilorhyncha, <i>Forst.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1389	960	Anas caryophyllacea, <i>Lath.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1390	961	Chaulelasmus streperus, <i>Lin.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1391		Chaulelasmus rufiventris, <i>Sp. Nov.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1392		Chaulelasmus angustirostris, <i>Menetries.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1393	962	Nafla acuta, <i>Lin.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1394	963	Mareca penelope, <i>Linn.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1395	964	Querquedula crecca, <i>Linn.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1396	965	Querquedula ciria, <i>Linn.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1397	966	Querquedula formosa, <i>Georgi.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1398		Querquedula falcata, <i>Georgi.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..
1399	967	Fuligula rufla, <i>Pall.</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	..

Note.—Marks in the columns Beloochistan and Persia refer chiefly to the coast and gulf of those countries.



No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Decan.	S. India.	British Burmah.	Nepaul.
1400	971	Fuligula cristata, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1401	970	Fuligula marila, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1402	968	Fuligula ferina, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1403	969	Fuligula nyroca, Gould.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1404		Clangula glaucion, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1405		Erismatura leucocephala, Scop.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1406		Mergus serrator, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1407	972	Mergus merganser, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1408	973	Mergellus albellus, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1409	974	Podiceps cristatus Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1410		Podiceps nigricollis, Sund.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1411	975	Podiceps minor, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1412	976	Oceanites oceanica, Kuhl.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1413		Daption capensis, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1414		Puffinus persicus, Hume.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1415		Puffinus chlororhynchus, Lesson.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1416		Stercorarius asiaticus, Hume.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1417		Larus cacchianans, Pall.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1418		Larus affinis, Reinh.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1419		Larus gelastes, Licht.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1420		Larus hemprichi, Bp.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1421	980	Larus brunneicephalus Jerdon.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1422	979	Larus ichthyætus, Pall.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1423	981	Larus ridibundus, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1424	984	Hydrochelidon hybrida, Pall.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1425		Hydrochelidon leucoptera, Meisn and Schinz.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1426		Hydrochelidon nigra, Lin.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1427	983	Gelochelidon anglica, Mont.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1428	982	Sterna caspia, Pall.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1429	989	Sterna Bergii, Licht.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1430		Sterna cantiaeca, Gm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1431	990	Sterna media, Horsf.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1432	991	Sterna melanogaster, Temm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1433	985	Sterna seena, S.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1434	987	Sterna melanogastra, Temm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1435		Sterna Dougalli, Mont.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1436	986	Sterna hirundo, Linn.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1437		Sterna albigena, Licht.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1438		Sterna Saundersii, Hume.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1439	988	Sterna sinensis, Gm.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1440	992	Sterna anæsthetus, Scop.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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DISTRIBUTION TABLE OF THE BIRDS OF BRITISH INDIA, & C.

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No. in Avifauna.	Jerdon's Nos.	SPECIES.	Sind.	Beloochistan.	Persia.	Afghanistan.	Punjab.	N.W. Provinces.	Oudh.	Bengal.	Rajputana.	Central India.	Central Prov.	Kutch.	Guzerat.	Concan.	Deccan.	S. India.	British Burmah.	Nepaul.
1441		<i>Sterna fuliginosa, Gm.</i>	×	×	×											*		C		
1442	993	<i>Anous stolidus, Linn.</i>	×	×						×										
144	994	<i>Anous tenuirostris, Tem.</i> ...								×										
1444		<i>Anous leucocapillus, Gould.</i>								×										
1445	995	<i>Rhynchops albigollis.</i>																		
		<i>Swains.</i>	×	×	×					×				×		×		×	×	
1446	996	<i>Phaeton rubricauda, Bodd.</i>								×										
1447	997	<i>Phaeton flavirostris, Brand.</i>																		
1448		<i>Phaeton indicus, Hume.</i> ...	×	×						×									×	
1449	1000	<i>Fregata aquila, Linn.</i>								×						*		C		
1450		<i>Sula cyanops, Sundev.</i>	×	×												×		C		
1451	998	<i>Sula australis, Steph.</i>								×									×	
1452	999	<i>Sula piscator, Linn.</i>								×										
1453		<i>Pelicanus crispus, Bruch.</i>	×	×		×	×	×												
1454	1004	<i>Pelicanus manillensis, Gm.</i>	×		×					×	×		×	×				×	×	
1455	1001 } 1003 }	<i>Pelicanus roseus, Gm.</i>	×	×						×	×		×	×				×	×	
1456	1005	<i>Phalacrocorax carbo, Linn.</i>	×	×	×	×	×	×	×	×	×	×	×	×	×	×				×
1457	1006	<i>Phalacrocorax fuscicollis</i>																		
		<i>Steph.</i>	×							×			×	×				C	×	
1458	1007	<i>Phalacrocorax pygmaeus</i>																		
		<i>Pall.</i>	×							×			×	×				C	×	
1459	1008	<i>Plotus melanogaster, Penn.</i>	×							×	×		×	×				C	×	

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Opinions on the "Avifauna of British India."

