

THE INDIAN BUSTARD.

Descr.—Male, top of head with crest black; face, nape, and the whole neck, white, the feathers somewhat lengthened and hackled in front: the back and upper plumage, including the shoulder of the wings and the inner wing-coverts, pale olive brown, or buff, beautifully mottled and variegated with minute lines of black; outer wing-coverts black, white tipped; greater coverts slaty-grey, also tipped with white, as is the winglet; primaries dark slaty, more dusky on their outer edges, and white-tipped; tail as the back, with a dark sub-terminal band not always very distinct on the central feathers; a blackish brown band across the breast; lower parts, with the thigh-coverts, white; the flanks dark olive brown; vent and lower tail-coverts the same but lighter.

Bill dusky above, yellowish beneath; irides pale yellow with some brownish specks; legs and feet dingy pale yellow. Length $4\frac{1}{2}$ to 5 feet; extent 8 feet; wing 30 inches; tail 13; bill at front 2; tarsus $8\frac{1}{2}$. Weight 26 to 28 lbs.

The female is one-third less at least, the white of the neck is less pure, generally, indeed, mottled with olive-brown, and with some rufous about the face and eyes; the pectoral band is incomplete, and consists of broken spots; the abdomen is less pure white and the flanks paler brown and more spotted. Length $3\frac{1}{2}$ feet. Young males resemble the females, and it is only the largest old males that have the neck pure white, as described above; in most there being a few brown specks on the neck. In the old male, too, the neck appears very thick, the feathers being well puffed out and full. A fully grown adult male stands very high, above 4 feet. The gular sac is stated to be able to hold about three quarts of water.

This noble bird is found throughout considerable part of India, most common in the West, and not known in Bengal or Behar, nor in the Malabar Coast. It is found occasionally in the Carnatic and Mysore, tolerably common in the Deccan and in the Southern Mahratta country, extending through Central India as far East as all events as Saugor and Rewah, and abundant in Rajpootana. I have not heard of its occurring anywhere in the valley of the Ganges.

The Bustard frequents bare open plains, grassy plains interspersed with low bushes, and occasionally high grass runnahs. In the rainy season large numbers may be seen together stalking over the undulating plains of the Deccan or Central India. I have seen flocks of twenty-five and more, and a writer in the *Sporting Review* mentions having seen above thirty on one small hill. This writer states his belief that they are never seen in any district that is not characterized by hills as well as plains; but this, from my own experience I would merely interpret that they do not frequent alluvial plains, but prefer the undulating country; for I have seen them on extensive plains, where there were merely a few ridges or eminences, and nothing deserving the name of a hill close at hand. Towards the close of the rains, and in the cold weather before the long grass is cut down, the Bustard will often be found, at all events in the heat of the day, concealed in the grass, but not for the purpose of eating the seeds of the Roussa grass, as the writer above alluded to imagines, rather for the large grasshoppers that abound so there, and which fly against you at every few steps you take. During the cold weather the Bustard frequently feeds, and rests during the day likewise, in wheat fields. When the grass and corn is all cut, and the bare plains no longer afford food to the Bustard, it will be found along the banks of rivers where there is long grass mixed with bushes, or the edges of large tanks, or low jungle where there is moderately high grass, or it wanders to some district where there is more grass, for though they do not migrate, yet Bustards change their ground much according to the season, and the supply of grasshoppers and other insects. The hen birds, remarks the writer quoted above, generally congregate together during the rains, are very timid, and frequently, when a sportsman is pursuing a single one, she will attempt to seek safety, fatally for herself, in some large bush, particularly if the gunner turn aside his head, and affect not to see her at the moment of hiding. The cock-birds, at this season, feed a mile or so apart from the hens, and stretching their magnificent white necks, stride along most pompously. Besides grasshoppers, which may be said to be their favorite food, the Bustard will eat any other large insect, more especially *Mylabris*, or blistering beetle, so

abundant during the rains; the large *Buprestis*, *Scarabæi*, caterpillars, &c., also lizards, centipedes, small snakes, &c. Mr. Elliot found a Quail's egg entire in the stomach of one, and they will often swallow pebbles or any glittering object that attracts them. I took several portions of a brass ornament, the size of a No. 16 bullet, out of the stomach of one Bustard. In default of insect food, it will eat fruit of various kinds, especially the fruit of the *Byr* (*Zizyphus jujuba*) and *Caronda* (*Carissa carandas*); grain, and other seeds and vegetable shoots.

The Bustard is polygamous, and at the breeding season, which varies very greatly according to the district, from October to March, the male struts about on some eminence, puffing out the feathers of his neck and throat, expanding his tail, and ruffling his wings, uttering now and then a low deep moaning call heard a great way off. The female lays one or two eggs of a dark olive green, faintly blotched with dusky. I have killed the young, half-grown, in March, near Saugor.

The Bustard has another call heard not unfrequently, compared by some to a bark or a bellow; chiefly heard, however, when the bird is alarmed. This is compared by the natives to the word *hook*, hence the name of *hooknut*, by which it is known to the villagers about Gwalior. When raised, it generally takes a long flight, sometimes three or four miles, with a steady, continued flapping of its wings, at no great height above the ground, and I never found that it had any difficulty in rising, not even requiring to run one step, as I have many times had occasion to observe when flushing them in long grass or wheat fields. On the open bare plains, it will sometimes run a step or two before mounting into the air. A writer in the *Bengal Sporting Magazine* asserts that he has known the Bustard ridden down, and that after two or three flights it is so exhausted as to allow of its capture. I imagine that a healthy bird would tire out the best horse and rider before giving in.

At times a single Cock-bustard can be very easily stalked so as to get within distance of a fair shot, 50 or 60 yards, or even nearer, by rapidly moving obliquely towards them, as mentioned previously when speaking of Sand-grouse; when several are together they

are more wary, but even then can often be approached within one hundred yards. If there is any bushy or uneven ground to favor the gunner, the task is comparatively easy. Occasionally they may be flushed in long grass, or Dhal fields, or even Wheat fields, and an easy shot obtained; and I once brought down two birds, right and left, in a wheat-field near Saugor

Many sportsmen kill it with the rifle, and one sportsman on the Bombay side is known to have killed above one thousand Bustards with his rifle; chiefly, I believe, in the Deccan and Southern Mahratta country. A young Bustard, or a full grown hen bird are very excellent eating; the flesh is dark, and very highly flavored; but in an adult cock it is rather coarse.

A large Bustard has been seen in various parts of China which is perhaps this species, or some closely allied one, may-be, *Otis lucionensis*. A very closely allied species, *O. australis*, Gray, occurs in Australia, where known, to some of the Colonists as the Wild Turkey. Other species are *Eup. nuba*, Rüpp; *E. ludwigi*, Rüpp; *E. capra*, Licht. (*Stanleyi*, Gray); *E. Denhami*, Children; *E. arabs*, L. (*abyssinica*, Gray), and *E. kori*, Burchell

The European Bustard, *O. tarda*, Linnæus, belongs to restricted *Otis*. It has a long white moustachial-tuft. The short limbs, short bill, and general form give it quite a different aspect to that of the Indian Bustard, and I can understand its being called a Turkey. It is found throughout Eastern Europe and Central Asia, and used to be occasionally captured in England; and its peculiar attitudes during the courting season have been ably illustrated by Wolf in his Zoological Sketches

Gen. HOUBARA, Bonaparte.

Syn. *Chlamydotis*, Lesson.

Char.—Legs rather short; neck of the male furnished with a ruff, and occasionally crested; bill rather lengthened, much depressed at the base.

The ruffed Bustards are birds of moderate size, frequenting the open sandy deserts, the type of which is *Otis houbara* of Gmelin,

from Northern Africa, which occasionally passes over into Spain. One species is found in the North-western Provinces of India.

837. *Houbara Macqueenii*, GRAY.

Otis, apud GRAY—HARDWICKE Ill Ind. Zool.—GOULD, Birds of Asia, pt. 111, pl. 8—*O. marmorata*, GRAY, HARDWICKE, Ill. Ind. Zool. 1, pl. 60 (the female)—*Tilaor*, II—*Obarra* in the Western Punjab—Hurnana Florikin of Sportsmen in the N. W. P.—figured in *Bengal Sporting Magazine*, 1833.

THE INDIAN HOUBARA BUSTARD.

Descr.—Male, head beautifully crested, the crest consisting of a series of lengthened slender feathers in the centre of the crown, white with a black tip in front, wholly white behind; upper plumage, including the neck, pale buff, somewhat albescent on the wing-coverts and deeper on the back; upper tail-coverts and tail all delicately and minutely pencilled with black, and each feather with a sub-terminal black band visible externally, and another at the base of the feathers; upper tail-coverts with the black bands narrower, distant, and more or less ashy; tail banded with bluish-ashy, and all the lateral feathers broadly tipped with creamy white; greater wing-coverts tipped with white; primaries white at their base, black for the terminal half, and most so on the outer web; lesser wing-coverts and scapulars more or less spotted with black, not barred; the shorter quills and the winglet black, the former tipped with white; the cheeks are white, with black shafts and tips; the throat white; neck fulvous ashy; belly and lower parts, including the lower surface of the wings, white; under tail-coverts slightly barred; the neck-ruff in its full integrity during the breeding season begins from the ear-coverts, the feathers are moderately long, about 2 inches, and entirely black and silky; on the sides of the neck they are at least 6 inches long, white at the base and with black tips; and, where they terminate are still longer, wholly white, varying in texture and with more or less disunited webs, very fine and curving downwards below.

Bill horny slate-color; irides bright yellow; legs greenish-yellow. Length 25 to 30 inches; extent 4 feet; wing 14 to 15 inches; tail 9 to 10; tarsus $3\frac{3}{4}$; bill at front $1\frac{1}{2}$. Weight $3\frac{1}{2}$ to $3\frac{3}{4}$ lbs. (Adams states the iris to be black, and the sclerotic yellow.)

The male in non-breeding or winter plumage, appears to want the fine crest, and in some, apparently, the greater part of the ruff, as in the one figured in Hardwicke's Illustrations. A figure among Burnes' drawings represents the male bird with his coronal crest, but having the upper portion only of the neck-ruff, which forms a conspicuous ear-tuft as in the *Likh* Florikin, but of ordinary shaped feathers. Can the ruff also be a seasonal ornament of the Cock-bird? This is not alluded to in any of the notices of the Indian *Houbara* that I have seen, but is not unlikely.

The female is said, by the writer of the article in the *Bengal Sporting Magazine* alluded to above, to resemble the male; and a specimen, supposed to be that of a female killed at Hansi, agreed, says Mr. Blyth, "very well with Hardwicke's figure, except that the mottled black patches on the upper parts are smaller, and more numerous, and scarcely appear on the wings which should have been colored paler; the pencilling in front of the neck is very delicate; the tail is banded with light ashy (appearing blue) slightly bordered with black. The coronal feathers are all, in the mass, considerably lengthened, there is no indication whatever of the medial crest; the lower third of the lateral neck-tufts are white, but the front of the neck, below the dull white throat, is uniform pale buff, minutely freckled with black, and at its base are some lengthened plumes of a pale ash color impending the breast."

Another specimen agrees nearly with the Hansi bird, but has a slight crest, or apparently the remains of a crest in process of being shed, confined to the forehead only, and there are but few traces of white upon the black or upper tuft of lateral neck plumes. Mr. Blyth is inclined to regard the crest as a distinctive characteristic of the breeding season only, when it would probably be more developed in the male than in the female.

I am strongly inclined to think that *O. marmorata*, Gray, in Hardwicke's Illustrations, is intended for the female in ordinary attire. It has generally been considered as the female of *Sypheo-*

tides bengalensis, but the whole style of the markings is that of the Houbara rather than of the Florikin. The only difference is that the white of the wing is not shown; but, on the other side, the primaries of the hen Florikin are black. It may, indeed, be a young^g Houbara.

