

B I R D S



LEPTODOGRAMMUS CUMINGI.

LEPIDOGRAMMUS CUMINGI.

Curled-crested Cuckoo.

Phenicophaus cumingi, Fraser, P. Z. S. 1839, p. 112.—Id., pl. Typ. pl. 53. (1841); Blyth, J. A. S. B. 1842, p. 925.

— *barotii*, Eydoux & Souleyet, Voy. Bonite, Océ. 89, Atlas, pl. 6 (1841).

Dasylophus cumingii, Gray, Gen. B. ii. p. 459 (1845); Bp., sp. Gen. Av. i. p. 98 (1850); Gray, Handl. B. ii. p. 206 (1870).

Lepidogrammus cumingii, Reichenbach, Syst. Av. Nat. pl. i. fig. 4 (1849); Bp., Consp. Volucr. Zygod. p. 5 (1854); Cab. & Heine, Mus. Hein. Th. iv. p. (1869); Sharpe, P. Z. S. 1873, p. 601, fig. 6 (p. 602); Wald., Trans. Z. S. ix. p. 163 (1875).

LIKE *Dasylophus superciliosus*, the bird now figured is confined to the Philippine Islands and, so far as we know at present, is an inhabitant of Luzon only. It was originally discovered by the late Mr. Hugh Cuming in the province of Albay, situated in the south-eastern corner of the above-named island; here it is called by the natives '*Ansic En Bicol*.' MM. Eydoux and Souleyet write as follows:—"M. de la Gironnière has kindly given us some information about this remarkable bird. It keeps itself always hidden in the middle of the forests where it lives, and is found throughout the year at Luzon. M. de la Gironnière assures us that it nests in the island, which is proved by his having obtained individuals in their first plumage: the latter do not obtain before their first moult the horn-tipped feathers of the crest and throat; and the general colour of their plumage is a reddish buff."

Like the other Philippine genus (*Dasylophus*), this bird has the nostrils entirely hidden by plumes. But that is the only generic character which they possess in common; for *Lepidogrammus* differs not only from the last-named bird, but from all the other Cuckoos with which we are acquainted, in having all the feathers of the head and throat tipped with a peculiar metallic horny appendage, which renders it easily recognizable at a glance. The only other birds which possess a similar structure of feather are the Curl-crested Toucan of the Amazons, and the Open-bill Stork (*Anastomus elligerus*) of Africa.

Adult.—General colour above blackish, with a greenish lustre; the latter inclining to purple on the wings; the tail-feathers also slightly glossed with purple and tipped with white; sides of neck and upper part of mantle rich chestnut-rufous; all the feathers in the centre of the throat from the beak to the nape, as well as the gular plumes, ornamented with a metallic tip of steel-black; the sides of the neck and throat dull chestnut, inclining to orange near the white throat; sides of body, belly, thighs, and under surface of the wings brown, the latter glossed with greenish. Total length 17 inches, culmen 1.6, wing 6.5, tail 9.5.

The description and figure are from a fine Manilla skin in my possession.



CHALCITES HODGSONI.

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Emerald Cuckoo.

The Spotted Curucui, Browne, Illustr. Zool. pl. 13, fig. 2 (1776).

Trogon maculatus, Gmelin, Syst. Nat. i. p. 404 (1788).

Cuculus lucidus, Blyth, Journ. Asiatic Soc. Bengal, xi. p. 917 (1842, not of Gmelin), xii. p. 944 (1843).

Chrysococcyx lucidus, Blyth, *op. cit.* xiii. p. 390 (1844, not of Gould).

— *smaragdinus*, Blyth, *op. cit.* xv. p. 53 (1846, not of Swainson).

Chalcites xanthorhynchus, Hodgs. in Gray's Zool. Miscellany, p. 85 (1844, not of Horsfield).

Chrysococcyx xanthorhynchus, Gray, Cat. Mamm. & Birds of Nepal, Coll. Hodgson, p. 120 (1846).

Cuculus malayanus, Gray & Mitchell, Gen. B. iii. pl. 117 (1847).

Chrysococcyx chalcites, Blyth, Cat. Birds Mus. Asiatic Soc. Bengal, p. 73 (1849).

— *plagosus*, Bonap. Consp. Gen. Av. i. p. 106 (1850).

Lampromorpha plagosa, Bonap. Consp. Voluer. Zygod. p. 7 (1854).

Chrysococcyx hodgsoni, Moore in Horsf. & Moore, Cat. Birds Mus. E.I. Co. ii. p. 705 (1856); Jerdon, Birds of India, i. p. 338 (1862).

Cuculus smaragdinus, Gray, Hand-list of Birds, ii. p. 219 (1870).

Lamprococcyx maculatus, Holdsworth, P. Z. S. 1872, p. 432.

Chrysococcyx maculatus, Blyth & Walden, Birds of Burmah, p. 80 (1875).

THE Golden or Emerald Cuckoos, as they are popularly called, are distributed over the greater part of the tropical regions of the Old World. In Africa there are several species of brilliant coloration, while in India and the adjacent countries to the eastward we have the subject of our present article; and in the Moluccas and Australia there are numerous kinds of these metallic Cuckoos; the latter, however, are not of such brilliant tints as the Indian and African species, and are generally placed by authors in a separate genus.

The range of the Emerald Cuckoo is not very extensive in India. Dr. Jerdon speaks of it as rare in that country; but he says it is more common in the Burmese provinces, and has been procured rarely in Central India. He obtained it on one occasion at Darjiling, at about 4000 feet elevation, but could obtain no information respecting its habits, beyond the fact that the bird killed by him had been eating insects.

The species was originally described from Ceylon; but its occurrence in that island must be very rare, as Mr. Holdsworth has never heard of a specimen, nor has Captain Legge recorded it. To the eastward it ranges through Burmah to Siam—that is to say, if the bird described by me from the latter country as *C. schomburgki* is really the same (*cf.* Proceedings of the Zoological Society, 1864, p. 73). I am aware that Lord Tweeddale and some other ornithologists unite my *C. schomburgki* to *C. hodgsoni* without question; but on reexamining my type I still see certain differences which appear to me to distinguish the two birds specifically. Thus *C. schomburgki* is a much smaller bird, and the green and white barring is continued right up to the chin, whereas in the corresponding adult green plumage of *C. hodgsoni* the throat and chest are uniform green like the back. The type of *C. schomburgki*, in fact, is green, like the adult bird figured by me, but has the under surface barred in the same style as the hepatic plumage illustrated in the Plate, though, of course, not agreeing in colour. Although for the present keeping the birds distinct, I am well aware that the changes of plumage in these little Cuckoos are so varied that I may be proved to be wrong some day or other.

The following description is taken from Dr. Jerdon's 'Birds of India':—

"Above brilliant emerald-green with a rich golden gloss; beneath white with cross bars of shining green; tail with the outer feathers barred with white externally; bill yellow, tipped dusky; irides red brown; feet reddish cinereous. Length $6\frac{1}{2}$ to 7 inches; wing $4\frac{1}{2}$; tail 3; bill at front $\frac{5}{8}$; tarsus $\frac{1}{2}$.

"Some specimens, smaller and more bronzed, are supposed to be females.

"The young bird is dingy shining greenish, sometimes barred with rufous above, especially on the tail; beneath whitish, with dusky greenish bars throughout. One in the rufous phase has the upper parts rufous, barred with rather dull green; underparts white, banded throughout with dusky greenish; bill blackish yellow at the base; another has the head and nape chestnut, the back coppery, the tail with rufous bands, and the underparts barred.

The figures in the Plate are life-sized, and represent an adult bird in full plumage, the second figure being that of a specimen in the hepatic stage.



CHALCITES XANTHORHYNCHUS.

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Amethystine Cuckoo.

- Cuculus xanthorhynchus*, Horsfield, Transactions of the Linnean Society, xiii. p. 179 (1821).—Id. Zool. Researches in Java, pl. 59 (1824).—Müller, Verhandel. Natuurl. Geschied. Land- en Volkenk. p. 234, note 6 (1839-44).—Gray, Genera of Birds, ii. p. 463 (1847).—Schlegel, Mus. Pays-Bas, Cuculi, p. 32 (1864).—Gray, Hand-list of Birds, ii. p. 219 (1870).
- Chrysococcyx xanthorhynchus*, Blyth, Journal of the Asiatic Soc. Bengal, xxi. part 1, p. 245 (1843).—Id. Cat. Birds Mus. Asiatic Soc. Bengal, p. 73 (1849).—Bonap. Consp. Gen. Av. i. p. 106 (1856).—Horsfield & Moore, Cat. Birds Mus. E.-I. Co. ii. p. 706 (1856).—Sclater, Proc. Zool. Soc. 1863, p. 209.—Salvadori, Uccelli di Borneo, p. 62 (1874).—Blyth & Walden, Birds of Burmah, p. 80 (1875).—Hume, Stray Feathers, 1874, p. 191, 1875, p. 81.
- Chalcites xanthorhynchus*, Hartlaub, Verz. Mus. Bremen, p. 97.
- Lampromorpha xanthorhynchus*, Bonap. Consp. Vol. Zygod. p. 7 (1854).
- Chalcococcyx xanthorhynchus*, Cabanis & Heine, Mus. Hein. Th. iv. p. 15 (1862).

THIS elegant little Cuckoo was first discovered by Dr. Horsfield in Java, and since that time its range has been much extended by subsequent travellers, for it has been recorded from Sumatra and Malacca, whence it ranges as high north as Burmah. Here it is stated by Mr. Blyth to have been procured by Helfer "probably in Mergui province." Mr. Hume has recorded it from Tenasserim, and also from the islands of the Bay of Bengal. It has also been procured in several parts of Borneo, as, for instance, at Banjarmasin by Motley, at Pontianak by Diard, and at Sarawak by Doria and Beccari. Mr. Sharpe informs me, moreover, that Mr. Hugh Low obtained two beautiful adult birds from Labuan shortly before his departure from the island; it was quite unknown to his native hunters, and was evidently a rare bird there, never having been observed before by him during a long residence.

With regard to its occurrence in the Philippines there is at present some uncertainty, Mr. Vigors having in 1831 described a *Cuculus amethystinus*. On this subject the Marquis of Tweeddale writes:—"Mr. Blyth in 1842 (J. A. S. B. xii. 1. p. 245) expressed himself unable to see in what the Philippine Amethystine Cuckoo, as described by Vigors (*l.c.*), differed from the Javan and Malayan species, and in his 'Catalogue of the Calcutta Museum,' no. 354, identified the two forms under Horsfield's title. But there is no evidence that examples had been compared, and no Philippine example was contained in the Calcutta Museum. All subsequent authors appear to have followed suit, yet without having compared actual specimens. In the 'Conspectus' (i. p. 107) Bonaparte united the two titles, and even left out the Philippine *habitat*. Dr. Cabanis, Horsfield and Moore, Dr. von Martens, Professor Schlegel, and Mr. G. R. Gray all made the same identification, and yet no Philippine examples are recorded as being preserved in any of the Museums these authors had access to."

Cuculus xanthorhynchus, Horsf., extends to Borneo, and it is therefore not of itself improbable that it also occurs in Luzon; but as there is no positive evidence of the fact it is best to keep the two titles separate until the contrary is proved. Following Lord Tweeddale's course I have not added the synonyms of *C. amethystinus* to those of the present species.

The following is a transcript of Er. Horsfield's description in the 'Researches':—

"Entire length six inches and one half. Head and upper parts deep brown, with a beautiful violet reflexion, which in a certain light exhibits a metallic lustre; quill-feathers and four exterior tail-feathers on each side deep blackish brown; three exterior feathers banded with white; the smallest is tipped with white at the end, and the bands are nearly equal in breadth on both vanes; on the second the bands on the external vanes are broader, and on the third they are greatly contracted and confined to the exterior vane. The breast, abdomen, thighs, and axillæ are pale ferruginous, and marked with regular transverse bands of deep brown, on which a metallic lustre is occasionally perceptible. The plumes of the front and crown of the head are capable of being elevated to a very slight crest."

According to Beccari's original notes the soft parts are coloured as follows:—

"Iris blood-red; bill yellow, orange towards the base; eyelids red."

The principal figure in the accompanying Plate represents an adult bird of the natural size.



INDICATOR XANTHONOTUS.

Yellow-rumped Honey-guide.

- Indicator xanthonotus*, Blyth, Journ. As. Soc. Beng. xi. p. 166 (1842), xiv. p. 198 1845.—Jerd. Ill. Ind. Orn. pl. 1. (1847).—Blyth, Cat. B. Mus. As. Soc. p. 65 (1849).—Bp. Consp. i. p. 100 (1850).—Jerd. B. Ind. i. p. 306 (1862).—Cab. & Heine, Mus. Heine, Theil iv. p. 5, note (1862).—Blyth, Ibis, 1866, p. 357.—Gray, Hand-l. B. ii. p. 205 (1870).—Jerd. Ibis, 1872, p. 10.—Hume, Str. F. 1873, p. 313.—Stoliczka, tom. cit. p. 425.—Sharpe in Rowley's Orn. Misc. i. p. 206 (1876).—Hume, Str. F. 1879, p. 88.
- Indicator radcliffi*, Hume, Ibis, 1870, p. 529.
- Pseudofringilla xanthonotus*, Hume, Str. F. 1873, p. 314.
- Pseudospiza xanthonotus*, Sharpe, in Rowley's Orn. Misc. i. p. 207 (1876).

THE Honey-guides are better known in Africa than in India or any other part of the Old World; several species inhabit the former continent, and their habit of conducting people to bees' nests has gained them the familiar appellation by which they are now universally known. In the Himalayas they are represented by the bird now figured, while in Malacca a second species (*I. malayanus*) occurs, which is again replaced in Borneo by a third species, *I. archipelagicus*. These three Honey-guides are all extremely rare, and it is very doubtful whether they are really congeneric with the Honey-guides of Africa. Mr. Hume has already pointed out some structural differences in the Indian birds, and it may be found necessary to separate them generically from their African relatives.