CSL

Times of India of March 18 says:—

Since Jerdon wrote his work on "The Birds of India," no naturalist has shown an ambition to give to the world, in a concise form, a work on the Avifauna of India, based on a more natural arrangement, and including all the new species known to occur in India during the past quarter of a century. Hume, with his large collection and "Stray Feathers," at one time intended, it is believed, to have issued such a work, but, having liberally given his collection to the National Museum, this is no longer possible. Murray, an author of some repute, or rather undoubted repute, is the only known naturalist who has ventured to publish works on Indian zoology and botany, also with such success that a copy of his published works cannot be had. The first part of his great work has just been issued, and the patient labour devoted to the work is apparent on every one of the hundred pages it contains. In order to popularize ornithology, woodcuts are given of the heads of species typical of the genus, and also of species not well known. The lithographs are exceedingly good, and Minter Brothers deserve credit for their work. The book is certainly a model of what it should be, well written, admirably arranged, free from unnecessary repetitions and quotations. It contains ample descriptions of plumage, habits, distribution and nidification. The arrangement of the text is also good. The article on each species is composed of six parts—1. Synonymy. 2. Description. 3. Habitat and Distribution. 4. Observations. 5. Habits; and lastly, Nidification, as far as the materials within his reach would carry him. The author deserves all the encouragement possible from scientists, and it behoves the Government, too, to help an undertaking which must have cost the author immense labour, besides a large expenditure. To say the least, there is no work on Indian ornithology which can be compared with the work now before the public. Mr. Murray has laid all ornithologists under obligations to him. To any one taking up the study of ornithology the work is to be recommended, and it is to be hoped that it will receive from Indian ornithologists the support it so emphatically deserves.

The third part of this work—one of the most important and valuable contributions to the scientific survey and record of that vast multitude of winged creatures which ever demand our attention, and in which many take more than an intelligent interest—has just been issued and completes the first volume. To how many more volumes the work is to be extended it is not known, but all interested in the Ornithology of the Indian Empire—and especially the student—will find it a magazine of knowledge immensely amplified by the beautiful coloured illustrations executed by Minter Brothers of London, and the numerous woodcuts which enrich the pages. The work, when completed, will decidedly be an addition to our standard works in Natural History, and cannot be too highly valued. Its character, scope, and purpose mark it as one which should be in every public library, large or small, Indian or Continental. Mr. Murray is certainly to be congratulated on his achievements thus far. —*Bombay Gazette*, 4th Jan. 1888.

PRICE, Part III., Rs. 8; Vol. I., complete, Rs. 20; covers for Vol. I., Rs. 1-8.

INDIAN BIRDS; OR THE AVIFAUNA OF BRITISH INDIA AND ITS DEPENDENCIES. By JAMES A. MURRAY, VOL. II., PART I.

As promised, the author of this most important work to ornithologists has issued with this number the Preface and Introduction to Vol. I. The number of birds described is now 596, and at the rate the Education Society's Press is turning out the work ornithologists may expect to have the complete book in a few months. In the present number there are seven full-page plates, three of which are coloured lithographs and the remainder uncoloured, one of which latter illustrates the introduction. Too much cannot be said of the introduction, except that Mr. Murray has in a most happy manner condensed the whole of the subject matter in twenty-four closely printed pages, while at the same time nothing is omitted which an ornithologist would wish to learn. Shortly, it contains an account of the external and internal anatomy of birds, treats of the muscular system, the osseous system, the nervous system, the tegumentary organs and those of motion; also of the habits of birds and their migration. A good account is also given of the writers on Indian Ornithology since the year 1832. The late Dr. Jerdon, Allan Hume, Blanford, Theobald Ball, Brooks, Sinclair, the Collector of Colaba, and Davidson, of Khandesh, are all mentioned, but himself Mr. Murray has very modestly left out. His "Vertebrate Zoology of Sind" and numerous contributions to scientific periodicals have not been mentioned, though in the references they naturally find a place in the book. Mr. Murray makes a further promise in his introduction that "as the work progresses every thing new to the Ornithology of India will be added, so that future labourers will no longer have to search far and wide, and consult large libraries of books often too vainly, for what has been already recorded, but in using this work will find it an unpretending manual to guide them in adding to the present accumulation of facts much which is at present hidden and unknown to science." —*Bombay Gazette*.

In his Presidential address, Mr. E. T. Atkinson, B.A., said:—"Little has been done for our Indian species beyond the continuation of Murray's Avifauna of British India, of which the third part has appeared. This work, as previously stated, is intended to correct and bring up to the present level of our knowledge, Jerdon's well-known 'Birds of British India.' It will serve as a very useful guide to bridge over the period between its issue and the publication of the results of the examination of Mr. A. G. Hume's unquelled collection of Indian birds now the property of the British Museum." —*Annual Presidential Address of the Asiatic Society of Bengal*.



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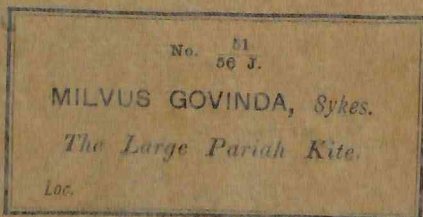
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