According to Captain Boys the female assumes the ruff in the breeding plumage but not the crest; but so few observations have been recorded about this bird, that it is yet possible (and probable from analogy) that the hen bird possesses neither crest nor ruff. The female of the African Houbara, according to Temminck, has neither crest nor ruff. The figure among Burnes' drawings may be that of a young male in his first breeding season before the ruff had been fully developed; and in this drawing and that of *marmorata*, the irides of both are represented as vinous red, whilst that of the adult is said to be yellow. This bird is so exceedingly similar to the African Houbara (*H undulata*) that I consider them to be doubtfully distinct, but Gould and other late writers still separate them, the black on the crest of the Indian bird being one of the chief distinctions.

The Indian Houbara is found throughout the plains of the Punjab and Upper Sindh, occasionally crossing the Sutlej and the Indus lower down, and it has been killed at Ferozepore, Hansi, and in various parts of Hurriana, but no records exist of its occurrence eastwards of Delhi. It is probably a permanent resident, as no notice is given of its occurring at any particular season. It frequents open sandy and grassy plains, or undulating sandy ground with scattered tufts of grass, also wheat and other grain fields; and is generally met with in such bare and open ground that, being shy and wary, it is approached with difficulty, except in the heat of the day, when it lies down in a thick tuft, or other shelter, and can be approached with ease. Major James Sherwill informed me that it is very abundant across the Indus at Derajat and towards the frontier of Sindh; and that a black hawk which hunts in pairs often kills a wounded bird, and has been seen to strike a sound one. The Houbara is much hawked both in the Punjab and Sindh, and the Falcon exclusively used for this purpose is the *Charragh* (*Falco sacer*, vol. 1, p. 30). It

occasionally baffles the Falcon by ejecting a horribly stinking fluid which besmears and spoils the plumage of the hawk; just as, in Africa, its congener is stated to behave towards the *Sakr* falcon. Adams states that it is very destructive to young wheat fields in winter, eating the young shoots, but its chief food is doubtless insects of various kinds. The flesh is said to be exceedingly tender, and is often so loaded with fat, that skins are with difficulty dried and preserved.

This species is common in the bare stony plains of Afghanistan, where it is stated to occur in packs of five or six together, to fly heavily, and for a short distance only, soon alighting and running, and is there called *Duglaor*. It also occurs in various other parts of Asia, in Mesopotamia and elsewhere; it has been occasionally killed in Europe, and one specimen was shot in England in Lincolnshire, which had its craw filled with caterpillars, snails, and beetles.

The egg of this species procured in Mesopotamia, is figured in a late volume of the Illustrated Proceedings of the Zoological Society. It is of the usual color. *H. undulatu*, the Houbara of Northern Africa and Arabia is often killed in Spain, and is said to be a great delicacy. *O. ruficrista*, A. Smith, perhaps belongs to this genus.

Gen. SYPHEOTIDES, Lesson.

Syn. *Comatitis*, Reichenbach.

Char.—Bill moderately long and broadish; legs lengthened, with a large portion of the tibia bare; in nuptial plumage the male with more or less white wings, and mostly black plumage, highly crested or with ear-tufts, and, in some, the breast plumes greatly developed. Females larger than the males.

This genus comprises the large Florikin of Bengal, and the lesser Florikin of Southern India, called the *Lakh* or *Leek* in the North. In both of these species, the hen bird undergoes no change of colour at the vernal moult, but is considerably the larger and heavier bird; whilst the cock changes to nearly all black, and a crest or ear-tuft is developed. The down at the base of the body-feathers is a beautiful rosy-pink colour, and these are very loosely set, coming off very readily.

838. *Sypheotides bengalensis*, GMELIN.

Otis, apud GMELIN—BLYTH, Cat. 1540—*O. deliciosa*, GRAY—HARDWICKE, Ill. Ind. Zool. 1, pl. 61 and 62—*O. Himalayana*, VIGORS—GOULD, Cent. Hum. Birds, pl. 73,74,75—*Charras*, or *Charaj*, or *Charaz*, II.—called *Dabar* in the Nepal Terai.

THE BENGAL FLORIKIN.

Descr.—Male, in full breeding dress, has the whole head, which is very fully crested, neck, breast, and lower parts, with the thigh-coverts, deep glossy black; the plumes of the breast elongated, forming a full breast-tuft, and the feathers of the neck in front also lengthened; the back, with the scapulars and the tertiaries, rump, and upper tail-coverts, rich olive buff, closely and minutely mottled with jet black zig-zag markings, and a black dash in the centre of each feather; shoulders, wing-coverts, and quills, pure white, with the tips, shafts, and outer edges of the first three primaries only black; tail black, minutely mottled with buff, and with a broad white tip

Bill dusky above, yellowish beneath; irides brown; legs dingy pale yellowish; the knee-joint and the toes livid blue. Length 24 to 27 inches; extent 44 to 47; wing 14; tail 7; tarsus 6; bill at front $1\frac{1}{4}$; weight $3\frac{1}{2}$ lbs.

The female has the head (which is moderately crested), and the whole upper plumage pale fulvous, with black and brown mottlings, barrings and vermiculations; the ear-coverts are whitish, and the neck is minutely dotted with dark lines; the primaries are banded dark brown and fulvous. Irides dull yellow; legs dirty yellow. Length 28 to 29 inches; extent 50. Weight 4 lbs.

Young birds are probably at first colored like the females. Males, in winter dress, (perhaps only the younger birds,) have the head, neck, and wing-coverts as in the female, the primaries white, and more or less of the lower plumage black, as in one of Gould's figures. Many birds in this state of plumage are killed during the cold weather and even as late as July. I think it doubtful if young males assume this plumage the first year, and I am inclined to consider that it is the winter dress of all except, perhaps,

very old males. Perhaps males of the previous year do not assume the full breeding dress at the first spring moult; and it is possible that older birds may always retain it more or less, for in February I have shot Cock-birds with the whole head and neck black, but the crest and pectoral plumes not developed, and the feathers of the neck thin and short. Hodgson indeed asserts that the Cock bird always retains his fully adult livery, but that the crest and breast-hackles, in their most entire fulness, are only assumed as a nuptial dress. I have not myself had sufficient opportunities to decide on this point; but, judging from the analogy of the Likh Florikin, I would be inclined to think that all, except perhaps very old birds, do lose part of this black plumage on the neck and wing-coverts in an autumn moult; but that they assume this somewhat irregularly in point of time. In these imperfectly colored birds, too, the back, upper tail-coverts, and tail are lighter, with less black, and more of a fulvous hue with brown markings.

Hodgson says that the sexes are equal in size. I have measured and weighed many lately, and invariably found the difference nearly as great as that mentioned above, and the difference of colour in the irides of the two sexes is apparently constant. Analogy with the Likh Florikin would also suggest the inferiority in size of the male bird, which is, however, more marked in that species.

This fine bird is found throughout Lower Bengal north of the Ganges, extending to the south bank above the junction of the Jumna, and thence spreading through the valley of the Jumna into Rajpootana, the Cis-Sutlej States, and parts of the Punjaub; in the east it occurs in Dacca, Tipperah, Sylhet and Assam, and northwards to the foot of the Himalayas. It frequents large tracts of moderately high grass, whether interspersed with bushes or otherwise, grass churrs on rivers, and occasionally cultivation, but it appears to be very capricious in its choice of ground, several often congregating in some spots to the exclusion of others that seemed equally favorable for it. From February to April it may be seen, stalking about the thin grass early in the morning, and it is noticed to be often found about newly burnt patches; or one or more may be noticed winging their way to some cultivated spot, a Pea-field,

or Mustard field, to make its morning repast; after which it flies back to some thicker patch of grass to rest during the heat of the day. Birds, at this time, as well as during the earlier part of the year, are usually found singly, sometimes in pairs, male and female not far distant from each other; or, as stated previously, three or four will be found in some favored spot.

According to Hodgson, the Florikin is neither monogamous, nor polygamous, but the sexes live apart at no great distance; and this appears to be very probable. The Florikin breeds from June to August. At this season the Cock-bird may be seen rising perpendicularly into the air with a hurried flapping of his wings, occasionally stopping for a second or two, and then rising still higher, raising his crest at the same time, and puffing out the feathers of his neck and breast, and afterwards dropping down to the ground, and he repeats this manœuvre several times successively, humming, as Hodgson asserts, in a peculiar tone. Such females as happen to be near obey this saltatory summons; and, according to Hodgson, when a female approaches, he trails his wings, raises and spreads his tail, humming all the while like a Turkey-Cock. I have seen the Cock-bird performing this nuptial dance repeatedly, but have not witnessed the subsequent ceremonials, which, however, are likely enough.

At this time the hen Florikin is generally to be found in lower ground and thicker grass, and is flushed with difficulty, running far, and almost allowing herself to be walked over. She lays from two to four eggs, in some sequestered spot, well concealed in the grass, of a dull olivaceous tint, more or less blotched and coloured with dusky. Hodgson calls them sordid stramineous, minutely dotted and more largely blotched and clouded with black; he also states that the young remain with their mother for nearly a year; but I look on this as doubtful. Two females are said not unfrequently to breed near each other.

The flight of the Florikin is a steady, flapping flight, of no great speed, and it seldom flies very far before alighting. It is occasionally hawked with the *Baz* and *Bhyree*. It feeds chiefly on insect food, grasshoppers, beetles and caterpillars, but will also eat small lizards, snakes, centipedes, &c.; and Hodgson says

sprouts and seeds of various plants, and that their diet is chiefly vegetable. This, however, is opposed both to my own experience, and the analogy of the other members of this family. It occasionally, however, does eat sprouts and flowers of certain plants, but whether from choice, or taken in along with some grasshopper or beetle, I cannot say.

When feeding, or on bare ground, the Florikin is shy and wary, and will often rise at some distance, but sooner or later takes refuge in a thicker patch, and may be approached with ease; or it will elude the gunner altogether by running to some distance, or squatting. In the heat of the day it is generally flushed pretty close, even when the sportsman is on an elephant. In general, it is a silent bird, but if suddenly startled will rise with a shrill metallic *chik-chik*, occasionally repeated during its flight. The Florikin is highly esteemed for the table, being considered by some the most delicious game in the country; the flesh is brown without, with a layer of white within, juicy, and of a very high flavour. In some districts it is eagerly sought for by sportsmen, but is most frequently, perhaps, seen when tiger or large game are being hunted for with a long line of elephants, and consequently many escape being fired at. The churrs of the Burhampooter river are said especially to abound with Florikin, even to upper Assam. Parts of Rungpore, Purneah, and Goruckpore, all afford fair Florikin shooting, as do many portions of the N. W. Provinces, from Delhi to Rohilcund and Oude.

839. *Sypheotides auritus*, LATHAM.

Otis, apud LATHAM—JARD. and SELBY, Ill. Orn. pl. 40, 92—Belanger, Voy. aux Ind. Orient. Zool., pl. 10—JERDON, Ill. Ind. Orn. pl. 33.—BLYTH, Cat. 1542—O. fulva, SYKES, Cat. 167—JERDON, Cat. 282—Charaz or Charas, H. in the South of India—Chulla charz, H. in some parts—Likh, H. in Hindoostan—Tan-mor, Mahr.—Kan-noul, Can.—Niala nimili, Tel., the last three names signifying Ground pea-fowl—Wurragu koli, Tam.—Khartitar, of the Rheels near Mhow, i. e., Grass-partridge—vulgo, Ghas ka murghi, or Grass Fowl.

THE LESSER FLORIKIN.

Descr.—Male, in full breeding plumage, with the head, neck, ear-tufts, medial wing-coverts, and the whole lower plumage deep black, the chin alone being white; lower part of the hind neck and a large patch on the wing white, the rest of the plumage fulvous, beautifully and closely mottled with dark brown; the first three primaries plain dusky brown, the remainder both barred and mottled with brown. The down at the base of all the feathers is a beautiful pale dull rose-colour, and the quills, when freshly moulted, have a beautiful bloom, mingled pink and green, which however soon fades. The ear-tufts are about 4 inches long, and have usually three feathers on each side; with the shaft bare, and a small oval web at the tip, curving upwards. The primaries are much acuminate, sometimes ending in a point almost as fine as a needle.