The following description is copied from the article on *Indicator* published in the late Mr. Dawson Rowley's 'Ornithological Miscellany':—

"*Adult male*. Forehead, chin, and cheeks silky golden-yellow; back and sides of the head and neck, and interscapular region, blackish brown, every feather margined with olive-yellow. If the feathers of the head and neck (but not of the interscapular region) are lifted, their basal halves will be found to be yellowish white. The wings and scapulars are black, or at any rate so deep and black a brown that most people would call them black; and all the coverts and quills, except the first few primaries, are conspicuously margined with bright olive-yellow; the tertiaries and longer scapularies with a conspicuous marginal white stripe on the inner webs; the tail black, the outermost tail-feathers (which are narrow, pointed, and 0·8 inch shorter than the next pair) broadly tipped with white or greyish white, and with a streak of the same running up the shaft, the next pair (which are about 0·3 inch shorter than the rest of the tail) similar, except that the white tipping is confined to the inner web. Central portion of middle and lower back and rump bright orange-yellow, the basal portions of the feathers paler, and many of them with a dusky streak or spot; sides, rump, and upper tail-coverts black, some of the longest of the latter margined with yellowish white. Breast dusky, with an olivaceous tinge, and the feathers obscurely margined with olive-yellow; edge of wing, wing-lining, and axillaries silky yellow to yellowish white. Abdomen dull brown, the feathers broadly margined with brownish white; flanks, vent, and lower tail-coverts blackish brown, the feathers conspicuously margined with dull somewhat yellowish white; the third quill is the longest, the second a hair's breadth at most, and the first and fourth less than 0·1 inch shorter than the third; the tarsus is between 0·5 and 0·6 inch in length, and is feathered in front for its upper three fifths (Hume); eye small, the iris dark brown, the naked space round the eye a very pale green; bill yellow, somewhat dusky towards the tip; at the base of both the upper and lower mandible as well as on the chin there are black bristles; but none exist above the nostrils, which are large, triangular, and swollen; feet pale greenish horny. Total length a little above 6 inches, wing 4, bill at front 0·31, from gape half an inch (Stoliczka)."

For the opportunity of figuring this species I am indebted to Major John Biddulph, who kindly lent me a specimen which was given to him by the late Mr. Mandelli from Native Sikkim.

[R. B. S.]



MEGALAIMA NUCHALIS, Gould.

MEGALÆMA NUCHALIS, Gould.

Embroidered Barbet.

Megalæma nuchalis, Gould in Proc. of Zool. Soc. 1862, p. 283.—Swinh. in Ibis, 1863, p. 387.
Hoë-kwa-cheow (Embroidered Bird) of the Chinese colonists (Swinhoe).

I SUSPECT that the ingenuity of man would have been sorely taxed had he been required to ring the changes in spots, markings, and colourings which we see displayed in the various species of the genus *Megalæma*; not so with nature, for in no instance has the arrangement of colours been more beautifully diversified than in the various species of this form. In structure the Barbets are as isolated as any genus of birds in the whole range of ornithology; to a certain extent they are allied to the *Sittinæ*, while their zygodactyle feet remind us of the *Picidæ*, and their colouring of the *Phyllornes* and *Psittacidæ*. In their food they are omnivorous, feeding, as they are said to do, on insects and their larvæ, young birds, fruits, and berries; insects, however, are their most favourite diet, or that which is most freely taken.

About twenty species of these curious birds have been characterized: some of these inhabit India proper, from the Himalayas to Cape Comorin, and, on the eastern side, from Bootan to Malasia; one or two more frequent the forests of Southern China; others are peculiar to the Island of Ceylon; Sumatra, Java, and Borneo are tenanted by several not found in other countries; and the Island of Formosa furnishes one which differs so considerably from all those previously known that I have had no hesitation in pronouncing it to be new: it is the bird here represented, and to which I have given the name of *Megalæma nuchalis*. In size it is intermediate between the larger and smaller members of the genus, which vary in dimensions from the size of a Sparrow to that of a Jay.

I must now turn to Mr. Swinhoe's notes for some information respecting the bird as observed by him in the country of which it is a native, the Island of Formosa:—

"The only species of this genus known from South China is the great *M. virens*, which is also numerous in some parts of India. In Formosa it is represented by this smaller but more lovely species, the *Hoë-kwa-cheow*, or Embroidered Bird of the Chinese colonists. This Barbet is a true forest-bird, frequenting the higher mountains of the interior, where it may be met with in great abundance, though generally scattered through the wood singly or in pairs. It affects the highest branches of large trees, sitting solitary and often motionless for hours together. From the colouring of its plumage being very similar to that of the general foliage of the trees, it would often be passed by unnoticed, did not its loud and discordant voice indicate its presence. When seen flying from tree to tree, it looks like a cross between an Oriole and a Parrot, if such a thing could be imagined. It feeds on berries, and occasionally on insects; also, I am told, on small birds."

The sexes appear to be alike in size and colouring. Forehead greenish yellow; immediately before the eye a small patch of red; posterior to the eye a broad, and below the eye a narrow stripe of deep blue; throat sulphur-yellow; remainder of the cheeks, ear-coverts, back of the neck, and a band across the lower part of the throat pale greenish blue, to which succeeds a band of red, separating the sulphur-yellow of the throat from the yellowish green of the under surface; upper surface, wings, and tail green, with an obscure patch of red on the mantle; primaries blackish brown, externally margined with green; "bill light bluish grey at the base of the upper and on the basal half of the lower mandible, the rest deep greyish black; legs leaden grey, with a tinge of green; sole-pads dingy brownish; claws brownish white, greyish black on their arches and sides; irides reddish brown" (Swinhoe).

The figures are of the size of life.



MEGASCOPS FRANKLINII

MEGALÆMA FRANKLINII.

Franklin's Barbet.

Bucco Franklinii, Blyth, Journ. Asiat. Soc. Beng., vol. xi. p. 167; vol. xv. p. 13.

Megalaima Franklinii, G. R. Gray, Gen. of Birds, vol. ii. p. 430, *Megalaima*, sp. 25.—J. E. Gray, Cat. of Spec. and Draw. of Mamm. and Birds pr. to Brit. Mus. by B. H. Hodgson, Esq., p. 114.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 68.—Bonap. Consp. Gen. Av., tom. i. p. 144, *Megalaima*, sp. 24.—Tickell, Journ. Asiat. Soc. Beng., vol. xxiv. p. 278.

Bucco igniceps, Hodgs. in Gray's Zool. Misc., 1844, p. 85.

Cyanops Franklinii, Horsf. & Moore, Cat. of Birds in Mus. East Ind. Comp., p. 643.—Jerd. Birds of India, vol. i. p. 314.

Kattak-pho, Lepcha (Jerdon).

As there is no other species of Indian Barbet with which this fine bird can be confounded, I am somewhat surprised at the very different descriptions of its notes recorded by two of our best Indian ornithologists, Mr. Jerdon and Major Tickell, the former stating that its cry is something like *kattak-kattak-kattak*, and the latter that the hills resound with its *piow-piow-piow*.

It will be seen that Mr. Hodgson described this bird under the specific name of *igniceps*, a term which, if it could be used, would be a most appropriate one; but the law of priority forbids its adoption, that of *Franklinii* having been applied to it by Mr. Blyth two years earlier. Its native country is the southern slopes of the Eastern Himalayas, particularly Nepaul and Sikkim; varied indeed are the colours of these strange zygodactylous birds, some being of an exceedingly sombre hue, while others have rich green bodies and their heads fantastically decorated with red, blue, and yellow. Unlike most highly decorated birds both sexes are alike in their tints and markings, so much so that dissection is necessary to determine which are males and which are females; the young, during their first autumn, however, are much less adorned, a general uniformity in the green tint prevailing in birds of that age.

The following brief notes are all, I believe, that has yet been recorded respecting this gay species:—

Mr. Jerdon informs us that "this handsome Barbet is very common at Darjeeling at an altitude of from four to eight thousand feet and upwards. Its usual cry is something like *kattak-kattak-kattak*. It lives entirely on fruit, and is found from Nepaul, through Sikkim to Assam, Arakan, and Tenasserim, where Tickell says it is much more abundant than at Darjeeling; but Mr. Blyth tells me that during his rambles in Burmah he only met with two species of Barbet, *lineatus* and *indicus*."

Captain Tickell states that this Barbet swarms in the mountainous parts of Tenasserim at an elevation of from three to five thousand feet, not higher nor lower, that from the first level it suddenly and entirely supplants *M. lineata*, and that, as long as day lasts, the woods amongst the Dauna hills resound with its cry *piow, piow, piow*, &c. Is it not probable that Major Tickell has mistaken the note of some other bird for that of this species? since the Lepcha name is *Kattak-pho*.

Forehead and centre of the occiput scarlet, inclining to crimson; centre of the crown fiery glistening orange; space surrounding the orbit and a broad stripe from above the eye down the side of the neck deep black; chin bright orange, stained near the bill with scarlet, and passing, on the lower part of the throat and ear-coverts, to light-grey; upper surface green, with a lighter edge to many of the feathers; those of the nape lighter and with a glossy stripe down the centre of each; wings and tail dark green; edge and shoulder of the wing deep blue; primaries and secondaries black, the first two or three primaries edged on the basal portion of the external web with green; the rest and the secondaries broadly margined externally with green, and internally with straw-yellow, which is also the colour of the under surface of the shoulder; under surface of the body pale green; bill blackish above, lead-colour beneath, both mandibles becoming nearly white at the base; orbital skin lead-colour; irides brown; legs greenish slate-colour.

The figures are of the natural size.



PELECANUS ERYTHROCHALCUS.

Temple and H. C. Deane del. et lith.

Water. Imp.

PHLOGÆNAS CRUENTA.

Red-breasted Pigeon.

La Tourterelle grise ensanglantée, Sonn. Voy. a la Nouv. Guin., p. 52, pl. 21.

— *blanche ensanglantée*, Sonn. Id., p. 51, pl. 20.

Red-breasted Turtle, Lath. Gen. Syn., vol. iv. p. 657.

Sanguine Turtle, Lath. Id., p. 657, and Gen. Hist., vol. viii. p. 91.

Columba cruenta, Gmel. Edit. Linn. Syst. Nat., tom. i. p. 785.—Lath. Ind. Orn., vol. ii. p. 611.

— *sanguinea*, Gmel. Id., p. 785.—Lath. Ind. Orn., vol. ii. p. 611.

Columbi-galline poignardé, Knip et Temm. Les Pig. part ii (Les Colombi-gallines), p. 16, pl. 8 et pl. 9, var.

Columba luzonica, Scop. Del. Flor. et Faun. Insul.

— *nivea*, Scop., var.

Red-breasted Pigeon, Lath. Gen. Hist., vol. viii. p. 90.

Calenas luzonica, Gray, List of Spec. of Birds in Coll. Brit. Mus., part iii. p. 18.

Calenas ? luzonica, Gray, Gen. of Birds, vol. ii. p. 478, *Calenas*, sp. 3.

— *cruenta*, Cab.

Phlogœnas luzonica, Reich. Syst. Av., t. cccxv. fig. 1265, var., et tab. cccxvii. f. 2479.

Phlegœnas cruenta, Bonap. Consp. Gen. Av., tom. ii. p. 88, *Phlegœnas*, sp. 1.

Phlogœnas cruenta, Sclat. in Proc. of Zool. Soc., 1863, p. 377.

Phlegœnas luzonica, Wall. Ibis, 1865, p. 392.

AMONG the many advantages afforded to the ornithologist by the unrivalled collection of birds contained in the menagerie of the Zoological Society of London, are the opportunities given him from time to time of becoming acquainted with living examples of species of which probably he had before only seen but indifferent skins; he is thereby enabled not only to observe their individual peculiarities, but to ascertain many details as to their colouring, particularly of their soft parts, which, from their fading immediately after death, could not otherwise be ascertained. The circumstance of several living examples of the old *Columba cruenta* of Gmelin, the Red-breasted Pigeon of Latham, being at this time (March 1866) in the Gardens of the Society, enables me to give a correct delineation of a bird which has been made the type of the genus *Phlogœnas* by Reichenbach—a form of which four species are all that are known. They are all insular birds, being natives of Manilla, Java, Sumatra, the Celebes, and New Guinea. The one here represented is said to be from the Philippines, but from which of them is still uncertain, although we have been aware of the existence of the bird for nearly eighty years; Latham merely says:—"Perouse met with these, which he called 'Stabbed Doves,' at Morvula, one of the Philippine Islands." Judging from the living examples in the Zoological Society's Gardens there appears to be little or no outward difference in the sexes. Like many other members of the *Columbidae* or family of Pigeons, they readily become accustomed to captivity; and if any foreign species could be domesticated and acclimatized in this country, the Red-breasted Pigeon seems to be the one with which the experiment would be most likely to succeed, as their long legs would indicate them to spend much of their time on the ground.

Forehead and crown delicate grey; occiput and hinder part of the neck deep violaceous grey with purple reflexions; back, scapularies, lesser wing-coverts, and sides of the breast slaty grey with purple and red reflexions, each feather with a lunate mark of metallic green at the tip; throat and breast white below, while all the under surface is of a clear pale cinnamon hue, at the junction of the two colours a large patch of blood-red, giving the bird a wounded appearance, whence the specific name; middle and greater wing-coverts reddish purple for three-fourths of their length, their tips being grey and forming three bands across the wing; the primaries and secondaries deep greyish brown, narrowly margined with reddish; two middle tail-feathers greyish brown, the remainder grey at the base, crossed in the middle by a band of black and tipped with ash-grey; irides dark brown; bill blackish brown; nostrils grey; legs and feet purplish red.

The figures are of the size of life. The plant is the *Sonerila margaritacea*.



PHALOGONAS CRINITERA.

See also, vol. II. C. 18, p. 10, 11.

Holzer, Eng.

PHLOGÆNAS CRINIGERA.

Maroon-breasted Pigeon.

Peristera criniger, Homb. et Jacq. in Dum. d'Urv. Voy. au Pôle Sud, Zoologie, tom. iii. p. 118, Atlas, pl. 27, fig. 2.

Pampusanna criniger, Puch.

Peristera criniger, Reich. Syst. Av., tab. celix. fig. 2596.

Phlogænas criniger, Bonap. Consp. Gen. Av., tom. ii. p. 88, *Phlogænas*, sp. 3.

Phlogænas Bartletti, Sclat. in Proc. Zool. Soc., 1863, p. 377. pl. xxxiv.

——— *criniger*, Puch., Sclat. in Proc. Zool. Soc. 1865, p. 239.

Phlogænas criniger, Wall. Ibis, 1865. p. 392.