Bill dusky above, the edges of the upper, and all the lower mandible yellowish; irides pale yellow, clouded with dusky; legs dirty whitish yellow. Length 18 to 19 inches; wing 8; tail 4; bill at front $1\frac{5}{16}$; tarsus barely 4. Weight 16 to 18 ozs.

The female has the prevalent tone of her plumage pale fulvous-yellow, the feathers of the head, back, wings, and tail, clouded and barred with deep brown, those on the head mostly brown; the fore-neck with two irregular interrupted streaks, increasing on the lower neck and breast, the lower plumage thence being unspotted and albescent; the hind neck is finely speckled with brown; the chin and throat white; the first three primaries, as in the male, unspotted brown; wing-coverts with only a few bars; axillaries brown.

Bill, legs, and irides as in the male, but the irides generally unclouded yellow. Length 19 to 21 inches; wing $9\frac{1}{4}$; tail nearly 5; bill at front $1\frac{1}{2}$; tarsus $4\frac{1}{2}$. Weight 20 to 24 ozs.

The male, in winter dress, closely resembles the female, but has always some white on the shoulder of the wing; and some of the wing-coverts also partially white; the under wing-coverts being dark brown, whilst in the female they are fulvous. Of course during the vernal and autumnal moults, male birds with every gradation of colour will be met with, and some of these are figured in the *Bengal Sporting Magazine*, and in *Belanger's Voyages*. The differ-

ence between the size of the male and female is much more marked in this species than in the last

Franklin and Sykes having, in their respective Catalogues, pronounced the common Florikin of Central and Southern India distinct from the Black Florikin, I entered at some length in my Catalogue, and also in my Illustrations, into this subject, and from the latter work I extract the following observations :—

“ My reasons for believing the Black and the common Florikin to be one and the same bird, may be here briefly recapitulated.

1stly. “ All *Black Florikin* hitherto examined have been male birds.

2ndly. “ The *Black Florikin* agrees exactly in size, and comparative dimensions, with the male of the *common Florikin*, as described fully by Colonel Sykes, but more especially in the length of wing, and acumination of the primary quills, the points insisted on by him, and most correctly so, as the essential points of difference from the female.

3rdly. “ Some black feathers are in general to be found on every Cock-bird, not however always noticeable till the feathers of the abdomen are pulled aside ; and this mottling with black varies from a feather or two to so many that the bird would be considered by sportsmen a *Black Florikin*.

4thly. “ I have watched the progressive change in birds at Jalnah, where a few couple always remain and breed, from the garb of the female to the perfect *Black Florikin*, and back again from this the nuptial plumage, to the more sober livery of the rest of the year.

5thly. “ I have seen more than one specimen of the cock-bird in the usual grey plumage, which, from some cause or other, had not as usual dropped the long ear-feathers, but these had, in conformity with the change in the system causing this alteration of plumage, become white

“ These reasons will, I trust, be considered sufficient to convince the most sceptical sportsmen of the identity of the common and *Black Florikin*. Other testimony might be brought forward in support, but I shall only cite that of Lieut. Foljambes, in a brief paper in the Journal of the Asiatic Society of Bengal, who, from observations in Guzerat, where they appear very numerous, states it as his belief that they are the same bird, but that the Black one

is only met with in Guzerat during the monsoon, which, as we shall soon see, is the breeding season."

The Leek or Lesser Florikin is found throughout India, from near the foot of the Himalayas to the Southernmost districts, but has not, I believe, been seen in Ceylon. It is more rare in Northern India and Bengal, but has been killed even in Arrakan. It is most abundant in Central and Western India during the rains, and in Southern India in the cold weather, whilst those that have occurred in Bengal and neighbouring districts have chiefly been seen in the hot weather or commencement of the rains. I saw it on the banks of the Ganges in April and May, and know of its having been occasionally killed in Purneah in May and June. In the Carnatic, Mysore, the Deccan, and Northern Circars, it is chiefly found in the cold weather, from October to February and March; and in the westernmost portion of Central India and Western India, Guzerat, the neighbourhood of Malwah and Indore, and the southernmost portion of Rajpootana, chiefly during the rains, from June to September. The few that I saw in Saugor and the neighbouring country, occurred during the hot weather, at which time they leave the dried-up districts of Southern India, and migrate north in search of suitable shelter and food. As great part of the eastern portion of Central India, from the Godavery to Midnapore and Chota Nagpore, consists more or less of forest and jungles, the majority are drawn westwards into Malwah, Rajpootana, and Guzerat. Few occur in Malabar, but in Southern Canara there is at least one locality where they may be found in the cold weather.

"The lesser *Florikin* frequents long grass in preference to any other shelter. It is, however, often to be met with in grain fields, in fields of Cotton and Dholi, and in the Carnatic so much in those of the grain called *Warragoo*, as to be called in Tamool *Warragoo kollee*, or *Warragoo Fowl*. It feeds chiefly in the morning, and is then easily raised, but during the heat of the day it lies very close, and is often flushed with difficulty. I have known an instance of one being killed by a horse stepping on it. Now and then an exceedingly wary one is met with, which runs to a great distance, and takes wing well out of shot. When

walking or running it raises its tail, as is represented on the drawing, the lateral feathers diverging downwards, whilst those of the centre are the most elevated, as is seen in domestic fowls, &c., forming what Swainson calls an *erect* or compressed tail. The chief food of the *Florikin* is grasshoppers. I have found also blister beetles, (*Mylabris*) *Scarabæi*, centipedes, and even small lizards. When flushed suddenly it utters a kind of sharp 'quirk,' or note of alarm, and it is said also to have a feeble plaintive chirp or piping note, when running or feeding. Its flesh is very delicate, and of excellent flavour, and it is the most esteemed here, of all the game birds. Its pursuit is consequently a favorite sport, and from the open nature of the ground it frequents, it is well adapted for being hawked. I have killed it occasionally with the *Luggur*, but generally with the *Shaheen*, and have already given an account of the manner of hunting it. Should the *Shaheen*, miss her first stoop, I have seen the *Florikin* accelerate its speed so greatly, that the falcon was unable to come up with it again under 600 yards or so. I have seen one struck dead by the *Wokhab*, *Aquila Vindhiana*; I had slipped a *Luggur* at it, which was in hot pursuit, though at some little distance behind, when two of these Eagles came down from a vast height, and joined in the chase. One of them made a headlong swoop at it, which the *Florikin* most skilfully avoided, only however to fall a victim to the talons of the other, which stooped almost immediately after its confederate, and dashed the poor bird lifeless to the ground. It had not, however, time to pick it up, for I rode up, and the Eagles soared off most unwillingly, and circled in the air long above me. The *Florikin* had its back laid open the whole length."*

A few birds appear to breed in all parts of Southern India, from July to November, for I have put the hen bird off her nest in August in the Deccan, and in October near Trichinopoly; and have heard of the hen having been found incubating still later, up to January indeed; but the majority breed in Guzerat, Malwa and Southern Rajpootana, from July to September. I have found the cock-bird commencing to assume the black plumage at

the end of April, and have killed them with the black ear-tuft just beginning to sprout, hardly any other black feathers having appeared. In other instances I have noticed that these ear-tufts did not make their appearance till the bird was quite mottled with black. The full and perfect breeding plumage is generally completed during July and August. At this season the male bird generally takes up a position on some rising ground, from which it wanders but little, for many days even; and during the morning especially, but in cloudy weather at all times of the day, every now and then rises a few feet perpendicularly into the air, uttering at the same time a peculiar low croaking call, more like that of a frog or cricket than that of a bird, and then drops down again. This is probably intended to attract the females, who, before their eggs are laid, wander greatly; or perhaps to summon a rival cock, for I have seen two in such desperate fight as to allow me to approach within thirty yards before they ceased their battle. The female lays her eggs in some thick patch of grass, four or five in number, (one writer says seven) of a dark olive colour, with or without a few darker blotches, of a very thick stunted, ovoid form, very obtuse at the larger end. During this season the females are very shy and wary, seldom rising, though often running great distances; and when closely approached and unable to run further perhaps without being seen, squatting so close as to allow a man or dog almost to tread on them before they take flight.

I have never put up or taken a young Florikin. Soon after incubation has fairly commenced, the cock-birds appear to leave the breeding district, and gradually migrate southwards. At Trichinopoly about the end of September and beginning of October, the birds first met with are all cock-birds, generally in pretty fair plumage, but very rapidly assuming their more sober winter garb; and females are very rare till much later in the season.

The Lesser Florikin is occasionally snared and brought in alive by some bird-catchers, but the gun is had resort to in general to procure it. It is invariably called *Charras* by all Mussulmans in Southern India, although Mr. Hodgson asserts that I had no right to apply that name to it, and I have not yet learnt in what particular districts it is called *Likh*,

most probably in the N. W. Provinces. I have not been able to trace the origin of the Anglo-Indian word '*Florikin*,' but was once informed that the little Bustard of Europe was sometimes called *Flanderkin*. Latham gives the word '*Flercher*' as an English name, and this, apparently, has the same origin as *Florikin*.

The small Bustard of Europe, *Otis tetrox*, L., now classed as *Tetrax campestris*, is stated to have occurred in the Peshawur valley; but as I have not seen a specimen from that locality, nor heard of one having been examined, I shall only give a brief description of the species here, without enumerating it as one of the '*Birds of India*.' The bill and legs are short, the male has the usual mottled brown plumage above, the wing-coverts and the base of the primaries white, the rest of the primaries greyish-black, and the secondaries patched black and white; the tail with two dark cross-bars, and the tip and base white; checks, ear-coverts, and neck bluish-grey, edged with black, and below this a white ring in the form of a necklace all round the neck. Length 17 inches; wing $9\frac{3}{4}$. The female has less white than the male, wants the white ring, and the neck is coloured like the back. In winter the males are said to resemble females. This small Bustard, or what in India would be called a *Florikin*, occurs throughout Central and Western Asia, and North Africa, and is said at times to be gregarious. It is stated to frequent open plains, and to feed chiefly on vegetable matter.

Africa appears to be the Head Quarters of the Bustard family, and there are several forms peculiar to that Continent, whence some spread into Arabia. *Otis rhaad*, Shaw, *O. cœrulescens*, Vieill., (*Verrauxii*, A. Smith), and *O. scolopacea*, Temminck, (*Vigorsii*, Smith), are classed by Bonaparte under *Trachelotis*, Reichenbach; and *O. afra*, Linn., and *O. afroides*, Smith, are placed under *Afrotis*, Bonaparte. The last two Bustards, (if really distinct from each other) have quite the coloration of the *Sypheotides* group; and the same remark applies to *O. rhaad*.

Otis senegalensis, Vieillot., (*rhaad* apud Rüppell) and *O. melanogaster*, Rüppell, are placed under *Lissotis*, Reich. The latter also has much the plumage of a *Sypheotides* in non-breeding dress. Perhaps, from a want of knowledge of the changes of plu-

mage of these birds, some of the above species will require to be withdrawn.

The next great group is that of the Plovers, but some of the forms usually associated with these birds, and popularly called Plovers, are so distinct as to require their distribution into three different families, *Cursoridæ*, or Courier-plovers; *Glareolidæ*, or Swallow-plovers; and *Charadriidæ*, or Plovers and Lapwings.

Fam. CURSORIDÆ.

Cursorinæ, Gray.

Tarsi elevated; bill somewhat slender; three toes only. Plumage brown and rufous. Found in the warmer and temperate parts of the Old World.

Courier-plovers resemble Bustards in their anatomy, having a large membranous stomach and short intestines, but they are of small size and do not change their plumage at the breeding season. Representatives of two genera are found in India.

Gen. CURSORIUS, Latham.

Syn. *Tachydromus*, Illiger.

Char.—Bill moderately long, slender, slightly arched throughout and bent at the tip; nostrils oval, not placed in a groove; wings moderate, the first and second quills longest; tail short, even, of twelve feathers; tarsi long and slender, scutellated; lateral toes short, divided to the base; nails small.