IN a paper by Mr. Sclater on some new and interesting animals recently acquired by the Zoological Society, read at their meeting on the 10th of November, 1863, this species was regarded as new to science, and characterized by him as *Phlogænas Bartletti*; but at a subsequent meeting he stated that he had found that this was not the case, the bird having been described some years previously in the "Zoologie" of Dumont d'Urville's 'Voyage au Pôle Sud.' Mr. Sclater added that its native country is Soog, one of the Soolo Islands, a locality also assigned to it by Mr. Wallace. Of the history of the species nothing appears to have been recorded; Mr. Sclater's notes on its breeding in the Society's Gardens will, therefore, have additional interest.

"The four living examples," says this gentleman, "which adorned the menagerie of the Zoological Society at the end of 1863, were purchased at Liverpool in the preceding August.

"In the spring of 1864 the single male paired with one of the three females, and bred five times during the summer of that year. The female deposited only one egg on each occasion, making a very slight nest of small sticks in a flat basket placed eight feet from the ground. The period of incubation was fifteen days. Two of the young birds were successfully reared; two others died immature, and are now in the British Museum; on the remaining occasion the egg was added. The parent bird died soon afterwards; but as the old male again mated with another female, and the young male shows symptoms of wishing to pair, there is every prospect of continuing to propagate this highly interesting species in our aviaries."

The *Phlogænas criniger* is very nearly allied to the *P. cruenta*, but has the pectoral mark much larger, and of a maroon- or chocolate-red instead of blood-red; the head and neck of a metallic green instead of black-colour; and the back and shoulders of a rich brown instead of slate-colour.

The sexes appear to differ but little in outward appearance.

Head, back, and sides of the neck glossy green, gradually blending with the deep chestnut-red of the back, scapularies, upper tail-coverts, and central tail-feathers; throat white; under surface pale cinnamon, at the junction of the two colours a large spot of deep maroon-red; lesser wing-coverts grey, greater coverts deep chestnut-red, largely tipped with grey, forming three bands across the wing; primaries dark brown, edged with chestnut; secondaries reddish chestnut; lateral tail-feathers dark grey, crossed by a broad band of black near the tip; irides dark brown; bill blackish brown, nostrils grey; legs and feet purplish red.

The figures are of the natural size. The plant is the *Gynura bicolor*.



OTTOPHAPS NOBILIS, Gould.

Specimens of the species.

Water, Egg.

OTIDIPHAPS NOBILIS, *Gould.*

Otidiphaps.

Otidiphaps nobilis, Gould, in Ann. and Mag. Nat. Hist., 1870, vol. v. ser. 4, p. 62; and Proc. Zool. Soc., 1870, p. 4.—Sclat. Proc. Zool. Soc., 1870, p. 157.—G. R. Gray, Hand-list of Birds, part ii. p. 246.

The accompanying Plate represents one of the most remarkable birds I have ever had the pleasure of making known to the scientific world—and one so totally different from every other form previously characterized that I made it the type of a new genus (*Otidiphaps*), with the following characters:—

Size large, surpassing that of a Wood-pigeon (*Columba palumbus*); bill longer than the head, straight, and Plover-like; wings short and round, armed with a spur at the shoulder; tail-feathers twenty (!) in number, round and moderately long; tarsi very long for a Pigeon, and with the toes covered with thick plate-like scales; nails somewhat straight and pointed; general structure adapted for the ground rather than for trees or for flight.

The native country of this bird is not positively known; but we may presume that it inhabits the same localities as the other birds contained in the collections mentioned below, of which it formed a part.

Those ornithologists who are acquainted with *Didunculus strigirostris* will not fail to observe that this fine species exhibits a certain similitude both in structure and colouring to that extraordinary bird, which, as well as the present one, must, in my opinion, be placed in the great family of the *Columbidae* or Pigeons, notwithstanding that the length of their legs would lead to a different conclusion. Of its habits and economy nothing is known, and two examples are probably all that have yet been collected. It is a bird of great beauty, and by no means inelegant in structure.

I obtained the specimen from which my figure was taken of a dealer in bird-skins, who could not inform me of the precise locality in which it was collected; but as it was accompanied by *Paradisea papuana*, *Epimachus maximus*, many specimens of *Semioptera Wallacei*, and *Pitta marina*, it was probably procured on some one of the islands of the Eastern Archipelago, perhaps Gilolo.

At the meeting of the Zoological Society of London held on the 24th of March, 1870, "Mr. P. L. Sclater exhibited a coloured drawing, forwarded to him by Dr. S. Salvadori, Corresponding Member of the Society, representing a bird which that naturalist had proposed to describe as a new genus and species of Megapode, whereof," remarked Mr. Sclater, "was evidently the singular Pigeon recently named by Mr. Gould *Otidiphaps nobilis*. Dr. Salvadori had received the specimen in a box of skins bought at Singapore, but stated to have been brought from Macassar. All the other birds in the box (fifty-eight in number, belonging to forty different species), except one, were well-known inhabitants of New Guinea and the neighbouring islands."

Bill red or fleshy red, particularly on its basal portion; round the eye a bare space, which appears to have been of the same colour; crown of the head and occipital crest black, with steel-blue reflections; back of the neck resplendent glaucous green; breast and under-surface purple; back and wings rich chestnut, with violet reflections when viewed in certain lights, and passing into golden bronze at the nape; rump and upper tail-coverts rich purplish blue; tail-feathers twenty in number, of a blackish green; legs yellow or reddish yellow.

Total length 16 inches; bill $1\frac{1}{2}$, wing 7, tail $6\frac{3}{4}$, tarsi $2\frac{3}{4}$.

The figures represent the bird in two positions, about the natural size.



COLUMBA RUPESTRIS, *Pall.*

COLUMBA RUPESTRIS.

Mongolian Rock-Pigeon.

Columba aenas, var. *δ. rupestris*, Pallas, Zoogr. Rosso-As., i. p. 560.

— *rupestris*, Bp. Consp. Gen. Av., ii. p. 48.—Gray, List of Columbæ, 1856, p. 29.—Swinh. P. Z. S., 1863, p. 306.—Jerdon, B. Ind., iii. p. 470.—Swinh. P. Z. S., 1870, p. 434, 1871, p. 397.—Gray, Hand-list B., ii. p. 232.—Taczan. J. f. O., 1873, p. 97.

— *leucozonura*, Swinh. Ibis, 1861, p. 259.

— *rupicola*, Hume, Lahore to Yarkand, p. 273.

This is the eastern representative of the Rock-Pigeon of Europe (*Columba livia*), which it replaces throughout Eastern Asia. Severtzoff has procured it in Turkestan, and, during the first Yarkand Expedition, Dr. Henderson met with it in Ladak. "One specimen," he writes, "of this species was procured at Lé on the 4th of July, where enormous flocks of Pigeons were observed; but it was not at the time discriminated, and it is not certain whether these colonies consisted entirely of this species, or whether other species were intermingled in the flock."

Regarding its distribution in India, Dr. Jerdon observes that it was procured by Major Boys in Kumaon, "where it is known as the Pale Blue Rock-Pigeon. It is also, perhaps, as suggested by Blyth, the Hill-Pigeon of Mussooree, which is said in summer to fly in small flocks to the Deyra Doon in the morning, returning to the hills in the evening; and it is certainly the pied variety of the Blue Pigeon observed by Adams in Ladak." Commenting on the above passage Mr. Hume remarks:—"This species never occurs near Massuri, nor in any other part of the Himalayas, to the best of my belief, below 12,000 feet."

Pallas originally discovered this Rock-Pigeon in Dauria, and there is a specimen in the British Museum from the same locality. Dr. Dybowski says that in Eastern Siberia it "lives in a semidomesticated condition, nesting in the roofs of houses and in clefts and fissures of the rocks. It breeds more than once in the year, and the males court the hen birds all the year round. The latter begin to nest in February, and finish in September. The 'coo' of the male is somewhat different from that of the European Rock-Dove, and the flight more rapid, so that the Sparrow-Hawk cannot overtake it. In the villages Cats, and among the rocks the large Eared Owl (*Bubo sibiricus*), create the greatest ravages among them."

Père David met with the species in Thibet; and Mr. Swinhoe gives its habitat as "North China" in his latest list. The latter gentleman, in his paper entitled "Zoological Notes of a Journey from Canton to Peking and Kalgan," writes as follows:—"On the 6th of July we visited a large cave about a mile from our temple. It is on the side of a low hill which stands alone. Its mouth is about 20 feet in diameter, opening into an abyss floored with broken rocks, among which water has collected. Its internal dimensions are large; but it offers no means of entrance. Along the walls of its interior the rock was broken into shelves; and here the Rock-Pigeon (*C. rupestris*, Bp.) resorted in hosts to rear its young, and find a cool retreat from the noonday sun. A shout and a few stones thrown in brought them out in swarms." Again, in his account of the "birds observed about Talien Bay," Mr. Swinhoe describes the present bird as *C. leucozonura*, and observes:—"This Rock-Pigeon, at once distinguishable from *C. livia* by its white tail-band, its purple breast, and the reversion of the resplendent tints that adorn the neck, is found in immense numbers in Talien Bay, where the precipitous rocks abounding in dark limestone caverns afford it a safe retreat and present it with cradles for the rearing of its young. The caverns these birds generally choose were dark and unwholesome-looking, with the damp trickling from the roof. In these places out of arm's reach the Pigeons chose rocky ledges to place their stick-built nests on; rude constructions they generally were. You never watched long before seeing some bird either going or returning with food. They mostly went on these excursions several together, and dashing by with rapid flight, made for the fields of newly-planted grain, into which they would drop and commence to search for food. On our first landing we found no difficulty in approaching to within a few yards; but they very soon learnt to dread the gun. The ships of war that visited this bay during early spring, report these birds as wandering about the country, associated in immense flocks. One officer, I was informed, brought down thirteen at one shot."

I may, in conclusion, remark that Professor Schlegel considers the present species to be only one of the many varieties of the ordinary *C. livia*; and, in his lately published list of the Columbæ in the Leiden Museum (p. 64), he mentions specimens from Lake Baikal, Amoy, and Japan; but he says nothing to indicate that they are *C. rupestris*, excepting in the case of the Baikal examples.

The figure in the Plate is life-sized.



COLUMBA LEUCONOTA, Vig.

COLUMBA LEUCONOTA, Vig.

White-bellied Pigeon.

Columba leuconota, Vigors, P. Z. S., 1830-31, p. 23.—Gould, Cent. Himal. B., pl. 59.—Knip & Temm. Pigeons, ii. pl. 50.—Jerd. B. Ind., iii. p. 471.—Gray, Hand-l. B., ii. p. 232.—Henders. & Hume, Lahore to Yark., p. 274. Schl. Mus. P.-B. *Columba*, p. 69.—Giebel, Orn. Thes., p. 745.

This Pigeon is not figured here as a bird of novel or startling interest, for a plate has already appeared in my 'Century of Himalayan Birds;' but the species is so peculiar and well-marked that no work on Asiatic birds would be complete without it. At the same time it gives me the opportunity of bringing forward some of the notes which have appeared respecting the species since the appearance of the above-mentioned work.

It seems to be almost exclusively found in the Himalayas, where, Dr. Jerdon says, it is met with "chiefly towards the north-west, and is stated to frequent rocky heights and sequestered valleys, from 10,000 feet to the snow-level, in large parties. It feeds in the fields, returning to the rocks to roost, and is said to be shy and wary." Mr. Hume adds the following information respecting its range:—"During the summer this species is, doubtless, as Dr. Jerdon remarks, chiefly found at heights of from 12,000 to 14,000 feet, far in the interior of the Himalayas; but during the winter it descends to the lower ranges, is common about Simla, Massuri, Murree, &c., and the valleys below them, at elevations of from 3500 to 7000 feet, and occasionally stragglers are killed quite at the foot of the hills. This species is not confined to the north-west. I have it from the Sutlej valley, east of Chini, from Kumaon, beyond the Dhuj, on the borders of Nepal, and again from the hills north of Darjeeling, but from exactly what locality I am ignorant."

Dr. Leith Adams found the species to be "gregarious; common in certain sequestered mountain-valleys on the northern Cashmere ranges. Seen often with *Columba intermedia* feeding in fields in the Wurdwan valley; it was met with in Ladakh on one occasion." Dr. Henderson also procured it in the last-mentioned country; and he observes:—"A single specimen was obtained in June near Dras, where it was very abundant."

The characteristics of the species are so clearly shown in the life-sized figure opposite that I do not add a more detailed description.



COLUMBA INTERMEDIA, Strickl.

COLUMBA INTERMEDIA, Strickl.

Indian Rock-Pigeon.

- Columba intermedia*, Strickl. Ann. & Mag. Nat. Hist. xii. p. 39 (1844).—Kelaart, Prodrum, Cat. p. 130 (1852).—Layard, Ann. & Mag. Nat. Hist. xiv. p. 59 (1854).—Reichenb. Vollst. Naturg. Tauben, p. 57, pl. cxxxi. fig. 1249.—Gray, List Columbæ Brit. Mus. p. 29 (1856).—Bp. Consp. ii. p. 48 (1857).—Jerd. B. Ind. iii. p. 469 (1864).—Schomb. Ibis, 1864, p. 250.—Blyth, Ibis, 1867, p. 149.—Gray, Hand-l. B. ii. p. 232 (1870).—Swinh. Proc. Zool. Soc. 1871, p. 396.—Holdsw. Proc. Zool. Soc. 1872, p. 46.—Hayes-Lloyd, Ibis, 1873, p. 414.—Hume, Stray Feathers, 1873, p. 217.—Ball, op. cit. 1874, p. 425.—id. 1875, p. 208.—Hume, Nests & Eggs Ind. Birds, p. 499 (1875).—Legge, Ibis, 1875, p. 400.—Butler, Str. Feathers, 1876, p. 3.—Fairb. tom. cit. p. 262.—Dresser, Ibis, 1876, p. 321.—David & Oustalet, Ois. de la Chine, p. 384 (1877).—Hume, Str. Feathers, 1878, pp. 16, 419.—Davison & Wenden, Str. F., 1878, p. 86.—Ball. tom. cit. p. 224.—Cripps, tom. cit. p. 296.—Legge, Birds of Ceylon, p. 698 (1879).
- Columba livia*, var., Blyth, Cat. B. Mus. As. Soc. p. 233 (1849).—Schlegel, Mus. Pays-Bas, *Columba*, p. 63 (1873).
- Columbaenas*, Burgess, Proc. Zool. Soc. 1855, p. 234.
- Columba livia*, Adams (nec Linn.), Proc. Zool. Soc. 1859, p. 187.