The Courier-plovers form a small group distributed over the Old World to the Indian islands, frequenting bare plains on which they run freely; they feed almost entirely on coleoptera and other insects. One species is peculiar to India. Gray makes them a sub-family of the Plovers, but the distinctive points of their anatomy make it desirable to separate them. Degland even places them among the *Otitidæ*.

840. *Cursorius coromandelicus*, GMELIN.

Charadrius, apud GMELIN—BLYTH, Cat. 1545—SYKES, Cat. 206—JERDON, Cat. 371.—*C. asiaticus*, LATHAM—*Tachydromus orientalis*, SWAINSON—Núrí, H.—*Yerrá chitana*, Tel., also *Dura-wayi*, Tel.

THE INDIAN COURIER PLOVER.

Descr.—Top of head bright ferruginous; lores, continued through the eye to nape, black, and a white eyebrow; upper plumage pale ashy or isabella brown; quills and primary-coverts black; chin white; neck and breast pale isabella rufous, deepening on the abdomen to chesnut, and terminating in a black bar on the middle of the belly; lower abdomen, vent, and under tail-coverts white.

Bill black; irides deep brown; tarsus creamy white. Length 9 to 10 inches; extent 19; wing 6; tail $2\frac{3}{4}$; tarsus $2\frac{1}{4}$; bill at front $\frac{7}{8}$.

The Courier-plover is found throughout the greater part of India; it is unknown in lower Bengal and the Malabar Coast, is rare in upper Bengal and Behar, and very abundant in the Deccan and Western India. It associates in small flocks, frequenting the barest plains and ploughed lands, and is very abundant on the Cavalry parade ground at Jalna. It runs about rapidly, nodding its head occasionally when it stops, and picks up various insects, chiefly coleoptera and the larvæ of certain grasshoppers. Burgess states correctly that it has the peculiar habit of running for a distance at speed, suddenly stopping, erecting the body, and then starting off again.

It breeds on a hollow in the ground, from March to May, laying usually three eggs, of a pale greenish yellow colour, much blotched and spotted with black, and with a few dusky olive spots. It is rather a silent bird. The eggs of the European bird have been figured in the 'Ibis' vol. 1, pl. 2; they are said to be always three in number, plover-like, with numerous minute red spots on a greenish ground.

Mr. Blyth writes me that *C. isabellinus* apud Horsfield is *Charadrius veredus*, Gould.

Other species are *Cursorius gallicus*, Gmel., (*isabellinus*, Meyer), the cream-colored Courier, found in Africa and the South of Europe, and occasionally met with in England; two or three others from Africa, and one from the Indian islands, *C. rufus*, figured by Gould in his *Icones Avium*.

Gen. RHINOPTILUS, Strickland.

Syn. *Macrotarsius*, Blyth—*Chalcopterus*, Reich.—*Hemerodromus*, Henglin.

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

This form combines the large eye and somewhat the colours of some of the true Plovers, especially of the Dottrels, with the lengthened legs and general structure of the Courier-plovers. It is composed of one Indian and two or three African species, one of which, *Cursorius chalcopterus*, Temm., (subsequently separated as *Chalcopterus*) nearly agrees in character with the Indian bird; the other species, *C. bicinctus*, being said by Bonaparte to approximate *Cursorius*. As far as is known of their habits from the Indian bird, they may be said to be a mountain form of *Cursorius*, frequenting rocky hills with thin jungle.

841. *Rhinoptilus bitorquatus*, JERDON.

Blyth, J. A. S., XVII. 254—*R. bicinctus* apud BONAPARTE, (olim)—*Adavi wuta-titti*, Tel., i. e., Jungle empty-purse.

THE DOUBLE-BANDED PLOVER.

Descr.—Above sandy brown with a faint pink gloss, the dorsal feathers slightly margined with rusty brown,* and the wing-coverts more conspicuously with pale rufescent; crown of the head black with rusty lateral margins to the feathers; a broad white supercilium, commencing with the lores, is continued round the occiput, and there is a less defined (but equally conspicuous) rufescent white streak along the mesial line of the head; ear-coverts streaked dusky and ferruginous; throat white, with a broad rufous band below it; this is bordered by a narrow white semi-collar, continued to below the ear-coverts and narrowly edged above and below with dusky, then follows a broad brown gorget, and another white collar, margined above and below with dusky; this again is succeeded by brown, forming an ill-defined band on the lower part of the breast, and the rest of the lower parts are isabelline, with white upper and lower tail-coverts; primaries and their coverts black, the first two primaries largely and obliquely marked

with white, which is reduced to a large sub-terminal spot on the inner web of the third primary, and a small analogous spot on the fourth; tail white at base, extending for two-thirds of the length of the exterior web of its outermost feather; the terminal half of the tail black, passing basally into brown, and all but the middle feathers having a small white spot at the extremity of their inner webs.

Bill yellow at the base, horny at the tip; irides dark brown; legs pale fleshy yellow. Length $9\frac{1}{2}$ to 10 inches; wing $6\frac{1}{2}$; tail 3; tarsus $2\frac{1}{2}$; middle toe with nail not 1; outer toe barely $\frac{1}{2}$; bill at front $\frac{3}{4}$.

This remarkable Plover has hitherto, I believe, only been procured by myself, from the hilly country above the Eastern Ghâts, off Nellore, and in Cuddapah. It frequents rocky and undulating ground with thin forest jungle, and is found in small parties, not very noisy, but occasionally uttering a plaintive cry. I believe it to be a permanent resident. It is an almost unique instance of a species of Plover having such an extremely limited geographical distribution; and I imagine that hereafter it will be found spread through many parts of the Balaghat district and Mysore. Blyth writes me that *Hemerodromus cinctus*, recently figured in the Ibis, vol. V., is certainly of the same genus as this bird. It appears to be the young of one of the other African species.

Gray and Bonaparte place in this family *Charadrius ægyptius* of Linnæus under the name of *Pluvianus*, Vieill.; and a somewhat remarkable form, *Oreophilus totanirostris*, from Australia. The former has been killed in Europe, and is said by Degland to be intermediate between the Couriers and the true Plovers. It has the middle toe with the claw dilated and finely toothed internally, thus resembling the Pratincoles. It is supposed to be the *Trochilus* of Herodotus, said by him to take leeches and other parasitic animals out of the mouths of Crocodiles.

Fam. GLAREOLIDÆ, Swallow-plovers.

Bill short, arched; gape very large; wings long; tail even or forked; tarsus rather short, reticulated; hind toe present, small.

The Pratincoles, as they are sometimes called, are a peculiar group of birds which Cuvier placed at the end of the Grallatores as '*incertæ sedis*.' Their anatomy and especially the form of the sternum ally them to the Plovers, of which they are considered a sub-family by Gray; but they appear sufficiently distinct in their external characters, organisation and habits to separate them as a family. Linnæus placed them with the Swallows, which they resemble by their wide gape, short bill, and the forked tail of many; and Blyth even approximates them to *Caprimulgus*. The analogies to the *Caprimulgidæ* are certainly curious. The wide gape, short curved bill, the similar scutation of the foot, with the back toe slightly directed inwards, and the middle claw somewhat pectinated; its mode of flight, semi-nocturnal habits, and hawking for insects in the air all correspond with the night-hawks, and it will be an interesting problem for some future Darwinian to trace out the order of progression, and show the significance of these marks. The sternum is that of the *Charadriidæ*, with a double emargination, the tongue is broad and flat, with a thin serrated tip, and the stomach is strong and muscular. Keyserling and Blasius join the Pratincoles with the Courier-plovers to form one family. They are called Sea-partridges by the French from some fancied resemblance to a Gallinaceous bird. They seek their insect food chiefly in the air, but they also run well. They are stated to have a double moult, but do not change the colours of their plumage. They are found in all the warmer and temperate countries of the Old World.

Gen. GLAREOLA, Brisson.

Syn. *Pratincola*.

Char.—Bill short, convex, arched from the middle; gape very deeply cleft; nostrils basal, oblique, semi-tubular; wings narrow, very long and pointed, with the first quill longest; tail short and even, or long and forked; tarsi moderate, reticulated, slender; four toes; the outer toe united at the base to the middle one by a short web; middle claw pectinated; hind toe not touching the ground; nails pointed.

Two species occur in India, the one with a longish forked tail, of the same type as *G. torquata*, of Southern Europe; the other with a short and nearly even tail

With forked tail, restricted *Glareola* apud Gray.

842. *Glareola orientalis*, LEACH.

Lin. Tr. XIII. 132, with bad figure—BLYTH, Cat. 1543—*G. torquata* apud JERDON, Cat. 370—GOULD, Birds of Australia VI., pl. 23?

THE LARGE SWALLOW-PLOVER.

Descr.—Upper plumage, including the head, pale hair-brown; orbits white beneath, feathered; quills blackish, the shaft of 1st primary white externally; upper tail-coverts white; tail with the feathers white at their base, broadly tipped with blackish brown; beneath, the chin and throat rufous, surrounded by a black line from the gape, below this the breast and abdomen are rufous earthy, passing into white on the lower abdomen, vent, and under tail-coverts; axillaries and posterior portion of the under-wing coverts chestnut.

Bill black, gape red; feet dusky black; irides dark brown. Length 10 inches; extent 24; wing $7\frac{1}{2}$; tail $4\frac{1}{2}$, forked for about 1 inch; bill at gape nearly 1; tarsus $1\frac{1}{4}$. The young are spotted with pale fulvous.

This large Swallow-plover nearly resembles *G. torquata* of Europe, but differs conspicuously by its much less forked tail, in this approaching *G. limbata*, Strickl., of Africa. The figure of Gould quoted above has the throat fulvous white with blackish spots, and probably represents a distinct species.

The large Swallow-plover is found throughout India in suitable places, but chiefly in the cold weather, and I am not aware if it breeds in this country. It is generally found near large rivers, occasionally in very large flocks, hawking over the fields of grain or runnahs of grass, catching insects in the air, and sometimes uttering its peculiar call when flying. Now and then small parties may be seen, long after sunset, flying round and round some small field or cultivated patch, pursuing moths or

beetles, and now and then alighting on the ground. In the middle of the day, it may be seen seated in large flocks at the edge of some tank, or on a sand-bank in the river. It is quite possible that some few may breed in Northern India, but the majority probably migrate to Thibet and central Asia. I saw one pair of these birds as early as July in upper Burmah.

The nearly allied *Glareola pratincola* is found in Southern and Eastern Europe, Western Asia, and Northern Africa. *G. melanoptera*, Nordmann, differing in its black lower wing-coverts, is found in Tartary and other parts of Central Asia, and has been killed in Greece. It is figured by Gould in his Birds of Asia, pt. II., pl. 15, and might occur as a straggler in the N. W. Provinces. Two or three others from Africa are recorded.

With shorter and even tail, *Galachrysis*, Bonap.

843. *Glareola lactea*, TEMMINCK.

Pl. col. 399—BLYTH, Cat. 1544—*G. orientalis* apud JERDON, Cat. 369—*Utteran* in Sindh.

THE SMALL SWALLOW-POLOVER.

Descr.—Upper plumage pale brownish isabella colour; upper tail-coverts white; tail white, tipped with dark brown for about one inch on the centre feathers, diminishing to a quarter of an inch on the outer ones; primaries brown, the first four conspicuously white shafted; the inner web white on the last four or five; secondaries all white, tipped with brown; winglet dark brown; chin, throat, and breast pale isabella colour; belly and under tail-coverts white; axillaries and lower wing-coverts deep brown.

Bill black, the gape red posteriorly; feathered orbits white; irides deep brown; legs dusky green. Length $6\frac{1}{2}$ inches; extent $16\frac{1}{4}$; wing $5\frac{3}{4}$; tail 2; bill at gape $\frac{3}{4}$; tarsus $1\frac{1}{2}$.

The small Swallow-plover occurs throughout the greater part of the country, and is very abundant in some localities, especially near large rivers. Now and then large parties are seen hawking over the plains and fields, but it prefers hunting up and down the banks of rivers, over sandy churrs, and by large tanks. In localities where they abound, vast parties may be seen every evening after sunset taking

a long flight in a certain direction, capturing various insects as they fly. They live entirely on insects which they capture in the air, in many cases coleoptera. Several which I examined had partaken only of a species of *Cicindela*.

I found them breeding at Thyetmyo in upper Burmah, with the young just flown in May; and Mr. Brooks, Civil Engineer, Mirzapore, informs me that he found their nests in a large sandy churr near Mirzapore. The parents endeavoured to entice him away from their nests just like a Plover. The eggs are pale stone colour, with numerous small reddish-brown and a few dull purplish spots.

Another species of this division is recorded from Africa, *G. cinerea*, Fraser

G. grallaria, T., (*G. isabella*, V.,) from Australia, has enormously long wings and a short even tail, and is separated as *Stalua*, Bonap.

Fam. CHARADRIDÆ, Plovers.

Bill straight, stout, and moderately thick in some, slender in a few, more or less raised and swollen at the tip; nostrils placed in a long groove; wings moderately long, and pointed; tail usually short; tarsi long, reticulated in most, or scutellate near the feet only; toes usually short, connected at the base by a membrane; hind toe minute or wanting.

The gape in the Plovers is small; the gizzard is large and muscular; and they have moderately long cæca. The fissure in the sternum is very wide throughout.

Plovers are more or less gregarious birds that feed on bare plains, ploughed lands, moors and wilds, or wet meadow land; a few preferring the banks of rivers, sand-banks, or the edges of tanks. They run quickly, feed almost entirely on insects and worms, and the flight of most is easy or rapid. Many are migratory, others appear to be resident in the warm and temperate regions of the Old World. Their eggs are usually four in number, generally of a stone-yellow or green colour, richly blotched. Many are very noisy birds, and have a peculiar shrill or plaintive

cry. Nidificating, as they do, on somewhat open ground, their young are very liable to be taken, and the parent birds feign lameness, and adopt every sort of manœuvre to entice the supposed enemy away from their offspring. Most have a double moult, and in some the change of plumage is very great. All are good and wholesome eating, and some are not surpassed by many game birds. The eggs too, in various countries, are considered a great delicacy.

Plovers differ considerably from Snipes and Sandpipers, with which they are associated by some, in their shorter, stronger and harder bill, adapted for seizing insects and small shells off the surface of the ground, and not for insertion into the soft mud, as they seldom or never enter even shallow waters, most of them preferring dry ground. They have also a generally stouter and more robust make, several have the face nude, or with lappets of skin at the base of the bill, and a few are armed with strong spurs on the shoulder of the wings. In their anatomy they resemble the *Scolopacidae*, having a strong muscular gizzard, long intestines, and short or moderate cæca.

Plovers may be divided into *Charadrinæ*, or true Plovers, containing the Golden and Ringed-plovers; *Vanellinæ*, or Lapwings; and *Esacinae* or Stone-plovers; the first, grade into the Courier-plovers through the Dottrel; and the last are nearly related to some of the next family, the *Hæmatopodidæ*.

Sub-fam. CHARADRINÆ—Plovers.

Bill short, somewhat weak, slightly enlarged above at the tip; tarsi shorter than in the next two families, and more reticulated; wings long and much pointed, 1st quill usually longest; tail short, nearly even; hind toe generally wanting.

The true Plovers are mostly birds of small size, and more gregarious generally than the Lapwings, have a speedier flight, and the change of plumage at the spring moult is great in many, some of them becoming as black as the Florikin, others assuming a more or less rufous tinge on parts of the body.

The first genus is distinguished from the others by having a minute hind toe.

Gen. SQUATAROLA, Cuvier.

Char.—Bill enlarged at the tip, both above and below; nasal groove short; a very minute hind toe present, provided with a rudimentary claw; otherwise as in *Charadrius*.

This genus differs from *Charadrius* only in possessing a rudimentary hind toe and claw, and the colours and changes it undergoes at the spring moult are quite similar. Gray in his List of Genera places this genus among the Lapwings, far from its natural place.

844. *Squatarola Helvetica*, GMELIN.

Tringa, apud GMELIN—*T. squatarola*, LINNÆUS—BLYTH, Cat. 1558—GOULD, Birds of Europe, pl. 230—*Burra battan*, H.

THE GREY PLOVER

Descr.—In winter plumage, forehead and chin white; streak over the eyes, forepart of the neck, sides of the breast and flanks, white, variegated with spots of brown and ash colour; head and all the upper parts of the body dusky brown, the feathers edged and tipped with greyish white; belly, abdomen, thighs and upper tail-coverts, pure white; beneath the wing some long black feathers arising from the axilla; tail white, towards the tip reddish, with transverse brown bars which become paler and less numerous on the lateral feathers.

Bill black; irides dusky brown; feet blackish grey. Length 12 inches or so; wing 8; tail $3\frac{1}{4}$; bill at front $1\frac{1}{4}$; tarsus 2; mid toe $1\frac{3}{8}$.

In summer plumage the forehead, lores, throat, and whole lower surface, become deep black, edged by white on the forehead and sides of the neck, and the upper plumage is brown, more or less barred with black and white. The young birds differ from the winter plumage only in having the spots on the breast and flanks larger and paler, and the upper parts greyish with white spots.

The Grey Plover is found occasionally throughout India in the cold season, chiefly, perhaps, near the sea coast and in the north of India. I have obtained it from the Madras market, and seen it north-east of Calcutta on the banks of large rivers. It associates in moderately sized flocks, and is somewhat wary. It

inhabits all Europe, temperate Asia, the north of Africa, and Australia; is stated to breed far north, among mountains, and its eggs are said to be very large.

Varieties of the Grey Plovers are given from America and Australia, and one species, *S. rhynchomega*, with a very strong bill, from Abyssinia, is recorded by Bonaparte. Between the Grey and Golden Plovers, the same Ornithologist places *Zonibyx modestus* Licht. (*V. cinctus* Lesson,) figured Zool. Voy. de la Coquille, pl. 43.

Gen. CHARADRIUS, Linn. (as restricted.)

Syn. *Pluvialis*, Brisson.

Char.—Bill straight, short, compressed, swollen at the tip; legs moderate; wings long, pointed, 1st quill longest; tail short

The plumage of these birds is usually brown spotted with yellow, hence they are called Golden Plovers; in summer the whole lower surface becomes black, the upper plumage at the same time assuming a darker tinge. Several very closely allied species are found all over the world.

845. *Charadrius longipes*, TEMMINCK.

C. virginicus, apud BLYTH, Cat. 1560—*C. pluvialis* apud SYKES, Cat. 209, and JERDON, Cat. 359—*C. xanthocheilus*, WAGLER, GOULD, Birds of Australia, VI, pl. 13?—*C. orientalis*, SCHLEGEL—*Chota battan*, H.

THE GOLDEN PLOVER.

Descr.—In winter plumage the general colour above is dull blackish-grey, the edges of all the feathers with triangular spots of gamboge yellow; the primaries blackish; tail-feathers banded whitish and dull black; the chin white, front of neck and breast white, tinged with dusky and spotted with dull yellow; the rest of the lower plumage dull whitish; the flanks somewhat spotted with ashy and yellowish.

Bill dull black; irides deep brown; legs and feet dark plumbeous green. Length 10 inches; extent 20; wing $6\frac{1}{2}$; tail $2\frac{1}{2}$; bill at front $\frac{3}{4}$; tarsus $1\frac{1}{2}$.

In summer the upper plumage becomes darker, the ground colour being somewhat deeper, and the yellow spots diminished

in extent ; the forehead is white ; the cheeks, throat, neck, and middle of breast and abdomen, deep black, edged with white on the sides of the neck, breast, and flanks of abdomen ; lower tail-coverts white ; primaries black, the stem of the first white towards the tip, and the secondaries tipped with white, as are the median coverts ; tail brown, banded with black. Bill and feet deeper black than in winter.

The young have the colors somewhat as in the winter plumage, but the yellow spots above are less marked, the breast is more dusky grey, and they do not become so black the first summer as they do subsequently. Most birds shot early in the season have a good deal of black on the lower plumage, giving them a mottled appearance, and the same in April and May when resuming their summer garb.

The Golden Plover found in India, at first thought the same as the European, was afterwards identified as the American species, *C. virginicus* ; more recently it has been considered a distinct species confined to Eastern Asia, and some of the Islands. It is clearly the *C. pluvialis* apud Pallas, as opposed to *C. apricarius*, for, he says, smaller than *apricarius*, but with longer legs. It differs from the European species in its much smaller size, somewhat larger beak, longer legs, with more nude space on the tibia, and having the yellow spots on the lower part of the back more oval. It is now considered to be *longipes*, Temminck, differing from *virginicus* in having the axillaries light grey, and in some few other points. I am unable from want of specimens for comparison, to point out in what it differs from its nearest ally, *C. fulvus* of New Guinea and Australia.

This Golden Plover occurs throughout India in open plains, grassy downs, ploughed fields, and on the edges of rivers, lakes, &c., associating in flocks of various magnitude, and feeding on beetles and other hard insects, worms, &c. It has a shrill whistling call, and flies very rapidly. Many breed in this country, even towards the south, as at Nellore, but some appear to pass northwards for that purpose, and to return in September. The alteration of colour to black, takes place as well by a partial renewal, as by a change in the feather itself.

The eggs are four, of the usual yellowish stone color, with dark brown spots and blotches.

Gray, in his Catalogue of the Birds of the Pacific, gives *C. fulvus*, Gmel., (*xanthocheilus*, Wagler and Gould) as the species found in New Guinea and most of the Pacific islands; whilst *longipes* is said to extend to the Ladrone islands. The American species is *C. virginicus*; and there thus appear to be four races or species, *C. pluvialis* of Europe, Africa, and Western Asia; *C. longipes*, from Central and Eastern Asia including India; *fulvus*, from New Guinea, Australia, and the Pacific Islands; and *virginicus* in America. Some other races are recorded, but probably all will range under one or other of these four.

Gen. *ÆGIALITIS*, Boie.

Syn. *Hiaticula*, Gray.

Char.—Bill much as in *Charadrius*, but more slender; wings long. Of small size, often with a black collar round the neck, hence they are often called the Ringed-plovers.

There are two types of form in this genus even as here restricted, the one of somewhat stout form with shorter tail, which, at the spring moult, assumes more or less rufous colour on the neck and throat; and the other generally of smaller size and more slender make, with a black collar, and black frontal band, which does not become rufous at the breeding season.

1st. Of stouter make, *Cirrepidesmus*, Bonap.

846. *Ægialitis Geoffroyi*, WAGLER.

Charadrius, apud WAGLER—BLYTH, Cat. 1562—*H. rufinus*, BLYTH—*C. Leschenaultii*, LESSON?—*C. asiaticus*, Horsf?

THE LARGE SAND-POVER.

Descr.—Winter plumage greyish brown on the upper-parts, ear-coverts, and beneath the eye, and sides of the breast; the rest of the under parts, with the feathers immediately above the bill, and a streak over the eye, white; primaries darker, and the secondaries partly white on their outer web.

Bill blackish; irides dark brown; orbits blackish; legs greyish green; the toes darker. Length $8\frac{1}{2}$ inches; extent 17 to 18; wing $5\frac{1}{2}$; tail 2; bill at front 1; tarsus $1\frac{1}{2}$.

In summer dress, the forehead, lores, ear-coverts and beneath the eye, are black, having a white mark on each side of the forehead; the neck and breast are bright rufous, contrasting with the pure white throat; the head is more or less deeply tinged with rufous, and the back, and especially the scapularies are partially margined with the same.

This, the largest of the group, is chiefly found near the Sea coast, and at the mouths of large rivers, in considerable flocks. It is found over all India in suitable spots, retreating north in April and May to breed, and it is often brought to the Calcutta market for sale, but not in such numbers as the next species. I have procured it on the east-coast at Madras, and elsewhere, but never far inland. Blyth remarks that it is not till May that birds in summer plumage are procurable at Calcutta, and I never got them in the south of India in that garb. It probably occurs throughout Eastern Asia.