It is doubtful whether the present species ought to be considered any thing more than a race of the ordinary European Rock-Pigeon (*Columba livia*); for it appears certain that intermediate forms are often met with. The great difference between the European and the Indian bird consists in the absence of any white on the rump of the latter. The Indian Rock-Pigeon seems to be widely distributed over the whole of the Indian peninsula and Ceylon, extending into Scinde on the north-west, and as far east as Siam.

Dr. Jerdon writes:—"The Blue Pigeon of India is one of the most common and abundant birds throughout the country, congregating in large flocks, and breeding wherever they can find suitable spots. They are most partial to large buildings, such as churches, pagodas, mosques, tombs, and the like, frequently entering verandahs of inhabited houses and building in the cornices. Holes in walls of cities or towns, too, are favourite places; and in some parts of the country they prefer holes in wells, especially, I think, in the west of India, the Deccan, &c. In default of such spots they will breed in crevices and cavities of rocks, caverns, and sea-side cliffs; and I have often noticed that they are particularly partial to rocky cliffs by waterfalls. The celebrated falls of Gaisoppa are tenanted by thousands of Blue Pigeons, which here associate with the large Alpine Swift. It is more rare in forest countries generally than in the open country. It extends from Ceylon throughout India to the Himalayas, and also to Assam, Sylhet, and Burmah. It is doubtful if it occurs in Afghanistan, or in other parts of Central Asia. These Pigeons are held in favour by most natives, and almost venerated by some; and if they build in the house of a native, he considers it a most fortunate omen. They are, however, very destructive to grain, assembling in vast flocks in the cold weather; and, in general, the natives do not object to their being shot. They are undoubtedly the origin of most of the domestic Pigeons of India."

Mr. Hume says that the breeding-season in India lasts from Christmas until May day, and observes as follows:—"The nest is chiefly composed of thin sticks and twigs, but is often more or less lined with leaves of the tamarisk, feathers, &c. When undisturbed, they will breed in incredible multitudes. At the grand old fort of Deig, in Bhurtpoor, where, as in most parts of Rajpootana, they are sacred and even a European who molested them would risk his life, several hundred thousand pairs must live and breed; a gun fired on the moat towards evening raises a dense cloud, obscuring utterly the waning day, and deafening one with the mighty rushing round of countless strong and rapidly-plied pinions."

Captain Legge, who has given a very full account of the distribution and habits of this species in his 'Birds of Ceylon,' publishes the following note:—"In Ceylon the Blue Rock-Pigeon is essentially an inhabitant of out-of-the-way, wild, and little-frequented spots; the country does not, like India, abound in inland walled towns, temples, and pagodas, which there, are the natural resort of this species; and it is consequently driven to such rocky localities as I have alluded to above, and is not, therefore, nearly such a well-known bird as in India. The eastern and northern divisions of the island, however, teem with so many remarkable rocky masses, towering far above the circumjacent forests, such as the Friar's Hood, 'Westminster Abbey,' the Elephant rock, the 'Gunner's Coin,' Sigiri and Dambulla rocks, Rittagalla, Mahintale, and a host more of nature's mighty castles, the very resorts of all others for the 'Blue Rock,' that it has always been a wonder to me that the species is not far more numerous than it is, the only solution of the problem being that these natural strongholds are situated too much in forest-country; besides

which there is a lack throughout Ceylon of the extensive cultivated tracts which are necessary to the existence of this Pigeon.

"The island off Nilāvele is a mass of rock, its coast-line consisting of enormous boulders, and its summit divided by large crevices into huge 'humps' of stone, on which, as well as on the surrounding masses, the Pigeons perch in scores. They fly across to the mainland in the early morning, and make their incursions over the adjoining paddy-fields, returning about noon to their stronghold, where, though they are difficult to approach, when not feeding they seem to evince little fear, owing probably to their being crammed with food. On the occasion of a visit to this spot with a friend we shot numbers, but did not succeed in driving away the flock; for they flew round and round over the water, and speedily realighted on the rock. About 3 o'clock they start off again to the mainland, flying very strongly; and they may be met with almost everywhere along the adjoining sea-board during the afternoon. I have seen two or three at times feeding on the salt flats around the Nilāvele lake; but what they were picking up I do not know. They are very destructive to the paddy, and devour an enormous quantity at a time, extending their crops with it to such an extent, that I have taken a moderately sized salt-cellar full from a specimen I was skinning."

The principal figure in the Plate represents the species of the natural size, and is drawn from a specimen in my own collection.

[R. B. S.]



PALUMBUS ELPHINSTONEI.

Strobel and H. Richter del. et sculp.

Edlin and A. Walton imp.

PALUMBUS ELPHINSTONEI.

Elphinstone's Wood Pigeon.

- Ptilinopus Elphinstonii*, Sykes in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part ii. p. 149.
Columba Elphinstonii, Jerd. Ill. Ind. Orn. pl. xlviii.—Blyth, Drafts of a Faun. Ind. Columbidae, p. 22.
Carpophaga Elphinstoni, Gray and Mitch. Gen. of Birds, vol. ii. p. 469, *Carpophaga*, sp. 27.
Columba Elphinstonei, Fras. Zool. Typ. pl. 59.
Palumbus Elphinstonei, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 233.
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SPECIMENS of this fine Pigeon having been procured in various parts of India, we may fairly conclude that it is very generally dispersed over the Peninsula; Mr. Layard and other travellers have also found it in the island of Ceylon; the Cingalese examples, however, differ from those obtained on the continent in having a more rufous style of colouring, and, if I mistake not, in being of a somewhat smaller size; yet I cannot regard such slight differences as specific, but merely as indicative of a local variation, such as we know to occur among other species.

Of its habits and economy, little is at present known, but they doubtless very much resemble those of its near ally the common Wood Pigeon of Europe, *Palumbus torquatus*.

Colonel Sykes, who gave the name of *Elphinstonii* to this species, in honour of the Honourable Mount-Stuart Elphinstone, formerly Governor of Bombay, states in his valuable "Catalogue of the Birds observed in the Dukhun" above referred to, that it "is rare, and only met with in the dense woods of the Ghauts. It is not gregarious, flies with great rapidity, and feeds upon stony fruits. The sexes are alike in plumage. The lateral skin of the toes is very much developed."

"This handsome Pigeon," says Mr. Jerdon, "I have only hitherto found in the dense woods on the summit of the Neelgherries; but as Colonel Sykes found it in the woods of the western Ghauts, I have no doubt that hereafter it will be ascertained to inhabit all the higher parts of that range of mountains. It is found singly or in small parties of four or five. It generally keeps in the woods, living on various fruits and berries, but it occasionally descends to the ground to procure seeds and shelled mollusks (*Bulimi*), the remains of which I have frequently found in its crop. I am unacquainted with its call or nidification, though it certainly breeds on the Neelgherries."

Head, neck and under surface dark ashy grey, with the fore part of the neck and breast glossed with green; feathers at the back of the neck black, tipped with white, forming a nuchal mark; upper surface chestnut-brown, glossed with purple and green; primaries and tail dull black; irides yellow; bill red at the base, yellow at the tip; feet crimson.

The Plate represents the bird of the natural size, from a sketch suggested by Mr. Wolf.



COLUMBA FULVICOLLIS,

J. Gould, del. W. B. Wood, sculp.

W. B. Wood, sculp.

PALUMBUS PULCHRICOLLIS.

Collared Wood Pigeon.

Columba pulchricollis, Hodgs., Blyth, Journ. Asiat. Soc. Beng. vol. xiv. p. 866.—Gray and Mitch. Gen. of Birds, vol. iii. App. p. 23, App. to p. 470. vol. ii.—Gray, List of Birds in Coll. of Brit. Mus. part iii. p. 9.
Palumbus pulchricollis, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 233.

Mr. HODGSON has done quite right in giving a name to this fine species of Wood Pigeon, differing as it does from every other known. It is nearly allied to the *Palumbus Elphinstonei*, but on the most cursory glance at the drawings of the two birds, their differences will be very apparent; the *Palumbus pulchricollis* being the largest, and in every respect a more beautifully marked species; the neck adorned with a large nuchal band of buff-tipped feathers, and the head clothed in grey of the most delicate hue.

The Collared Wood Pigeon appears to be strictly confined to the Eastern Himalayas, Nepal and Sikim, for it is from those countries only that I have received specimens.

I am indebted to Edward Vernon Harcourt, Esq., not only for skins of this bird, but for many other acts of kindness, particularly in connection with our mutual pursuit, the science of Ornithology.

Head and cheeks very delicate grey, gradually fading into whitish on the front of the throat; on the lower part of the neck a conspicuous collar of feathers, black at the base and largely tipped with glossy buff, fading into cream-white at the extremity; breast, sides and back of the neck brightly glossed with the usual changeable green and reddish purple, the former predominating; upper surface of the body and wing-coverts very dark ashy brown, with the primaries and tail very dark brown; abdomen vinous grey, passing into slate-grey on the flanks; vent and under tail-coverts vinous cream-colour; irides yellow; bill red at the base, yellow at the tip; feet crimson.

The Plate represents the bird of the natural size.



PHILOGENAS TRISTIGMATA.

PHLOGÆNAS TRISTIGMATA.

Branded Pigeon.

Columba tristigmata, Temm. in Mus. Lugd.—Schleg. De Dier., fig. p. 209.

Phlegœnas tristigmata, Bonap. Consp. Gen. Av. tom. ii. p. 88, *Phlegœnas*, sp. 2.—Wall. in Ibis, 1865, p. 393, pl. ix.—G. R. Gray, Hand-l. of Birds, part ii. p. 247.—Wall. Malay Archipel., vol. i. p. 413.

Phlogœnas tristigmata, Wald. Trans. Zool. Soc. vol. viii. p. 85.

THIS very fine and rare species of Pigeon differs very considerably in colouring, from the *Phlogœnas cruenta*, which, according to the late Mr. G. R. Gray, is the type of the genus. On reference to the accompanying plate it will be seen that it is a much larger bird than either of the two nearly allied species, *P. cruenta* and *P. crinigera*, and is moreover rendered conspicuous by the peculiar markings of the under surface of the wings and the flanks—markings which are hidden when the wings are closed, but become very apparent when they are raised, as shown in the drawing. I wish it were in my power to furnish a full account of the habits, manners, and economy of this interesting bird; but, alas! where all is blank, what can we do but wait until some one has again visited its native localities and furnished particulars of them for our information? Had that intrepid traveller Mr. Wallace said any thing on the subject, his account would doubtless have been quoted by Lord Walden in his valuable memoir on the birds of Celebes; he has furnished us, however, with a note of the colouring of the soft parts, which I append to the description of the plumage taken from a specimen in my own collection. Of its habitat, Mr. Wallace says, "Macassar, Menado, Celebes;" and adds, "Feeds on the ground and inhabits the drier forests, where it is very scarce."

Specimens of this bird are still so rare in Europe that it is a desideratum to most collections, as is evidenced by there not being one in that of the British Museum.

"Forehead rich buffy yellow, margined laterally with white; hinder part of the head and nape glossy green; face and chin greyish white; behind each ear a patch of deep maroon red; lower part of the neck and mantle grey, glossed with green; upper surface, wings, and central tail-feathers chocolate-brown, glossed on the centre of the back with bronzy purple; lateral tail-feathers slaty grey, crossed near the end with a broad band of dull black; breast-feathers long, loose, hair-like, grey, and gradually blending in front with the buffy yellow which occupies the centre of the breast and abdomen; flanks and axillaries chocolate-brown, each feather tipped with buff; lesser under wing-coverts tipped with buff; greater coverts largely tipped with white; under tail-coverts white, some of them margined with black; bill dusky purplish, apex dark horny; eyelids dull purple; legs carmine red; toes slaty purple; claws pale horny."

The figures are of the size of life.



SYRRIAPTES PARADOXUS.

A. Smith & W. B. Fisher del. et lith.

Water. Eng.

SYRRHAPTES PARADOXUS.

Pallas's Sandgrouse.

- Tetrao paradoxa*, Pall. Itin., tom. ii. p. 712, tab. F.—Id. Zool. Rosso.-Asiat., tom. ii. p. 74.—Gmel. edit. Linn. Syst. Nat., tom. i. p. 755.
- *paradoxus*, Lath. Ind. Orn., tom. ii. p. 643.—Bonnat. Tab. Ency. Méth. Orn., part i. p. 205, pl. 93. fig. 1.
- Syrrhaptes paradoxus*, Ill. Prod. Syst. Mamm. et Av., p. 243.—Temm. Man. d'Orn., 2nd edit. tom. i. p. xciv.—Gray, Gen. of Birds, vol. iii. p. 519, pl. cxxiv.—Bonap. Compt. Rend. de l'Acad. des Sci. tom. xlii. séance du 12 mai 1856.—Moore, Ibis, 1860, p. 105.—Newton, Proc. of Zool. Soc. 1861, p. 203.—Id. Ibis, 1864, p. 185.—Swinh. in Ibis, 1861, p. 341.—Gould, Birds of Great Britain, vol. iv. pl.
- *Pallasii*, Temm. Hist. Nat. des Pige. et Gall., tom. iii. pp. 282-716.
- Heteroclitus Tataricus*, Vieill. deux. édit. du Nouv. Dict. d'Hist. Nat., tom. xiv. p. 453.
- Syrrhaptes heteroclitæ*, Vieill. Gal. des Ois., tom. ii. p. 64, pl. 222.
- Heteroclitæ Grous*, Lath. Gen. Syn., vol. iv. p. 753.—Id. Gen. Hist. vol. viii. p. 261.

This singular bird forms so important a feature in the avifauna of Asia that a figure of it must necessarily be included in a work on the birds of that region; I regret, however, to say that I can give no information respecting it beyond what has recently appeared. Mr. Swinhoe, in China, and Herr Radde, in Dauria, have added largely to our knowledge of its range, habits, and economy; and Messrs. Newton and Moore, in the 'Ibis,' and myself, in the 'Birds of Great Britain,' have each had our say with regard to the numbers which a few years ago visited Eastern Europe, Germany, Holland, and the British Islands.

The *Syrrhaptes paradoxus* is a species the individuals of which are unusually numerous; for it is generally seen in flocks of thousands in all the great Tartar Steppes, from Northern China to the Altai. In these elevated regions it takes the place of the numerous species of *Pterocles*, known by the trivial name of Sandgrouse, which are found in Afghanistan, Scinde, the peninsula of India, Persia, Spain, and Africa.

The following account of this singular species is compiled from the communications to the 'Ibis,' which the irruption of a number of examples into this country, and other parts of Europe above mentioned, have called forth from the pens of Mr. T. J. Moore, of the Derby Museum, Liverpool, and A. Newton, Esq.