847. *Ægialitis pyrrhothorax*, TEMMINCK.

Charadrius apud TEMMINCK—*C. ruficollis*, CUVIER—*H. Leschenaultii*, LESSON—BLYTH, Cat. 1563—*H. rufinellus*, BLYTH—GOULD, Birds of Europe, pl. 299—*C. cirripidesmos*, WAGLER—*C. cantianus* apud HORSFIELD.

THE LESSER SAND-POVER.

Descr.—Precisely similar to the last, both in winter and summer plumage, from which it differs chiefly in size, being considerably smaller; the bill moreover differs slightly in shape. Length $7\frac{1}{2}$ inches; extent $15\frac{1}{2}$; wing 5; tail $1\frac{1}{2}$; bill at front $\frac{3}{4}$; tarsus $1\frac{1}{2}$. Bill black; irides blackish; legs plumbeous, darker on the toes.

Like the last, this little Plover prefers the vicinity of the Sea-shore, and large rivers. It is brought in great numbers to the Calcutta market, during the season; and Mr. Blyth has remarked that it does not assume its summer plumage till May. I have procured it in the Carnatic, at Madras, on the Malabar Coast, and elsewhere

also, but more rarely, and seldom far inland. Adams states that he shot it at the Chimouraree lake in Ladakh, and that it breeds there, but that he did not see it in the Punjab. This plover is found throughout great part of Asia and South-eastern Europe.

To this type I consider that the following species also belongs, although placed in the next group by Bonaparte.

848. *Ægialitis cantianus*, LATHAM.

Charadrius, apud LATHAM—BLYTH, Cat. 1564—JERDON, Cat. 362—GOULD, Birds of Europe, pl. 298.

THE KENTISH 'RING-POVER.

Descr.—Crown of the head and nape light brownish-red, the rest of the upper parts ashy-brown; primaries brown, the shafts white; tail with the central feathers as the back, the two outermost white, and the next partially white; forehead, a broad streak over the eye; and a ring round the neck, white; lores and ear-coverts black, and a black stripe on the forehead; lower parts white, with a large patch of black on each side of the breast.

Bill black; irides brown; feet dusky grey or blackish. Length $6\frac{3}{4}$ inches; extent 13 to 14; wing $4\frac{5}{16}$; tail 2; bill at front $\frac{7}{16}$; tarsus 1 or rather more. The female is said to differ in having the lores and ear-coverts brown instead of black, and less white and black on the head; and the young have neither white nor black markings.

The Kentish Ring-plover is more generally diffused in India than the last two species, being more frequently found far inland on the banks of rivers and large tanks; but, like the others, it prefers the neighbourhood of the Sea-coast, and large rivers near their mouths. It has a wide geographical distribution over the old continent.

H. ruficapilla, Tem., and *H. inornata*, Gould, from Australia are members of this group; and there are others.

The next group is that of the little Ringed-plovers, which frequent dry sandy plains, occasionally the sandy beds of rivers.

849. *Ægialitis Philippensis*, SCOPOLI.

Charadrius, apud SCOPOLI—BLYTH, Cat. 1567—JERDON, Cat. 360—SYKES, Cat. 210—*C. hiaticuloides*, FRANKLIN—*C. hiaticula*, apud PALLAS?—*Zirrea*, H.—*Byta ulanka*, Tel., also *Rewa*.

THE INDIAN RINGED-POLOVER.

Descr.—Frontal zone white, followed by a black band edged with white, which passes over the eyes as a superciliary mark; lores black, passing under the eyes through the ear-coverts; chin, throat, and lower face, passing as a collar round the hind neck, white; succeeded by a broadish black zone or ring which borders the white ring, gradually narrowing behind; upper plumage cinereous-brown; quills brown; tail, with the central feathers ashy-brown, tipped dark brown, the outermost feathers nearly all white, with a brown spot on the inner web, gradually increasing in extent and becoming ashy at the base; lower plumage and under wing-coverts white.

Bill black, yellowish at the base; irides deep brown; orbits yellow; legs yellow. Length $7\frac{1}{4}$ inches; extent $13\frac{1}{2}$; wing $4\frac{1}{2}$; tail $2\frac{1}{2}$; bill at front $\frac{9}{16}$; tarsus 1; middle-toe with claw nearly $\frac{3}{4}$.

The Indian Ringed-plover is found throughout India on open plains, ploughed land, dried up paddy-fields, and the edges of tanks and rivers, as well as on sand banks and churrs. It is generally in small flocks, from half a dozen to twenty or more, feeding not very close to each other, and running about in a lively manner, frequently taking flight, circling round with a cheerful whistling note, and alighting again near the same spot. It feeds on insects. Burgess found them breeding in April on sand banks in the middle of rivers, laying three eggs on the bare sand, of a rich stone-colour, spotted and freckled with grey and brown.

850. *Ægialitis minutus*, PALLAS.

Charadrius, apud PALLAS—H pusilla, HORSFIELD apud BLYTH, Cat. 1568—C. minor, apud JERDON, Cat. 361.

THE LESSER RINGED-POLOVER.

Descr.—Very similar to the last but smaller altogether, and with proportionally much smaller legs and feet. The upper plumage is of a somewhat darker shade; the quills are also blacker; the lateral tail-feathers have more white; the base of the lower mandible is more yellow, and the tertials are less lengthened.

Bill black, yellow at the base beneath; irides deep brown; orbits much larger than in the last, yellow; legs yellow. Length hardly $6\frac{1}{2}$ inches; wing 4; tail 2; bill at front $\frac{4}{10}$; tarsus $\frac{8}{10}$; middle-toe and claw $\frac{5}{8}$ or a trifle more

I procured this small Plover in the Deccan, generally among hills; and also from the top of the Eastern Ghâts inland from Nellore. It has precisely similar habits to the last, but appears to be more generally found in the interior than near the Coasts.

Blyth writes me that the specimen of *H. pusilla*, Horsf., in the India House Museum (in bad order) has the wing $4\frac{3}{8}$ long, and is therefore either *H. philippina*, or some other species. Pallas' bird appears to have been a young one, and he did not himself observe it; but his measurements are nearly those of this bird, and he states that it is much smaller than *hiaticula*. It resembles *A. minor* of Europe, but appears to be even smaller than that species which is said to have the wing $4\frac{3}{8}$ inches. It is perhaps Swinhoe's bird, *H. pusilla*, which, he says, frequents rice fields or fields of dry mould

There are many other species of *Charadrius* in America, Africa, and Australia. Amongst the foreign forms allied to these Plovers are the Dottrels, *Eudromias*, Boie (*Morinellus*, Bonap.) containing the well known Dottrel of England, *E. morinellus*, which frequents downs, ploughed land, and hilly-ground, breeding on high mountains. A second species is *E. caspius*, Pallas, from Central Asia, said to have been killed in Europe. *Charadrius obscurus*, Gmelin, and *C. mongolus*, Pallas, are placed by Bonaparte in *Pluviorhynchus*, next the Dottrels, but both *mongolus* and *caspius* appear to be very like the rufous phases of true *Charadrius*. A New Zealand form with lengthened bill, is named *Thinornis*; and this appears to me to grade towards *Hæmatopus*. *Erythronyx cinetus*, Gould, from Australia also appears to be a very distinct form, having the whole head and broad pectoral band black, and rather long legs. It has, however, four toes, and perhaps belongs to the Lapwings. *Phegornis*, Gray, (*Leptopus*, Fraser) is applied to an African bird, *Leptopus Mitchelli*, of Fraser. Several American Plovers of this group are arranged in various other genera, one of which, at all events, appears to be well marked, viz.,

Ochthodromus. *Anarhynchus frontalis*, Quoy and Gaimard, is placed by Gray next *Thinornis*, but perhaps does not belong to this group; it appears to me to have some affinities with *Streptopelia*.

Sub-fam. VANELLINÆ, Lapwings.

Of moderate or largish size; legs lengthened; bill moderately strong; a short hind toe frequently present.

Some are crested; a few have the wings spurred; and there are wattles of skin at the base of the bill in several. The plumage is in masses, and the tail usually white with a dark band.

This sub-family comprises the sections *Vanellæ*, *Sarciophoræ* and *Hoploptereæ* of Bonaparte's *Charadrinæ*; which are, I think, sufficiently characterized apart from the more typical *Charadrinæ* to form a distinct group.

1st. Vanellæ.

With four toes, the hind toe small, wing not spurred, nor in general, any lappets about the bill.

Gen VANELLUS, Linn. (restricted.)

Char.—Bill moderate, straight, compressed at the base, convex at the tip; nostrils linear in a cleft occupying two-thirds of the upper mandible; wings pointed, 4th and 5th quills longest; shoulder of wing with a tubercle; tail nearly even; a very short hind toe. Head crested.

This genus, as at present restricted, consists of but one species, the well known Pee-wit or Lapwing of Europe.

851. *Vanellus cristatus*, MEYER.

BLYTH, Cat. 1557—GOULD, Birds of Europe, pl.—. *Tringa vanellus*, LINN.

THE CRESTED LAPWING.

Descr.—Head with lengthened slender crest, black; behind the eye, ear-coverts, nape, and sides of the neck white; upper plumage green, glossed with purple and coppery, becoming golden

green on the lower back and rump, and with a golden fulvous tinge on the scapulars; primaries black, the first three greyish white at the tip; tail white at the base with a broad black terminal band, broadest on the medial feathers; lores, chin, throat, and breast glossy blue-black; lower breast, abdomen and vent white; lower tail-coverts chesnut.

Bill black; irides hazel-brown; legs orange-brown. Length 12 inches; wing 9; tail 4; tarsus 2.

In winter the chin and throat are white. The female only differs in having, it is said, a shorter crest than the male.

The English Pee-wit is found in India only in the Punjab. It occurs throughout great part of Asia and Europe. It breeds in the Punjab, and the eggs were found by Theobald. Its habits are very similar to those of the Indian Lapwings, and many anecdotes are related of its endeavouring to allure dogs or men from its young by feigning lameness, &c. It is the only species of the genus.

Gen. CHETTUSIA, Bonap.

Char.—Bill stronger than in restricted *Vanellus*; head not crested; plumage ashy; tarsi moderately long, otherwise as in *Vanellus*.

In this genus the technical characters are only slightly marked, but it forms a natural group, the species of which have strong migratory instincts. There are three species in India, none of which breed here; two of them are somewhat rare in most parts of the country, whilst the third is chiefly confined to the Northern, or perhaps the North-eastern part.

The first species differs from the other two in its mode of coloration, partly in structure, and also in its haunts; and it is by some retained in *Chettusia* as restricted.

852. *Chettusia gregaria*, PALLAS.

Charadrius, apud PALLAS—BLYTH, Cat. 1925—*Tringa keptuschka*, LEPOH.—*C. ventralis*, WAGLER, JERDON, Cat. 366—*C. Wagleri*, GRAY—The Black-breasted Sandpiper, HARDWICKE, Ill. Ind. Zool. 2, pl. 50—GOULD, Birds of Europe, pl. 292.

THE BLACK-SIDED LAPWING.

Descr.—Forehead and superciliary band passing round to the occiput white; top of the head black; back of neck and upper plumage generally of an olivaceous brown, tinged with grey; primaries black, secondaries white; tail white with a subterminal black band wanting in the outermost feather; a narrow band from the lores through the eyes, black; sides of head and neck, both in front and on the sides above, pale rufous, passing to brownish on the lower part of the neck, and to brownish-ashy on the breast; middle of the abdomen deep black, bordered posteriorly by deep chesnut; lower belly, vent, and under tail coverts white.

Bill black; irides dark brown; legs dull black. Length 13 inches; wing $8\frac{1}{2}$; tail $3\frac{1}{2}$; tarsus $2\frac{3}{16}$; bill at front $1\frac{2}{16}$. The female differs only in her somewhat duller tints. The young have the forehead and eyebrow pale rufous, top of the head and back brown with pale rufous borders, and the abdominal region all white.

This is a somewhat rare bird, and I have only seen it in Western India, at Jalna in the Deccan, and at Mhow in Central India. It frequents grassy plains in moderate sized flocks, of from eight to twenty, is rather shy, and has a peculiar cry, which however it does not utter frequently. It is a migratory bird, departing early in the year for Central Asia where, according to Pallas, it breeds; Adams states it to be pretty common during the cold months in fields and wastes near Loodiana; and Irby records it as exceedingly common on open sandy plains in Oudh and Kumaon, in flocks of from six to fifty. He further states that it flies close to the ground, and when on the wing shows a good deal of white. It is found all through Western Asia and the South-east of Europe, and has been killed in France.

Another species of this section, from Africa, apparently is *Chet. macrocerus*, Heuglin, (*crassirostris*, Hartlaub).

The next two birds approximate to each other very closely in plumage, and both frequent the vicinity of water. The white on their wings and tail is of great extent, and both are much paler in their tints than the previous species. One is furnished with a very small lobe of skin near the base of the bill.

853. *Chettusia leucura*, LICHT.

Vanellus, apud LICHTENSTEIN—*V. flavipes*, SAVIGNY—*L'Egypte*, Zool. pl. 6, f. 2—BLYTH, Cat. 1556.

THE WHITE-TAILED LAPWING.

Descr.—General colour above brownish-grey, with a reddish purple gloss on the mantle, extending over the tertiaries; head and neck browner and glossless; the throat and around the bill white; breast more ashy, the feathers margined paler; rest of the under parts, with the tail and its upper coverts white, the belly and flanks conspicuously tinged with dull rosy, or a roseate cream hue; primaries and their coverts black; the secondaries and their coverts largely tipped with white, and having a black bar above the white; rest of the wing-coverts like the back.

Bill black; irides brownish red; legs bright yellow. Length 11 inches; extent 23; wing 7; tail $2\frac{1}{2}$; bill at front 1; tarsus $2\frac{1}{2}$.

The White-tailed Lapwing is a rare bird in India. I procured it myself only once, on the margin of the large lake at Bhopal in Central India, in December, where it occurred in small flocks; my attention was first called to it by its peculiar cry. Blyth procured one specimen from the Calcutta Bazaar; it was once procured in the Dehra Doon, and no other record of its occurrence in India is noted. It is however stated not to be rare in Afghanistan, where it is called *Chiric*. Out of India it is chiefly known as an inhabitant of Northern Africa, and is said to be abundant in marshes near Thebes. At the time that Mr. Tristram published his account of its occurrence there, it was stated by him to be rare in European Museums; only one bad specimen existing in the British Museum, and none in that of Paris.

The following species differs from the two previous ones in possessing a small lappet of skin, which led Mr. Blyth to class it in the next genus to which it forms a near link; were it not for its colours and migratory habits it might perhaps be retained in that group. It has been separated as *Vanello-chettusia*, Brandt.

854. *Chettusia inornata*, T. AND SCHLEG.

Lobivanellus, apud TEMMINCK and SCHLEGEL, Faun. Jap.—*L. cinereus*, BLYTH, Cat. 1555—*Chappour*. H.

THE GREY-HEADED LAPWING.

Descr.—General colour of the upper parts pale greyish-brown, the head, neck, and breast, pure light grey, passing into black on the lower part of the breast, and terminating abruptly, contrasting with the white belly; primaries, their coverts, and the winglet, black; the secondaries and their coverts chiefly white, and the tertiaries concolorous with the back: upper tail-coverts white, slightly tinged with brownish; and tail pure white, having a black subterminal band, broad on its medial feathers, nearly obsolete on the penultimates, and quite so on the outermost.

Bill black; irides pale red; orbital skin, small frontal lobes, and basal portion of the bill, pale yellow; legs bright yellow. Length 15 inches; extent 32; wing $9\frac{3}{4}$; tail $4\frac{1}{2}$; tarsus $3\frac{1}{4}$; bill at front $1\frac{1}{2}$.

This fine Lapwing is not very rare in Bengal, but I have seen it in no other Province. It is stated however by Capt. Irby to be common in Oudh and Kumaon, about swamps and jheels, generally in lots of seven or eight. It is a migratory bird in India coming in the cold season, and departing in April to Central and North-eastern Asia. It is not recorded by Pallas, but it appears to be found in Japan. It is usually seen in moderately large flocks, from eight to a dozen or so not far from water, and when on the wing shews much white. It is generally a silent bird at this season. I have seen it abundant in Purneah, and in Dacca, and it probably will be found in all the countries to the Eastward.

C. macro-cercus, Heuglin, and *C. arabensis*, Eversman, are indicated by Bonaparte, but are perhaps identical with one or other of the last three species.

2nd. Sarciphoreæ.

With fleshy wattles at the base of the bill; with four toes.

Gen. LOBIVANELLUS, Strickland.

Char.—Bill moderately long and stout, the horny tip not much elevated; a lappet of nude skin at the base of the bill in front of the eye; shoulder of the wing furnished with a tubercle which

in some becomés developed at the breeding season into a short horny spur; tail even; wings long; a very small hind toe and rudimentary claw.

The Indian species has been separated by Reichenbach under the name of *Sarcogramma*.

855. *Lobivanellus goensis*, GMELIN.

Parra, apud GMELIN—GOULD, Cent. Him. Birds pl. 78—BLYTH, Cat. 1554—SYKES, Cat. 207—JERDON, Cat. 365—Ch. atrogularis, WAGLER—*Titai*, *Titi*, *Tituri*, *Titiri* in different parts of India—*Yennapa chitawa*, Tel.—*Al-kati*, Tam., i. e., the Man-pointer.

THE RED-WATTLED LAPWING.

Descr.—Head, back of neck, face, chin, throat, and breast, glossy-black; ear-coverts white continued in a stripe down the sides of the neck and round to the nape; back, scapulars, wing-coverts, and tertiaries, pale brownish green, the wing-coverts glossed with purple; a white band on the wing formed by the greater coverts and partly by the secondaries; primaries and most of the secondaries black; winglet black; tail white with a black band near the tip, the central feathers tipped brown; beneath from the breast white.

Bill red at the base, tip black; eyelid and wattle lake red; irides red brown; legs bright yellow. Length nearly 13 inches; extent 30; wing $9\frac{1}{2}$; tail $1\frac{1}{2}$; bill at front $1\frac{3}{8}$; tarsus 3.

This Lapwing is one of the best known birds of India occurring everywhere, from Ceylon up to Cashmere. It is replaced in Burmah by a closely allied race, *L. atronuchalis*, Blyth, in which the white ear patch does not extend round the nape. It is generally found not far from water, though now and then at some considerable distance: it is occasionally seen in the cold season in scattered flocks, but generally in pairs, or single. It feeds on various insects, shells, and worms. It breeds from April to July, laying four large eggs of a rich olive yellow colour with blotches of brown and grey. Its wiles to allure a dog or man away from its eggs or young are quite similar to those recorded of the English Pee-wit, but its cries are still more vociferous. It is a noisy bird at all times, and its

cry has been variously rendered as, "*Did he do it, Pity to do it, Dick did you do it.*" In the South of India it is recorded to sleep on its back with its legs upwards, and the Indian proverb '*Tithri se asman thama jaega, &c.*' 'can the Pee-wit support the Heavens,' is applied to a man who undertakes some task far above his strength.

V. tricolor, Horsf., (*cucullatus*, Temm.) is a nearly allied race from Java, &c.

Two species from Australia and two from Africa are recorded. The former two, *L. lobatus* and *L. personatus* have very large yellow wattles.

The next group barely differs, but there is no hind toe, and in all the lappets and nude parts are yellow; this group is much developed in Africa.

Gen. SARCIOPHORUS, Strickland

Char —Bill more slender than in the last, the tip scarcely elevated, wattles yellow; hind toe wanting, a tubercle at the shoulder, wings very pointed, 1st quill nearly as long as the 2nd, slightly longer than the 3rd

The following Indian species has been separated from the African ones as a minor group by Bonaparte under the name *Lobipluvia*.

856. *Sarciophorus bilobus*, GMELIN.

Charadrius, apud GMELIN—Pl Enl 880—BLYTH, Cat. 1552—SYKES, Cat. 208—JERDON, Cat 364—Zirdi, II.—*Chitawa*, Tel.—*Jithiri* in North-western Provinces—*Al-kati*, Tam.

THE YELLOW-WATTLED LAPWING.

Descr.—Head and nape black; rest of the upper plumage, including wing-coverts and tertiaries, chin, throat, and upper part of breast, pale ashy brown; a white streak from behind the eye bordering the black head all round, winglet and primaries black: secondaries white at their base, brownish black for the greater part of their length, the white increasing in extent towards the last, and with the tips of the greater wing-coverts forming a not very conspicuous white wing-band; upper tail-coverts white; tail white

with a broad blackish sub-terminal band, evanescent on the outer feathers; beneath, from the breast, pure white.

Bill yellow at the base, black at the tip; lappet pale yellow irides silvery grey, or pale yellow; legs yellow. Length nearly 12 inches; extent 27; wing $8\frac{1}{2}$; tail $3\frac{1}{2}$; bill at front 1; tarsus $2\frac{1}{2}$

The Yellow-wattled Plover is found throughout the greater part of India, and also Ceylon; is rare in forest-clad and very rainy districts, abundant in the drier parts of the country. It is rare in Bengal, but I have seen it in the Purneah district, and it has been obtained occasionally near Calcutta. It frequents dry stony plains, open sandy downs, and arable land, often very far from water; it associates in small flocks, except at the pairing season, and feeds on various beetles, white ants, worms, &c. It has a plaintive cry, much less harsh and loud than that of the Red-wattled Lapwing, which Col. Sykes likens to *Dee-wit, Dee-wit*.

I have found the eggs, three to four in number, of a reddish stone colour, spotted with brown and purplish, on ploughed land and on sand banks.

S. pileatus, Gmel., from Africa, and *S. pectoralis*, Cuv., from Australia, with a small red lobe, belong to the genus *Sarciophorus* as restricted by Bonaparte.

3rd. Hoploptereæ.

With strong spines on the shoulder of the wings.

There are two or three minor sections in this group, some with a distinct hind toe, others with only three toes. The Indian species belongs to the latter section.

Gen HOPTOPTERUS, Bonaparte.

Char.—Wings furnished with a long and stout, slightly curved horny spur, present at all seasons; no hind toe; otherwise as in *Vanellus*.

857. *Hoplopterus ventralis*, CUVIER.

Vanellus, apud WAGLER—HARDWICKE, III. Ind. Zool. — BLYTH, Cat. 1549—*Char.* Duvaucelci, LESSON.

THE SPUR-WINGED LAPWING

Descr.—Head including the long crest, face as far as the middle of the eye, and a broad band from the base of the lower mandible down the chin and throat, glossy black; a white line from behind the eye, bordering the black and meeting its fellow behind side of the neck and back pale ash-y, gradually passing into the brownish ash of the back, scapulars, and wing-coverts, and forming a pectoral band, between which and the black throat is a broad white space, quills black, white at their base; the white increasing in extent to the last secondary which is merely black-tipped; primary and secondary coverts white; the shoulder black; winglet white; tail feathers white, with a broad black tip, upper tail-coverts white, abdomen white, with an interrupted black band in the centre.

Bill black; irides deep brown, legs reddish black. Length 12 inches; extent 25; wing 8; tail 4; bill at front $1\frac{1}{8}$; tarsus $2\frac{1}{2}$.

The Spur-winged Lapwing is found throughout the greater part of India, but only along the course of the larger rivers. I have seen it on the Godavery, the Verbudda, the Ganges, and all its tributaries, for it appears more numerous towards the North of India than in the South; I have not myself seen it South of the Godavery, nor is it recorded by Col. Sykes or Walter Elliot. It is usually found single or in pairs, now and then in small flocks, but always in the sandy or shingly beds of rivers, or not far from their banks. It is not rare in mountain streams in the Himalayas, and I have shot it on the banks of the great Rungeet River in Sikim.