"The *Syrrhaptes paradoxus* was first made known by Pallas (to whose notice it was brought by Nicolas Rytschoff) as a dweller on the Kirghish steppes, which may be taken as extending eastward from the northern half of the Caspian Sea to the regions around Lake Balkach.

"Dr. Edward Eversmann tells us that the *Syrrhaptes* is found on the lofty steppes of the Southern Altai Mountains, on the upper course of the Tschuja, in the neighbourhood of the Chinese outposts. The Mongols there call it *Nukturu*; the Dwojedanzees, *Altin*; the Kirghiz Tartars on the Aral Sea, *Buldruk*; and the Russians, *Sadscha*.

"Gustav Radde, a traveller who has had great opportunities of observing the habits of *Syrrhaptes paradoxus* towards the more eastern limits of its breeding-range, passed the spring of 1856 in the basin of the Tarai-nor, a lake situated in Dauria, about 50° N. and 116° E. from Greenwich. He remarks particularly, in his 'Berichte über Reisen in Süden von Ost-Sibirien,' on the favourable character of the district for the resort of migratory birds, among which *Syrrhaptes* is one of the earliest to appear, arriving paired, but keeping in flocks, on the 22nd of March. Three days afterwards, while the winter's snow was yet lying on the hillocks of the high steppes, these birds were living in small societies but always paired, on the adjacent salt-plains, from which they resorted early in the morning to the fresh-water springs of the Tarei to drink; there they remained until about nine o'clock in the day, when they repaired to the white salt-pans, among which are some slight elevations covered with grass. On these they scraped shallow pits and sat therein, passing the rest of the day in quiet, some sleeping, others walking about and plucking the young shoots of the *Salicornice*, unless disturbed by a Falcon, when they instantly took wing and, after several ringing flights, made off, alarming as they went their nearest comrades, who followed their example, until the air was filled with countless small flocks. Just as quickly as their quiet was disturbed was it again restored. They began to descend, at first timidly, and then settled down on the elevations, keeping so still that, owing to the colour of their plumage, they could hardly be seen. The nest is composed of the down of grasses, placed among sand and stones under a bush. The eggs are four in number, of a reddish-white colour, spotted with brown. The female quits her nest only at the last extremity. On the 12th of May the first young were hatched, and by the 27th a second brood of eggs was laid.

"About the second week in June, according to our reckoning, Herr Radde made an excursion to the island of the Tarei, passing over a high steppe, in the course of which he met with numerous bands of *Syrrhaptes*, and two great flocks, each consisting of at least a thousand birds; but they were so shy that neither on

horseback nor by stalking could he approach them. After being many times disturbed they betook themselves, flying with no small noise, to the bank of the Tarei and eastwards over the high steppe, alighting on two places where herds of cattle had been folded in the winter, and consequently covered with a thick layer of dung, trodden so hard that no vegetation appeared through it. Here they settled closely; and as night came on he left them, making sure of finding them the next day; but in the morning they had vanished, and throughout the summer he did not meet with a single example in that district. The herdsmen assured him they would return; but it was not until October and in another locality, near Abagaitui, that he again saw them. They were then flying in skeins, like Plovers, high and rapidly towards the north. The Cossacks who accompany the caravans to Peking across the Gobi told him that *Syrnhaptes* also inhabits those plains in great numbers, and serves them for game on their march. From the above passages it will be seen that the bird is subject to sudden movements on a very large scale, and of a kind which, at first sight, appear almost capricious."

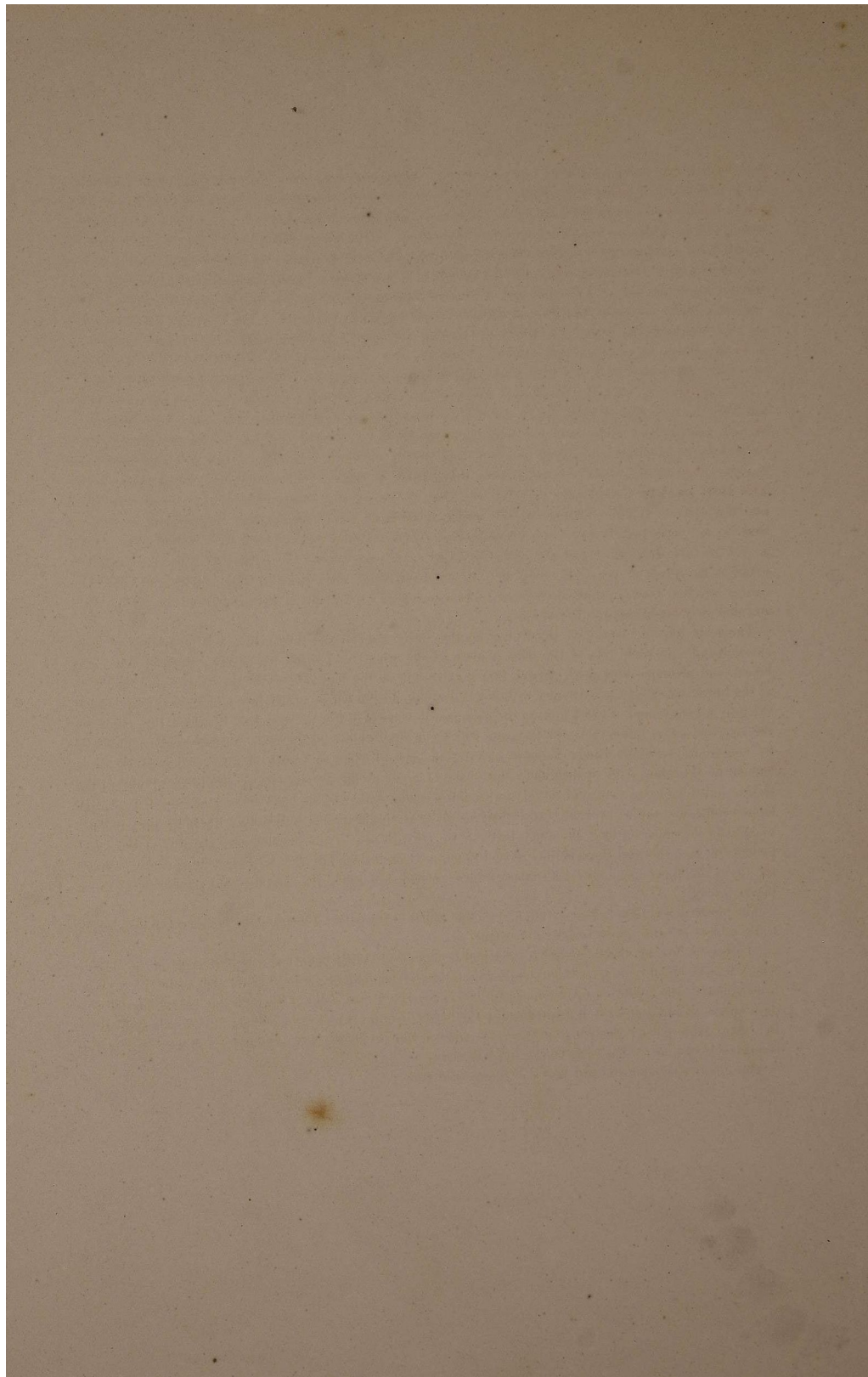
"During winter," says Mr. Swinhoe, "flocks of hundreds constantly pass over the plains between Peking and Tientsin with a very swift flight, not unlike that of the Golden Plover. The market at Tientsin is literally glutted with them, and you may purchase them for a mere nothing. The natives call them 'Sha-chee,' or Sand-fowl, and told me they were mostly caught in clap-nets. After a fall of snow their capture is greatest; where the net is laid, the ground is cleared and strewed with small green beans. This clear patch is almost sure to catch the eyes of the passing flocks, when they descend and crowd into the snare. It only remains for the fowler, hidden at a distance, to jerk the strings, and in his haul he not unfrequently takes the whole flock. Numbers, however, are shot with matchlocks. When on the ground they are rather shy and difficult of approach; but on the wing they will sometimes dart within a few yards of you. The only note I have heard them utter is a rather melodious chuckle. The natives say that during summer they are numerous on the vast plains of Tartary beyond the Great Wall, and that they breed there in the sand."

The male has the face buff, deepening on the lower part of the throat into a large gorget of light chestnut-red; on each side of the neck a mark of the same tint; head, ear-coverts, sides of the neck, breast, and abdomen blue grey, passing into greyish buff on the flanks, a few of the feathers on each side of the breast edged at the extremity with black, forming a band which nearly meets in the centre; beyond the grey a broad band of black crosses the abdomen in front of the legs, posterior to which the abdomen, the vent and under tail-coverts, the legs, and feet are creamy-white; all the upper surface sandy-red crossed by numerous crescentic bands of black, anterior to each of which is a wash of grey; wing-coverts grey, stained on the edges with reddish buff; tips of the first row of the greater coverts bright chestnut-red, the second row black; centre of the primaries and secondaries black, the inner webs bordered with greyish stone-colour, and the outer webs bordered with grey next the shaft and outwardly with buff; tail similarly marked to the upper surface, the outer feathers tipped with white; the filamentous extremity of the outer primary on each side and those of the two central tail-feathers black; bill olive-green becoming darker towards the tip of the upper mandible; irides dark brown; naked skin round the eye olive-grey; toe-nails greenish black.

The above description is taken from a specimen killed in the Altai: I mention this because the bird seems to be subject to some slight variation in colour.

The female has the cheeks and chin light buff becoming gradually deeper on the lower part of the throat, where it is bounded by a narrow crescentic line of black; feathers of the head sandy-red, each with a dark-brown centre; the colouring of the upper surface is similar to that of the male, with this exception, that the dark bands assume the form of arrow-heads; the breast is dull greyish stone-colour, numerous spotted on the sides with black; the wing-coverts have each a spot of black near the tip; in other respects the colouring is similar to that of the male, but less vivid.

The Plate represents the two sexes, of the natural size.





SYRRHAPTES TIBETANUS: Gould

SYRRHAPTES TIBETANUS, *Gould.*

Tibetan Short-toed Sand Grouse.

Syrrhaptes Tibetanus, Gould in Proc. of Zool. Soc., May 14, 1850.

To Lord Gifford, who has just returned from India, we are indebted for a knowledge of this new species of Sand Grouse, which cannot fail to be of interest to the naturalist, since it forms the second species of a remarkable division of the family, of which only one, the *Syrrhaptes paradoxus*, was previously known. His Lordship informed me that the specimen here represented was killed by him on the banks of the Tsumureri Lake in the country of Ladakh, and that only one other example had come under his observation. It is very much to be regretted that no information whatever has been obtained respecting the habits and economy of this fine bird, or those of its near ally, the *S. paradoxus*; especially as from the structure of the feet, being very different from that of the other members of the family, we may reasonably infer that some diversity also occurs in their habits. The *Syrrhaptes Tibetanus* may be readily distinguished from *S. paradoxus* by its much larger size, by the form of the first primaries, which are not extended into the filamentous form so remarkable in that species, and by the absence of any black colouring on the breast.

The bird, which appears to be an adult male, has the face hoary; front and sides of the neck ochreous yellow; feathers of the head and nape brown at the base and alternately barred at the tip with black and white; upper part of the back, front and sides of the breast buffy white, crossed by narrow irregular bars of dark blackish brown; all the upper surface and wings buff penciled all over with dark brown, the pencilings being conspicuous on the back, and so minute on the wings as to be almost imperceptible; the scapularies largely blotched on their inner webs with black; primaries and secondaries slaty black, the fourth, fifth, sixth, seventh and eighth primaries with an oblique mark of brownish white at the tip; basal half of the two centre tail-feathers buff penciled with brown, their apical half narrow, filamentous and black; lateral tail-feathers sandy red, crossed by three widely placed irregular bands of black, and tipped with buffy white; under surface buffy white, minutely penciled on the breast with brown; legs of the same hue, but the feathers banded with faint bars of brown; bill and nails black.

The Plate represents the specimen mentioned above, which, together with many other interesting species, has been kindly lent to me by Lord Gifford for illustration in the present work.

The figure is of the natural size.



PTEROCLES GUTTATUS. Licht.

Painted and H. Fischer del. et lith.

Illustrated by Walter S. Pater

PTEROCLES GUTTATUS, *Licht.*

Spotted Sand Grouse.

Gelinotte du Senegal, Buff. Pl. Enl. 130.

Pterocles guttatus, Licht. Verz. der Doubl., p. 64.—Wagl. Syst. Av. *Pterocles*, sp. 8.—Temm. Pl. Col. 345.

THE *Pterocles guttatus* is another beautiful Sand Grouse, which, like the *P. coronatus*, would seem to frequent countries of a similar character on both sides of the Red Sea, for M. Temminck informs us that numerous individuals were procured in the centre of Egypt both by the Prussian naturalists and by Dr. Rüppell of Frankfort, and that he has seen others from the coasts of Barbary; but considers it very doubtful if it be found at Senegal, as indicated by Buffon. My figures were taken from specimens killed by Lord Robert Clinton in Arabia, which country is, I believe, the most eastern locality wherein it has yet been found. Examples of both sexes may be seen in the Museums at Leyden, Berlin, Vienna, and Frankfort on the Maine.

Of the habits and economy of the *Pterocles guttatus* no account has yet been given by any one; they doubtless resemble those of the other members of the family.

The male has the crown of the head and the general plumage sandy buff, with the basal portion of the scapularies, greater wing-coverts and secondaries dark brown; lores and a broad band encircling the back of the head grey; cheeks, ear-coverts and throat rich orange-yellow; breast conspicuously washed with grey; down the centre of the abdomen a streak of black; primaries blackish brown, broadly margined with sandy buff; centre tail-feathers sandy buff, their apical half black; lateral tail-feathers greyish brown, crossed by a broad band of black near the extremity, and largely tipped with white; bill and feet lead-colour.

The female has the cheeks and throat light orange-yellow; the general plumage sandy buff, numerously spotted with various-sized spots of brown; wing-coverts stained with chestnut; primaries dark brown, largely margined with sandy buff; two central tail-feathers sandy buff, freckled with brown at the base, and dark brown for their apical half; remainder of the tail-feathers greyish brown on their inner webs, sandy buff on their outer webs, crossed by a broad band of brownish black near the extremity, and tipped with buffy white; under surface sandy buff, the breast thickly and regularly spotted with oblong spots of brown, placed across and near the extremity of the feathers; down the centre of the abdomen a streak of black.