Mr. Brooks, C. E., found the eggs of this Lapwing on a sandy churr near Mirzapore; they were of the usual pale stone-green color, with blotches and spots of rich chocolate brown, but varying somewhat both in shape, and in the size and character of the spots.

Other species of this genus are *H. spinosus*, L. (*melasomus*, Swains), from Africa and Western Asia, occasionally killed in the South of Europe; in Bree's Birds of Europe this species is erroneously quoted as the Indian bird: *H. armatus*, Burchell, (*speciosus*, Wagler), with a still stronger and longer spur, hence

separated as *Xiphidiopterus*, Bonap., and *H. albiceps*, Fraser. An American Lapwing with spurred wing and four toes is *Parra cayanaensis* of Gmelin, from which Reichenbach has formed his *Belonopterus*, and *C. cayanus*, Latham, appears to be another species of the same group.

Vanellus melanocephalus, Rüppell, is classed as *Tylibyx* by Reichenbach, and the same Systematist has formed *Stephanibyx* from *C. coronatus*, L., with one or two other American Lapwings.

Sub-fam. ESACINÆ, Stone-plovers.

Syn. *Ædicneminae*, Bonap.

Of large size, bill very strong and thick, dilated both above and below, and compressed, gonys more or less strongly angulated; no hind toe; legs long.

This sub-family comprises some moderately large Plovers, with very strong and lengthened bills, and with a peculiar mode of coloration. Some frequent jungly and bushy ground, others the stony beds of rivers; they feed on slugs, insects, molluscs and crustacea. They have only one moult, and undergo no seasonal change of colour.

Gen. ESACUS, Lesson.

Syn. *Carvanaca*, Hodgson.

Char—Bill long, sub-recurved, strong, convex above, considerably compressed; the base thick and rounded; edges sharp, notched towards the tip as in *Ardea*; nares broad, linear, advanced, in a wide groove that extends from the base to the tip of the culmen; otherwise as in *Ædicnemus*.

The Indian member of this genus is referred by Gray and Bonaparte to *Carvanaca*, Hodgson, *Esacus* being reserved for a nearly allied Australian Plover, *E. magnirostris*, Geoffroy.

858. *Esacus recurvirostris*, CUVIER.

Ædicnemus, apud CUVIER—JERDON, Cat. 368—BLYTH, Cat. 1547—*Carvanaca grisea*, HODGSON—*Abi*, H. of Falconers—*Burra*

karwanak, H.—*Talur*, in Sindh—*Gang titai*, in Bengal, ~~the~~, the Ganges Lapwing.

THE LARGE STONE-PLOVER.

Descr—General colour above brownish sky-grey; forehead white; eyebrow, ear-coverts, and moustaches blackish; shoulders, winglet, some of the outermost wing-coverts, quills, and tip of tail blackish; wings and tail irregularly but broadly banded with white; beneath, with the lower surface of wings and tail, white.

Bill greenish-yellow at the base, black at the tip; irides bright pale yellow; legs yellow. Length 19 to 20 inches; extent 36; wing 11; tail $4\frac{1}{2}$; bill at front $2\frac{1}{2}$; tarsus $3\frac{1}{4}$.

This large Plover is found throughout India, frequenting the Sea-coast occasionally, but chiefly the stony beds or banks of large rivers, alone or in small parties. It feeds on crustacea and shell fish, with occasionally insects. Hodgson states that it is migratory to Thibet in summer, but I have seen it in Southern India at all seasons, though I have never procured its eggs, and Layard found it breeding in Ceylon. It is a very shy and wary bird, though at times it will suffer a moderately near approach. I have never seen it more than a few yards away inland from the banks of the rivers. It feeds much by day but probably also partially at night, and has a loud harsh creaking note. Layard obtained the eggs in Ceylon, of 'a pale nankeen colour, with numerous brown blotches.'

Gen. *ŒDICNEMUS*, Cuvier.

Char.—Bill very stout, thick, straight, compressed, culmen raised, the tip inflated both above and below; lower mandible with a strongly marked angular gonys; nostrils long, median in a groove about half the length of the bill; wings moderately long, 2nd quill longest; tail of twelve feathers, somewhat lengthened, much rounded; tarsus long, reticulated; three toes only, united at the base by a short membrane; nail of the middle toe dilated, trenchant, hollowed out beneath.

This genus comprises several closely allied species from the warm and temperate regions of both Continents. The plumage is

brown and striated, the eye very large, and the habits mostly nocturnal. The plumage somewhat recalls that of *Attagen* and *Thinocoris*, which perhaps ought to be placed near them. They live chiefly in arid and stony districts, also in thin jungle; they have only one moult, and no seasonal change of plumage whatever. The bill has been by some compared, not unaptly, with that of the Nuthatch.

859. *Oedicnemus crepitans*, TEMMINCK.

BLYTH, Cat 1548—SYKES, Cat 212—JERDON, Cat 367—GOULD, Birds of Europe, pl. *Karwanak*, II.—*Barsiri*, H. of some; *Tambi* of Falconers—*Aharma*, Beng—*Kalleydu*, Tel—*Kana mosal*, Tam., *i e.*, Jungle-hare—Bastard Florikin of some Sportsmen.

THE STONE-POLOVER

Descr.—Upper parts reddish ashy with a longitudinal dusky stripe down the middle of each feather; a pale bar on the wing formed by the tips of the coverts, quills black, the first with a large and conspicuous white spot near the middle, the second with one somewhat smaller; tail with all the feathers, except the central ones tipped with black, lores, cheeks, throat, belly, and thigh-coverts white; the neck and breast tinged with reddish earthy, and marked with fine longitudinal streaks; under tail-coverts reddish ashy.

Bill pale yellow at the base, black at the tip; irides and orbits yellow; legs and feet yellow. Length 16 to 17 inches; wing 9; tail $4\frac{1}{2}$; bill at front $1\frac{1}{2}$; tarsus $3\frac{4}{10}$.

The well known Stone-plover of England occurs in most parts of India down to the extreme South, frequenting bushy wilds, cleared spots in jungle, low, stony and jungly hills, also now and then patches of grass with bushes interspersed, but generally in some retired and secluded spots. It is more rare in Lower Bengal and in Mallabar than in most other districts. When a flock of these birds is disturbed, they fly a short distance, and then run and hide themselves, occasionally squatting so close as to have received from the Tamuls the name of the *Jungle-hare*. They are permanent residents in India, laying generally two or three

eggs of a stone-yellow colour, blotched and spotted with dark brown and grey, in March and April.

It is a favorite quarry for the *Shukra* with natives, for which its habits of lying close well adapt it, and it generally falls an easy prey. It is excellent eating, being very high flavored, and it has received the name of Bastard Florikin among some sportsmen in the South of India. It feeds almost entirely on insects, is quite nocturnal in its habits, and its wild, long cry may frequently be heard at night close to many stations, where you may hunt long, without finding it in the day time. The Stone-plover is found throughout a great part of Europe, Asia, and Northern Africa

Two or three affined species from Africa are recorded, and one or two from America; one from Australia with somewhat longer legs, *C. (grallarius*, Latham), is separated as *Burhinus*, Illiger. It appears intermediate between *Edicnemus* and *Esacus*

Fam. HÆMATOPODIDÆ, Bonap., Sea-plovers.

Feet with three toes, and with a small hind toe raised above the others; plumage variegated; bill varied, stout, legs long or moderate. Mostly Sea-shore birds

The birds that I include in this family are of three very different types, which might each form a distinct family, but a certain similitude in coloration and habits is apparent. The Turnstones, Oyster-catchers, and Crab-plovers are the three forms, to each of which I shall give the rank of a sub-family. Bonaparte places the Turnstones and Crab-plovers (*Dromas*) together in one family, and the Oyster-catchers in close proximity to them, in another; Gray in like manner, groups the first two sub-families together but includes them among the Plovers. All frequent the Sea-shore chiefly, the Turnstones alone occasionally wandering inland; they run quickly on the sand, and pick up various crustacea, shell-fish, &c

Sub-fam. STREPSILINÆ, Bonap.

Cinclina, Gray.

Bill short, conical, with the culmen flattened, the tip compressed and truncated, upper mandible slightly turned upwards; nostrils

basal; wings long, very pointed, the 1st primary longest; tail rounded, of twelve feathers; tarsus short; tibia barely denuded; toes divided to the base; a moderate hind toe; claws short and pointed.

This sub-family is composed of one genus, with only one species, found on sea-coasts over all the world.

Gen. STREPSILAS, L

Syn. *Arenaria*, Brisson—*Murinella*, Meyer—*Cinclus*, Moehring and Gray.

Char.—Those of the family of which it is the sole genus.

This remarkable type has the bill something like that of a Nuthatch, but stronger; it is a bird of small size, and has a double moult. Cuvier classed it, next the Phalaropes in the following family, but its strong bill, coloration, and habits are quite those of the present group

860. *Strepsilas interpres*, LINNÆUS

Tringa, apud LINNÆUS—BLYTH, Cat. 1602—JERDON, Cat. 356—GOULD, Birds of Europe, pl

THE TURNSTONE

Descr.—Head and neck white, the crown of the head, with some black stripes; a narrow black frontal band, continued behind the eye and meeting another narrow stripe of the same colour from the base of the lower mandible; shortly beyond, these unite into an incomplete collar, extending back along the sides of the neck, and in front expanding and forming a broad gorget covering the breast, and which, at its termination below, sends up another incomplete band towards the shoulder of the wing; mantle and wings chestnut brown mixed with black, especially on the scapulars; coverts edged with grey and whitish; primaries black, stem of the 1st white; secondaries tipped greyish; back, rump and upper tail-coverts white, crossed on the rump by a black band: tail white, with a broad sub-terminal band of black lower parts white

Bill black: irides deep brown: legs orange yellow. Length $8\frac{1}{2}$ inches; wing 6. tail $2\frac{1}{2}$; bill at front $\frac{3}{4}$; tarsus 1

The female differs only, it is said, in having the colours not so distinct, and the white on the head and neck less pure. In winter

plumage, the colors are not so pure and rich in tint as in the summer. The young have the upper plumage and sides of the neck and throat dark ashy-brown, the feathers edged paler, and the lower parts white. After the autumn moult the young are stated to be more pronounced in their coloration; and at the spring moult they assume the adult plumage.

The Turnstone is not a common bird in India, and chiefly frequents the sea-coast and rocky beds of large rivers. I have procured it above 200 miles inland, in the Deccan, on the edge of a large tank, and more abundantly on the sea-coast near Madras; Mr. Blyth has frequently obtained it from the Calcutta Bazaar. It is found throughout both Continents, chiefly on the sea-coast; it is said to lay on the sand or bare rock, well concealed under a projecting stone or tuft in some cases, four rather large eggs. They are pale greyish or greenish in color with large spots of grey and brown. It is stated to feed chiefly on small shells, and various insects; to live well in confinement in gardens, like Plovers, and to be easily tamed.

Bonaparte and Gray place next *Streptilas Aphriza*, with two species, *Tringa borealis*, and *T. virgata* of Latham; and *Pluvianellus socialis* of Hombron.

It is possible that *Anarhynchus frontalis*, a remarkable bird from the Oceanic regions may belong to this sub-family.

Sub-fam DROMADINÆ, Gray, (in part.)

Bill lengthened, compressed, smooth, barely grooved, very strong, with the culmen gently arching towards the tip which is pointed; lower mandible strongly angulated; gonys long, commencing near the chin; bill slightly descending at first from the chin; nostrils oval, lateral, near the base, pervious; wings long, equal to the tail, 1st primary longest; tail even, or barely rounded; tarsus very long, as also the bare portion of the tibia; feet much webbed, especially the outer and middle toe. Bonaparte makes this a separate family *Dromadidæ*, and places it between the *Chionidæ* and *Hematopodidæ*.

Gen. DROMAS, Paykull.

Syn. Erodia, Stanley, after Latham.

Char.—Those of the sub-family of which it is the only representative.