The Plate represents the two sexes of the natural size



PTEROCLES CORONATUS: Linn.

PTEROCLES CORONATUS, *Licht.*

Coronetted Sand Grouse.

Pterocles coronatus, Licht. Verz. der Doubl., p. 65.—Wagl. Syst. Av. *Pterocles*, sp. 4.—Gray and Mitch. Gen. of Birds, vol. i. p. 519, *Pterocles*, sp. 12.—Temm. Pl. Col. 339, male; 340, female.

SPECIMENS of this fine *Pterocles* have lately been brought to this country by Lord Robert Clinton, who killed them in Arabia, and hence it becomes necessary to include a figure of it in the "Birds of Asia;" in all probability its range extends over the vast deserts on both sides of the Red Sea. It is a very beautiful species, and is distinguished from all others by the markings of the face, and by the distinct cinnamon-coloured crown, which suggested to M. Lichtenstein the specific term of *coronatus*.

"A male of this species," says M. Temminck, "has been in the Museum of Paris from the time of Buffon; but the country from which it had been procured not being stated, every writer has been scrupulous of including it in his list of species, and it was for the same reason that we omitted to mention it in the article *Pterocles* in our history of the *Gallinaceæ*. It is probable that we should for a long time have been doubtful of the true habitat of this beautiful Grouse but for the labours of the German travellers who have explored the countries watered by the Nile, and whose researches have contributed so much to our knowledge of the natural history of that classic land. It was found in the deserts of Nubia by the travelling naturalists sent into Egypt under the orders of the Prussian Government, and examples obtained in the same country were transmitted by the learned Dr. Rüppell, who travelled under the protection of the Viceroy of Egypt, to the Museum of the city of Frankfort on the Maine. None of these naturalists have transmitted an account of its habits and manners. Examples of both sexes are contained in the Museums of Leyden, Berlin, Frankfort, and Vienna, and, as we have already mentioned, a male in that of Paris."

The male has the crown pale cinnamon-brown; before each eye a broad conspicuous streak of black, which, passing behind and uniting beneath the bill, extends down the centre of the throat; space on the forehead between these marks and immediately behind them buffy white; above the eyes a broad band of delicate grey, which proceeds backwards and unites at the occiput; cheeks and ear-coverts ochre-yellow; back of the neck dull ochre-yellow; upper surface mottled blackish brown and brownish buff, produced by the body of the feather being blackish brown, with a pear-shaped spot of buff at the tip, some of the feathers having moreover a wash of chestnut; primaries dark brown, all but the first five broadly margined internally and at the tip with white, washed with chestnut; tips of the tertiaries, upper tail-coverts and central tail-feathers sandy buff; lateral tail-feathers sandy buff at the base, crossed near the extremity with an irregular band of black, and tipped with white; under surface sandy buff, with a wash of vinaceous on the breast; bill and feet leaden black.

The female has the crown very pale cinnamon, spotted with black; all the upper surface buff, with numerous crescentic broken bands of brownish black; scapularies largely blotched with black; throat and cheeks yellowish buff; under surface sandy buff, the throat and breast marked with crescentic bands like the upper surface; wings similar to but paler than those of the male.

My thanks are due to Lord Robert Clinton for the loan of the fine specimens from which my figures are taken.

The Plate represents two males and a female of the natural size.



PTEROCLES EXUSTUS. Temm.

From a sketch by H. C. Richardson, 1852.

Illustrated by H. C. Richardson.

PTEROCLES EXUSTUS, Temm.

Whistling Sand Grouse.

Pterocles exustus, Temm. Pl. Col. 354, 360.—Gray and Mitch. Gen. of Birds, vol. iii. p. 519.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 249.—Hutton, Journ. Asiat. Soc. Beng., vol. xvii. p. 785.—Sykes in Proc. of Comm. of Sci. of Zool. Soc., Part II. p. 154.—Less. Traité d'Orn., p. 517.—Jerd. Madras Journ. of Lit. and Sci., vol. xii. p. 3.—Frankl. in Proc. of Comm. of Sci. of Zool. Soc., Part I. p. 122.

Bahtah Grouse, Lath. Gen. Hist., vol. viii. p. 258.

Bur-Tector, Hindoo.

Common Whistling Grouse and *Rock Pigeon*, of Europeans.

HERE we have a Sand Grouse forming an admirable representative in Southern Asia of the *Pterocles arenarius* of Europe. It appears to be very generally diffused over the greater portion of the peninsula of India: Mr. Blyth states that it is found in Hindustan, and in the middle and western provinces of Asia: Colonel Sykes informs us that it is "a very common bird in the Dukhun; gregarious; frequenting open stony plains only; characterized by the height at which it flies, the rapidity of its flight, and its peculiar and piercing note announcing its approach ere it can be well seen. It feeds on a quadrangular hard small seed, which I have found in the stomach of only one other bird;" and in the "Notes on Indian Birds" of the late Hon. F. J. Shore, I find the following remarks in reference to this species:—"This bird visits us in the cold season. In January 1834 I observed several large flocks on some downs and sandy plains covered with short grass near the village of Gourkera, thirty-seven miles north of Futtehghur. It is also found in the Nerbudda territory, but is rather scarce there. It often squats so close in the short brown grass that it cannot be perceived, although only a few yards off." From Mr. Jerdon's valuable Memoir on the Birds of the Indian Peninsula, we learn that it "is a very common and abundant bird in most parts of the open country. It is not found in wooded districts. It associates in parties varying in number from four or five to fifty, or even more, and frequents the open stony plains and bare fields. It flies swiftly, and generally at a considerable height, and as Colonel Sykes has remarked, 'has a most piercing cry, which often announces its approach ere it is observed.' It feeds chiefly on a very hard kind of seed. When approached, it often squats close, and it is very difficult to distinguish it in some pieces of ground. After its morning meal, it always goes to some neighbouring water to drink. Its flesh, which is brown and white, is remarkably hard and tough, and will keep longer than that of any other game bird; this hardness causes it to be less appreciated than it deserves to be, for when kept a sufficient time and well-dressed, it has an excellent flavour, inferior to very few of the Indian game birds.

"I have found its eggs several times lately in the months of January and February, placed in the ground without any nest, three in number and of light olive greenish hue, speckled with olive-brown and dusky, of a very long shape and equally rounded at both ends."

Captain Hutton's "Rough Notes on the Ornithology of Candahar" inform us, that it is "common throughout the southern parts of Afghanistan. I have seen their nests on the bare ground in August, and the young ready to fly by the end of September. They occur also in Scinde, and in the Bhawalpore (or Daoodpootra) country."

I possess specimens collected by Mr. Jerdon near Madras, which present no difference from others killed in the northern provinces of India.

The male has the whole of the upper surface sandy buff, becoming of a paler or yellower tint on the wings, where each feather is narrowly tipped with chestnut-brown; primaries and secondaries dark brown, with the inner webs and the tips of the outer webs of the latter dull white; forehead, cheeks and chin deep yellowish buff; breast sandy buff with a vinous tinge, bounded below by a narrow crescentic band of black; below this black band the vinaceous hue gradually deepens into chestnut on the belly and thighs; under tail-coverts pale buff; tail sandy deepening into black, and largely tipped with yellowish buff, the two lengthened central feathers greyish brown slightly tipped with buff; irides brown; bill, orbits, back of tarsi and toes pale bluish grey.

The female has the head, neck before and behind, and chest buff, with a spatulate mark of dark brown down each feather; the lower line of feathers so marked on the breast crossed by a narrow bar of dark brown forming an interrupted band across the breast, below which is a broad band of buff; all the upper surface buff, crossed by irregular bars and blotches of dark brown; wing-coverts tipped with buff; primaries and secondaries as in the male; abdomen blackish brown, crossed by narrow irregular bars of buff; under tail-coverts and front of tarsi pale buff.

The figure of the male represented in the accompanying Plate was taken from a remarkably fine specimen, but in which the central tail-feathers were not so much prolonged as they usually are in adult birds.

The figures are of the natural size.



PTERODROMA FASCIATA.

PTEROCLES FASCIATUS.

Banded Sand Grouse.

La Gélinite des Indes, Sonnerat, Voy. aux Indes, &c., tom. ii. p. 164. pl. 96.

Tringa fasciata, Scop. Del Flor. et Faun. Insub., Part II. p. 92.

Indian Grouse, Lath. Gen. Syn., vol. iv. p. 752. Ib. Gen. Hist., vol. viii. p. 260.

Tetrao Indicus, Gmel. Syst. Nat., tom. i. p. 755.—Vieill. et Bonn. Ency. Méth. Orn., Part I. p. 201. pl. 92. fig. 1.

Perdix Indica, Lath. Ind. Orn., vol. ii. p. 650.

Œnas Indicus, Vieill. Nouv. Dict. d'Hist. Nat.

— *bicincta*, Vieill. Gal. des Ois., tom. ii. pl. 220.

Pterocles quadricinctus, Sykes in Proc. of Comm. of Sci. of Zool. Soc., Part II. p. 155.—Ib. Journ. Asiat. Soc.

Beng., vol. iii. p. 639.—Steph. Cont. of Shaw's Gen. Zool., vol. xi. p. 304.—Jerd. in Madras Journ. of Lit. and Sci., vol. xii. p. 4.—Ib. Ill. Ind. Orn., pls. 10 and 36.

— *fasciatus*, Gray and Mitch. Gen. of Birds, vol. iii. p. 518.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 249.

Hundegree, Hindoo. *Polunkar*, Telugu. *Kelkudari*, (Rock Partridge) Tamul. *Painted Whistling Grouse* or *Rock Pigeon* of Europeans.

Of all the known members of the genus *Pterocles*, this is by far the most richly coloured; so beautiful in fact are its varied and conspicuous markings, that they have obtained for it the distinctive appellation of the Painted Sand Grouse. It has usually been confounded with a nearly allied African species, the *P. quadricinctus* of M. Temminck; the two birds are, however, quite distinct, and are, I believe, strictly confined to their respective countries; the *P. fasciatus* to India, and the *P. quadricinctus* to Africa.

The *Pterocles fasciatus* appears to be very generally diffused over India, but to be not so numerous as the *P. exustus*. Captain Boys's collection contained many fine examples, procured at Suckteysghur in March 1840, and in his "Notes" he remarks that "this species is a solitary one, and is only met with in pairs among brushwood and jungle in the vicinity of water; when flushed it makes no noise excepting that produced by the action of the wings during flight, which is swift and dogging; the late Hon. F. J. Shore killed both sexes at one shot, at Jubulpore, June 30, 1835."

"This handsomely plumaged Rock Grouse," says Mr. Jerdon, "is to be found in suitable localities throughout India, but is by no means a common or abundant species. Unlike the *Pterocles exustus*, which delights in bare and rocky plains, this bird is only to be seen in bushy and jungly ground, and prefers the neighbourhood of low hills. It is always met with in pairs, and when flushed rises with a low chuckling call, takes a very short flight, and alights. It sometimes, if followed, runs a short distance, and is raised again with great difficulty. Its food consists of various hard seeds, and the natives invariably assert that both this and the common Rock-grouse feed on gravel alone. It breeds during the hot weather, laying two or three eggs of an olive colour, speckled with spots of olive-brown and dusky, and of a long cylindrical shape, equally rounded at both ends. Its flesh is delicate and well-flavoured. Though it does not occur in sufficient numbers to induce the sportsman to follow it alone, yet in beating the low jungles for other game, a pair or two are occasionally flushed and shot." Colonel Sykes states that it is "rare, and met with only in pairs on open ground at the foot of hills."

Its cry is similar to that of the *P. exustus*, but is much less loud and deeper, and never heard except when the bird is first flushed.

The male has the front part of the head white, crossed immediately before the eyes with a broad band of black; hinder part of the head striated with black and buff; chin, neck before and behind, and the wing-coverts, tawny yellow with a slight wash of green; across the breast three bands, the first of which is narrow and of a deep reddish chestnut, the second broad and of a pale yellowish buff, the third narrow and of a dark chocolate hue; upper surface, tail and under tail-coverts alternately banded with dark brown and buff, the bands arranged in a semicircular form at the upper part of the back; the greater wing-coverts rufous yellow at the tip, then crossed by a band of very dark brown, next a white one, and then another of greyish brown on a pale dusky yellow ground, the last dark-coloured band being sometimes edged with a narrow one of white; quills dark brown; under surface dark chocolate crossed by irregular bands of brown and yellowish white; bill red; orbits pale lemon-yellow; irides deep brown; legs and feet ochreous yellow. A diversity of the general hue is found to exist in different individuals, some being of a pale yellowish buff, and others of a dark sandy red.

The female has the chin and cheeks yellowish buff; head striated with blackish brown and reddish buff; all the upper and under surface banded with narrow irregular bands of brown on a sandy buff ground; tips of the wing-coverts sandy buff; primaries and secondaries brown, narrowly edged on the inner webs with whitish; under surface as in the male, but of a paler hue.

The Plate represents a male and a female of the size of life.



TETRAO MLOKOSTEWICZI. Lacz.

TETRAO MLOKOSIEWICZI, Tacz.

Georgian Black Grouse.

Tetrao mlokosiewiczzi, Taczanowski, Proc. Zool. Soc. 1875, p. 267.—Dresser, Birds of Europe, part lii. (1876).

THE habitat of this species is, so far as we yet know, limited to the Caucasus range, where it was discovered by a Polish gentleman, Mr. Mlokosiewicz, who forwarded specimens to Dr. Taczanowski at Warsaw in 1875; and they were described by the latter gentleman in the same year. It is a most interesting fact that a second species of Black Grouse should turn up in the Caucasian Mountains, where the appearance of a Snow-Partridge (*Tetraogallus caucasicus*) and other genera tends to demonstrate an affinity to the mountain-fauna of the Himalayas. So thoroughly characteristic, however, of our northern avifauna is the common Black Grouse (*Tetrao tetrix*), that the discovery of a second species only shows that the mountainous regions of the Caucasus form a kind of border-line on which many of the Palearctic and Indian forms inosculate.

The following account of the habits of the present bird was contributed by the discoverer of the species to Mr. Dresser for publication in the 'Birds of Europe':—"I found this Grouse generally distributed throughout the principal chain of the Caucasus from Kadora (Kachétie, opposite the village of Sabuji, fifteen versts from Kwarel) to Zakataly, a distance of about a hundred versts. I observed it in the mountains of Kapuczynsk, the principal place in which is Bezyt, and near Balakna, one of the Bogosk Mountains; and I fully believe that it occurs throughout the entire chain of mountains. It occurs in the mountains of Armenia to near the Achaleyk, near the frontiers of Turkey, at Delizana, the highest place on the route from Tiflis to Erivan, and on Mount Ararat, which makes it probable that it occurs also in Kurdistan. In general it is found in hilly districts covered with herbage.

"I saw a specimen in the Museum at Tiflis, but do not know whence it came, as it is labelled merely '*Tetrao tetrix*, L.' It is difficult to define the altitudes of the different localities frequented by this species, as they vary according to circumstances. For instance, at Lagodechi, on the further end of the mountain, behind which begins the arable region, it is found at 8700 metres, whereas at Manglisi the height attained is 6320 metres, &c. The localities in the neighbourhood of Lagodechi, as well as in the lowlands in the district of Kapucrinke, are very varied in their characteristics—cold and damp, owing to fogs and incessant rains; marshes, however, there are none. On the lower border of this region the hill is sprinkled with the following trees:—*Fagus sylvatica*; *Acer*, sp.; *Sorbus*, sp.; *Rosa canina*; *Rubus indicus*; *Fragaria vesca*; *Vaccinium myrtillus*; and a species of creeping Juniper which is found at a great height.

"This Grouse is nowhere numerous, as the region it inhabits is narrow, and it never descends down the mountains. About twenty years ago it was much more numerous than it now is, being, as it were, protected, owing to the war, as was also *Tetraogallus*; for the herdsman were afraid to enter the country with their cattle. Now the entire district is full of flocks and herds, especially in the spring, when the grass is still more scanty in the more elevated regions. The birds are therefore continually disturbed, and their eggs are taken and eaten by the shepherds. I have generally, I may add, found the males more numerous than the females.

"I know but little of the habits of the present species. I have shot them late in May and early in June, when the males were busy with their courtships and were drumming; but we were never fortunate enough to witness them when engaged in the combats for the possession of the females so characteristic of the Black Grouse, nor did we hear their pairing-call. It is partial to the grassy land; and I have also met with it at an altitude of at least 11,000 feet amongst the snow; but I may remark that I never saw any but solitary males there. I have often seen a male standing motionless amongst the grass or on a stone for hours together, whilst some six or seven others were scattered concealed amongst the surrounding scrub; and though I racked my brain to think what could possibly be the use of this strange proceeding, I never could properly understand it. It is not improbable that this solitary bird may be placed there as a sentinel: but if so, he always failed in his duty; for he was always the first one shot, and my companions killed most of the specimens they procured when in this position. Possibly the bird has not yet learnt to regard man as its natural foe; or, perhaps, it takes up its position thus to more easily watch the movements of the females. Be it as it may, there must be some valid reason for the bird sitting so long in this stationary position. The flight of the male is audible at some distance, the sound resembling an agreeable whistling. With the

aid of my dog, I found one nest. It was situated at the foot of a rock, which afforded shelter from the rain; the hollow was slight and lined with dry grass. This nest contains ten eggs.

"I made a post-mortem examination of a male in the spring; the crop contained *Triticum repens*, a great many blossoms of the ranunculus, and some twenty hymenopterous insects, all of one species. The crop of a male which I killed in the autumn was empty, whilst that of a female contained five blossoms of *Taraxacum*, a little grass, and some leaves of different sorts. With the exception of the shepherds, no one in the country is acquainted with these birds; and the native hunter does not care to expend his powder on such insignificant game, preferring to save it for Deer and Ibex, which abound and afford both flesh and leather, and also to destroy the wolves and bears. This bird is, in their eyes, of no more value than a sparrow; and their astonishment was great indeed at seeing us so earnestly occupied in the pursuit of such game. Notwithstanding this, the bird is known by different names in different districts. The Lerzginés call it *Ryezta*, the Tonhines *Roczso*, the Tartars *Kara-touch* (Black Fowl) or *Mesza-touch* (Wood-Fowl).

"Shooting these birds with either pointer or setter is next to impossible in the mountains, where the walking is excessively heavy, and where you cannot always follow the dog, let alone the difficulty of shooting flying whilst standing in an awkward and not unfrequently a dangerous position. It also often happens that one cannot get within shot of a tree upon which one finds the Grouse 'treed' and quietly watching the dog as he keeps barking at him. When the bird is thus hunted and 'treed' by a dog, it always allows the gunner to come within easy range, so as to ensure his killing it. The bird is so little afraid of man that my companion, after shooting the male out of a tree, has also secured the female with which he was in company, she having only flown a few paces further on and perched again, allowing him time to reload whilst she sat there, and he then shot her down. This sport (?) is best in the spring, without a dog; for one can see the birds at a great distance amongst the herbage, which is neither high nor dense at that season, whereas in the autumn shooting the present species is much more difficult, as it is by no means easy to find the birds amongst the high grass-tufts, which are, moreover, very slippery."

The male in the accompanying Plate is drawn a little less than the natural size, with a reduced figure of a female in the background.





CALLOTRUX ZEYLONENSIS.

Shankland & Co. London, 1858.

Illustrated & Printed by

GALLOPERDIX ZEYLONENSIS.

Ceylon Spur-Fowl.

Tetrao Zeylonensis, Gmel. Edit. Linn. Syst. Nat. tom. i. par. ii. p. 759.

Perdix bicalcaratus, Forst. Ind. Zool. p. 25. pl. 14.—Penn. Ind. Zool. p. 40. pl. 7.—Penn. Hind. vol. i. p. 212.

— *zeylonensis*, Bonnat. et Vieill. Ency. Méth. Orn. vol. i. p. 210. pl. 93. fig. 3.—Temm. Hist. Nat. des Gall. tom. iii. pp. 311 & 718.

Francolinus ceylanensis, Less. Traité d'Orn. p. 504.

Ceylon Partridge, Lath. Gen. Syn. vol. iv. p. 758.—Ib. Gen. Hist. vol. viii. p. 268.

Chitty-gong Partridge, Lath. Gen. Syn. Supp. p. 222.—Ib. Supp. vol. ii. p. 278.

Galloperdix zeylonensis, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 241.

As the above list of synonyms will show, this bird has been long known to writers on natural history, yet how few collections there are which contain examples ! I do not, in fact, know an Asiatic species of the Gallinaceæ which is more seldom seen in our museums. Mr. Edgar L. Layard, who has lately returned to England, after a residence of eight years in Ceylon, has, however, partially supplied this want by bringing with him numerous examples. Few persons write more agreeably on subjects of natural history than this gentleman, and no one has contributed so largely to our knowledge of the ornithology of Ceylon ; so valuable, in fact, are his notes, that it is to be hoped that if his future years are to be spent in foreign countries, they may be passed in some interesting locality, where his leisure hours may be as usefully employed as they were in Ceylon.

I do not find on record any information whatever respecting the singular and prettily-marked bird forming the subject of the accompanying Plate ; the following notes from the pen of Mr. Layard, which I have great pleasure in giving in his own words, will therefore be read with interest :—

“ This species, known to Europeans under the various denominations of ‘ Spur-Fowl,’ ‘ Double-spurred Partridge,’ and ‘ Kandy Partridge,’ is an inhabitant of the central, southern, and south-western provinces.

“ It delights in deep tangled brakes and thick masses of canes on the sides of gentle declivities ; these it finds abundantly in the localities above cited, while, in the northern and eastern provinces, the sandy soil and open jungles which prevail offer no congenial home to a bird of its shy and retiring habits. Even in localities where it does occur, it is more often heard than seen, for so extreme is its wariness that it rarely falls before the gun even of the native hunter, who creeps about unclad and as noiselessly as the denizens of the forest. It is trapped therefore by means of nooses and other snares placed in its path, for its flesh is highly valued by the natives. I think it decidedly superior in flavour to any other game which I tasted in Ceylon ; it ate and looked much like grouse.

“ It is most active during the mornings and evenings, roaming in small parties amid the open glades or bare towering trunks of the ‘ Mookalane’ or high tree-jungle, but on the least alarm seeking safety in the most impenetrable underwood. After remaining concealed some time, and if nothing occurs to excite their fears, a cock-bird, bolder than the rest, will utter a few low notes, not unlike the plaintive call of a turkey-poult ; if this is answered from a distance, or the birds are reassured, the call is changed for a loud piping whistle, of which the following stave gives the nearest representation which I can devise,—



and the birds once more sally out from their concealment. I am convinced that, like the Virginian Quail, these birds possess the power of ventriloquizing in an eminent degree. I have often listened to those in my aviary, and could have declared that the calls proceeded from every part of the garden save that in which the performers were located.

“ They do not thrive well in confinement, but exhibit the same wild and suspicious demeanour, always hiding behind their feeding-troughs or herding in corners ; if any object approaches too closely and alarms them suddenly, they rise from the ground with a spring, and unless the roof is placed at a considerable altitude, dash their heads against it and fall lifeless to the ground.

“ They fly with great rapidity, but prefer to seek safety in concealment rather than maintain a lengthened flight. One which escaped from a basket in my house flew up to the roof and through the ventilating holes, but instead of continuing on the wing at the elevation it had attained, it instantly dropped into a

small copse, out of which it was with much difficulty hunted, when it darted through an open door into the kitchen and concealed itself behind a box.

"The males are very pugnacious, and in their manner of fighting remind me of the game-cock, depressing and elevating the head, imitating each other's actions, &c. &c.

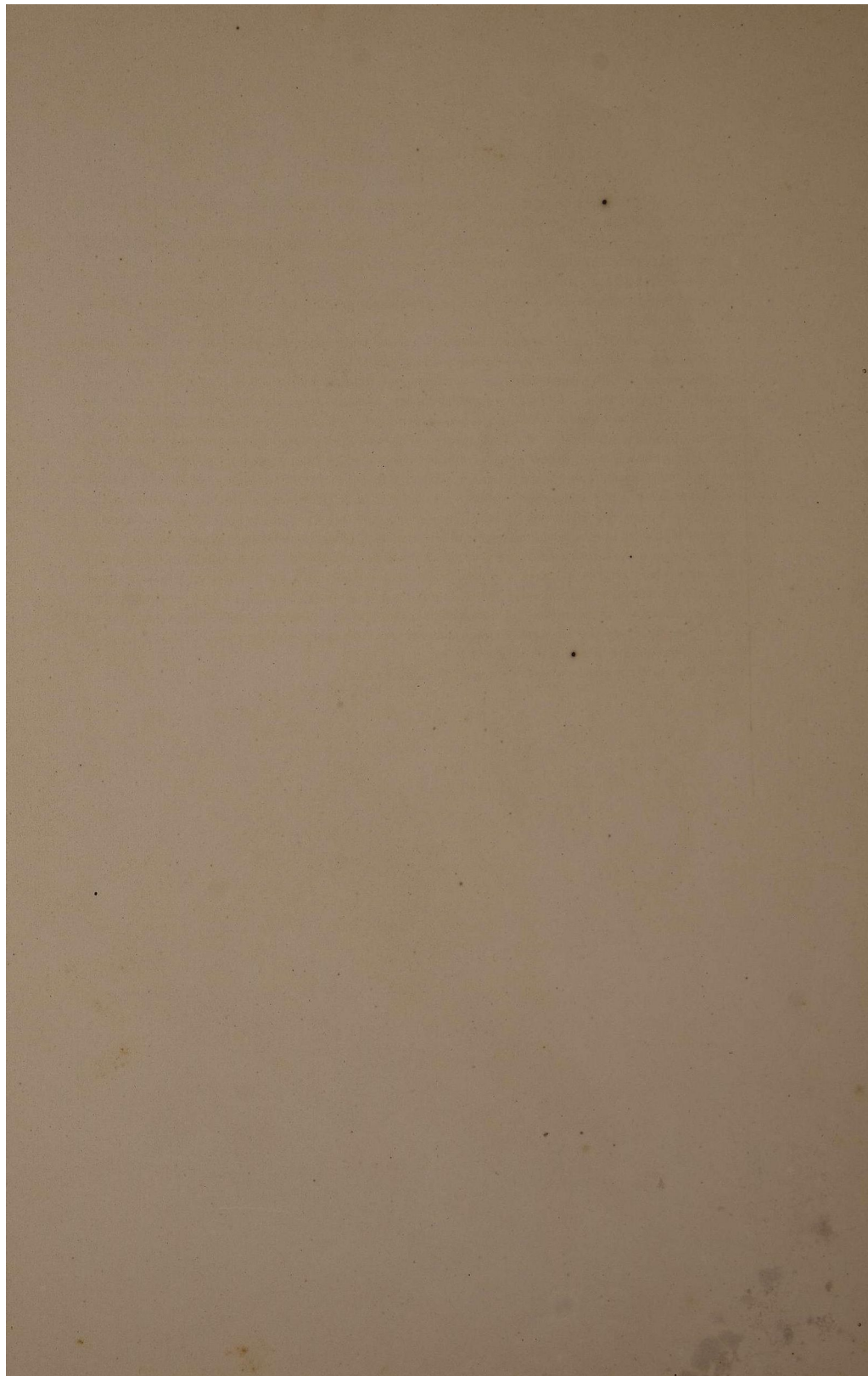
"Of its nidification nothing is known.

"Native name, *Aban-cuccula*. *Cucculo* is the general name for all fowls, male birds; *cuccula* is female; and *kikili* is plural."

The male has the feathers of the head black, with a fine line of white down the centre of each, becoming almost obsolete on the centre of the crown; feathers of the back of the neck black, with a line of white down the centre of each, commencing in a fine point at the base of the feather, gradually but slightly increasing in breadth towards and ending near the apex; feathers of the shoulders and scapularies deep chestnut, freckled with black, and having a broad oblong mark of black down the centre, within which is a lengthened white line as on the neck; lower part of the back deep chestnut, minutely freckled with black at the tip of each feather; lesser wing-coverts black, bordered with chestnut at the base and a small drop-like spot of buffy white near the tip; primaries brown; remainder of the wing deep chestnut, freckled with black, and at the tips of the greater coverts a pear-shaped mark of black, within which is a similar mark of white; upper and under tail-coverts black; tail rich purplish black; feathers of the throat, breast and abdomen black, with a pear-shaped mark of white near the tip, which mark becomes more elongated as the feathers proceed downwards, until on the flanks they assume a similar but bolder form than the lines on the back of the neck; on the lower part of the abdomen and thighs they again become of a more rounded form, but are much less conspicuous; bill and orbits beautiful red; irides dark brown; legs and feet red.

The female has the entire plumage deep chestnut, paler on the under surface and minutely freckled with brown, especially on the secondaries and upper tail-coverts; tail purplish black; bill, orbits, eyes, legs and feet as in the male, but not quite so rich in colour.

The figures in the accompanying Plate are of the natural size.





GALLOTERDIX SPADICEA.

Illustration of the Mountain Quail.

Illustration of the Mountain Quail.

GALLOPERDIX SPADICEUS.

Rufous Spur-Fowl.

- Tetrao spadiceus*, Gmel. Edit. Linn. Syst. Nat. tom. i. par. ii. p. 759.—Gray, Ill. Ind. Zool. vol. ii. pl. 42. fig. 2.
Perdix spadicea, Lath. Ind. Orn. tom. ii. p. 644.—Temm. Hist. Nat. des Gall. tom. iii. pp. 315 & 719.—Bonnat.
et Vieill. Ency. Méth. Orn. part i. p. 208.
Le Perdrix rouge de Madagascar, Sonn. Voy. aux Ind. tom. ii. p. 169?—Ib. Edit. Buff. Hist. des Ois. tom. vii. p. 57?
Brown African Partridge, Lath. Gen. Syn. vol. iv. p. 759?—Ib. Gen. Hist. vol. viii. p. 271?
Plectrophora (Polyplectron) Northia, Gray, Ill. Ind. Zool. vol. ii. pl. 43. fig. 1 (female).
Francolinus spadiceus, Sykes in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part ii. p. 154.—Jerd. Madr. Journ.
of Sci. vol. xii. p. 5.
Ithaginis Northia, Gray, List of Birds in Brit. Mus. Coll. part iii. p. 32.
Galloperdix spadiceus, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 241.
Kokutree, of the Mahrattas.
-

JUDGING from the very numerous examples of this species which are sent home in collections from India, it would seem that it must be very generally dispersed, from the base of the Himalayas to the extreme southern point of the Indian peninsula. Mr. Jerdon sent a large supply for our museums from Madras, and I have several examples from Bombay and other parts of Western India. I have no doubt that it would bear captivity well, and that, if introduced into favourable localities in this country, it would not only live but breed with us. Latham and some other authors give Madagascar, and, I believe, Africa also, as habitats of this bird, but I apprehend that on this point they were mistaken, for I have no reason to believe that it occurs anywhere out of India.

Colonel Sykes, who found it very common in the thick brushwood of the Ghauts, had examples of both sexes alive in his possession for some time, and states that "they are excellent eating. The male has a harsh call of three syllables, *Kot-kut-ree*, whence the Mahratta name. The female in confinement uttered little notes like the twittering of a chicken." A male in Col. Sykes's collection had three large spurs on one leg and two on the other.

Mr. Jerdon informs us that "this Spur-Fowl is only found in the denser jungles, as well of the eastern as of the western coast, and generally along with the *Jungle Fowl*. It is found in the low brushwood of the lofty forests, and when flushed, as it is with difficulty, frequently perches on the bough of some lofty tree. It is generally met with in pairs, and feeding on various seeds and insects. I found the crows of some crammed with insects alone, among which various species of *Cimices* were the most predominant. Its flesh is excellent and of very high flavour. It is found in the dense woods at the top of the Neilgherries. The natives generally consider this bird as more allied to the Jungle Fowls than to the Partridges, and it is said to run with its tail elevated."

The plumage of the male is soft and silky to the touch, and extremely chaste in its colouring; the female differs considerably, her markings being much stronger, as shown in the lower figure of the accompanying Plate, which represents that sex.

The male has the head and neck greyish brown; the feathers of the upper surface chestnut-red, each narrowly margined with grey, and minutely freckled with black, particularly near the edges; upper tail-coverts similar, but without the grey margin; quills brown, the secondaries broadly margined on their external web with minute freckles of chestnut and brownish black; under surface bright chestnut-red, each feather narrowly margined with greyish olive; lower part of the abdomen and vent dull brown; tail blackish brown, freckled with chestnut; orbits red; bill, legs and feet reddish horn-colour; irides reddish brown.

The female has the whole of the upper surface and tail irregularly banded and freckled with black, buff and dull chestnut, the black assuming a somewhat arrow-head shape; feathers of the upper part of the breast brownish black, edged with reddish buff; feathers of the lower part of the breast and centre of the abdomen rufous, tipped with black; vent and under tail-coverts brown.

The figures represent the two sexes the size of life.



GALLINULIX LUNULOSA.

Harvard and M. W. Thayer, 1874

Andersson & S. S. S. S.

GALLOPERDIX LUNULOSA.

Painted Spur-Fowl.

Perdix lunulosa, Valenc. (Blyth).

—— *lunulatus*, Valenc. Nouv. Diet. d'Hist. Nat.—Gray.

—— *Hardwickii*, Gray in Griff. An. Kingd. vol. iii. p. 48.—Gray, Ill. Ind. Zool. vol. i. pl. 52.—Frankl. in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part i. p. 123.

—— *lunulata*, Cuv. Mus. Paris.

—— *nivosus*, Deless. Rev. Zool. 1840, p. 100.—Ib. Mag. de Zool. 1840, Ois. pl. 18.—Ib. Voy. aux Indes, pl. 10.

—— *Hardwickii*, Jerd. Ill. Ind. Orn. pl. Ixii.

Francolinus lunulata, Less. Traité d'Orn. p. 504.

Ithaginis lunulatus, Gray and Mitch. Gen. of Birds, vol. iii. p. 504, *Ithaginis*, sp. 2.—Gray, List of Birds in Brit. Mus. Coll. part iii. p. 32.

Galloperdix lunulosa, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 241.

Curria Partridge, Lath. Gen. Hist. vol. viii. p. 270?

Sitta Kodi, Telugu, Jerdon.

THE native habitat of this handsomely-marked species of Spur-Fowl is the jungled Ghauts of Southern India, over which, if it be not universally, it is very generally dispersed, as is evidenced by specimens received through various sources from those districts. It is said to extend its range, but in smaller numbers, as far north as Scinde. The Hon. F. J. Shore found it at Jubulpoor in April 1835 and at Sagur in 1836, and drawings of both sexes accompany the notes of that highly talented gentleman, but for whose premature death the ornithology of India would have been far better known to us.

In the early part of 1853 a living example of this fine bird was brought to England, and for many months graced the menagerie of the Zoological Society in the Regent's Park, where it did not fail to attract the notice of the visitors generally; its sprightly actions and beautiful markings rendering it a conspicuous object among the other denizens of the great aviary in the South Garden. When in a state of quietude and repose, it usually stood in the attitude of the front figure in the accompanying Plate; at other times, especially when excited or on the alert, it assumed a more sprightly air, and carried the tail higher than the line of the body, like the front figure of *Galloperdix Zeylonensis*.

We are indebted to Mr. Jerdon of Madras for the greatest amount of information we possess respecting this species. In his "Illustrations of Indian Ornithology," in which the female is figured for, I believe, the first time, he says,—

"In Southern India I have only found this very handsome Spur-Fowl in the jungles of the eastern Ghauts, and in some of the spurs that jut out from them both above and below. M. Delessert procured it in the neighbourhood of Pondicherry. I obtained many specimens from the Ghauts inland from Nellore, and I have been told that it is found near Bellary, Cuddapah, and Hyderabad. Farther north I never saw it, from Goomsoor, and it is unknown in Bengal and the Himalayas. General Hardwicke procured it, I believe, in the north-west of India.

"It associates in small flocks, keeping to the low shrubs and brushwood, and seeking its food among fallen leaves and low herbage. I kept several individuals of this species alive for some time, and found that it is a most pugnacious and quarrelsome bird. It carries its tail erect like the Jungle Fowl, to which the natives invariably assert its affinity, as they also do *F. spadiceus*.

"I have found that both the spotted and common Spur-Fowl feed much on insect food in the wild state, especially on the larvæ of two or three kinds of wood-bug (*Reduvius*), so abundant in most of our jungles."

The Hon. Mr. Shore mentions that some specimens he had dressed, although in fine condition, were poor in flavour, and that the female weighed barely nine ounces.

The male has the head and neck black, with a streak down the stem and a spot of white near the tip of each feather; upper surface rich dark chestnut, with a spot of white encircled with black at the tip of each

feather, those on the mantle being round and those on the back triangular-shaped; wing-coverts, and secondaries dark glossy bronzy purple, with a spot of white surrounded with black at the tip of each feather; greater coverts brown, edged with rufous, with white shafts ending in a spot bounded with black at the tip; primaries and secondaries dark brown with paler edges; tail blackish brown; throat-feathers black, tipped with buffy white; breast and abdomen deep buff, each feather with a small, nearly triangular-shaped spot of black at the tip; lower part of the abdomen and thighs dark chestnut, each feather obscurely tipped with black, within which is a bar of buff; under tail-coverts dark chestnut, indistinctly spotted like the back; bill and feet dark olive-brown.

The female has the head dark brown, streaked on the sides with reddish buff; ear-coverts reddish brown; a streak from the angle of the bill and the chin pale buffy white; general plumage dark brown, with still darker edges; breast buffy brown.

The front figure on the accompanying Plate represents a male of the natural size; the other figures, a male and a female, reduced to about one-half.



HEMATORTYX SANGUINICEPS, Sharpe.

HÆMATORTYX SANGUINICEPS, Sharpe.

Crimson-vented Partridge.

Hæmatortyx sanguiniceps, Sharpe, Ibis, 1879, p. 266.

BUT a few years have elapsed since the name of the Lawas river in North-western Borneo was impressed upon the minds of ornithologists by the discovery of the fine new Pheasant which was described as *Lobiophasis bulweri* by Mr. Sharpe, and figured by me in the present work. I have now the pleasure of introducing to my readers another game-bird from the same locality, which, although not so showy as the Bulwer's Pheasant, is almost as interesting a novelty as that bird. The present species has been described by Mr. Bowdler Sharpe, and has been by him very rightly made the type of a new genus. The bird bears a certain resemblance to the Crested Partridges of Malacca and Borneo belonging to the genus *Rollulus*; and Mr. Treacher, the discoverer of the new species, says that it is known to the natives by the name of *Serookan*, which is the same name that they apply to the *Rollulus*. The genus *Hæmatortyx* differs from *Rollulus* in having a larger nail to the hind toe, but more especially by the form of the crest,—very feebly developed in the former genus, which likewise entirely wants the long hairs of the forehead that form such a distinguishing feature in *Rollulus*.

Only one single specimen was obtained by Mr. Treacher; and this typical bird is now in the Oxford Museum along with the rest of that gentleman's collection. Unfortunately no particulars were sent with the bird; so that not only are we ignorant of its habits, but even the sex of the specimen itself was not declared; hence it is impossible to hazard even a conjecture as to whether the bird is a male or a female. To settle this point one ought to look for the spur on the leg: there is none, however, and yet the bird has all the appearance of being a male.

The following description is taken from Mr. Sharpe's paper in 'The Ibis':—

"*Adult*. General colour above dark sepia-brown; the wings like the back; tail-feathers blackish; crown of head, which is slightly crested, deep crimson, the nape also of this colour, with blackish tips to the feathers, all the plumes of the crown with narrow buff shaft-lines; sides of face dull crimson; the ear-coverts, cheeks, and throat light fawn-colour, with a slight wash of crimson on the chin; lower throat, fore neck, and chest deep chestnut; remainder of under surface of body dark sepia-brown, with paler edges to most of the feathers; under wing-coverts like the breast; under tail-coverts black, the longer ones bright crimson. Total length 12·5 inches, culmen 0·85, wing 5·85, tail 2·8, tarsus 1·85."

The Plate represents two figures drawn from the typical specimen, of about the size of life. I am indebted to Professor Rolleston for permission to draw the unique specimen in the Oxford Museum.



BAMBUSICOLA HYPERYTIRA, Sharpe.

BAMBUSICOLA HYPERYTHRA, Sharpe.

Rufous-breasted Bamboo-Partridge.

Bambusicola hyperythra, Sharpe, Ibis, 1879, p. 266.

THIS handsome bird was discovered by Mr. W. H. Treacher on the Lawas river in North-western Borneo, and forms the third remarkable species of game-bird which the English naturalists have discovered on that river during the last few years. To those ornithologists who consider that our knowledge of the avifauna of Borneo is gradually becoming complete, it is only necessary to point to the very interesting discoveries which have been made by Governor Ussher and Acting-Governor Treacher since their appointments to the British colony of Labuan. There can be no doubt that much still remains to be done in that great island, whence have been brought to our notice in the short space of five years a new *Polyplectron*, the extraordinary Bulwer's Pheasant, and the equally interesting new species of game-birds which are figured for the first time in the present work. Mr. Sharpe has placed this species in the genus *Bambusicola*, and states that the nearest ally which he has found exists in my *Bambusicola sonorivæ* from Formosa; but a glance at the plates of the two birds will show that it is a very different species from the last named. As Mr. Treacher is still continuing his exertions in collecting birds in North-western Borneo, we may hope to be furnished with additional specimens of this fine species; but at present there is nothing to say with respect to its habits and economy.

I translate the description given by Mr. Bowdler Sharpe in 'The Ibis':—

"Upper surface olive-brown, banded across with black, more broadly on the lower back and rump; wing-coverts dark brown, broadly tipped with olive-brown, the greater coverts dull rufous at their ends; primaries brown, externally broadly margined with dull rufous or rufous brown; the secondaries, however, tipped with black, and subterminally banded across with pale olive-brown, the innermost pale whitish-brown near the tip; tail dark brown; top of the head and nape black, produced in a narrow band down the hind neck; lores, as well as a narrow eyebrow and a broad band running down the sides of the neck, dull ashy-grey; a narrow black line running above and below the eye, and joining a broad black band which runs down the sides of the neck; ear-coverts and hind part of cheeks dull ashy-grey; fore part of cheeks and under surface of body chestnut red; the flanks rather more orange, and variegated by black feathers with a large subterminal spot of white of an oval shape; middle of the abdomen whitish; under wing-coverts ashy-brown, the axillaries tipped with whitish. Total length 10·5 inches, culmen 0·85, wing 5·2, tail 2·2, tarsus 1·6."

As in the case of *Hæmatortyx sanguineps*, I have to thank Professor Rolleston for allowing me to figure the unique specimen in the Oxford Museum. The principal figure in the Plate is life-size.



BAMUSICOLA SONORIVOX, Gould

Illustrated by Richard D. All

Walker & Coles, Eng

