

brown blotches and spots, somewhat thickly clustered at the larger end. It is doubtful if it is also an inhabitant of China, as its name would imply.

677. **Dendrocitta frontalis**, McLELLAND.

P. Z. S. 1839—*D. altirostris*, BLYTH, Cat. 465—HORSE, Cat. 851—*Hamshi-bon*, Lepch.—*Kolio-ko*, Bhot.

THE BLACK-BROWED MAGPIE.

Descr.—Forehead, top of head, ear-coverts, throat and foreneck, deep black; wings and tail also black; wing-coverts (except those of the primaries) pure ash grey; the occiput, rest of the neck, breast and belly, whitish grey; the back, scapulars, upper and lower tail-coverts, vent and flanks, bright ferruginous or chesnut; the tibial feathers mixed grey and rufous.

Bill and feet black; irides brown red. Length 15 inches; wing $5\frac{1}{4}$; tail $9\frac{1}{4}$; bill at front 1, $\frac{3}{8}$ deep; tarsus 1. The bill is somewhat shorter, and much deeper than in the other species; the claws too are longer.

This Magpie is found only, in our province, in the South-eastern Himalayas, in the east of Nepal, and in Sikhim; it also occurs in Assam, where the original specimens were obtained. I found it near Darjeeling at from 3,000 to 5,000 feet of elevation. It is somewhat rare, though well known to the natives, and the Bhotia name, which is intended to represent the call, is curiously similar to the call of the *D. rufa*, as syllabized by Sundevall. It lives both on fruit, and on insects of various kinds.

678. **Dendrocitta leucogastra**, GOULD.

Trans. Zool. Soc., vol. 1., p. 89., pl. 12—BLYTH, Cat. 462—HORSE, Cat. 852—JERDON, Cat. 160.

THE LONG-TAILED MAGPIE.

Descr.—Forehead, face, ears, occiput, throat, neck, and breast, black; back of head and neck, white; wings black, with a white bar in the middle, formed by a band on the primaries; scapulars, back, and rump, bright chesnut bay; upper tail-coverts whitish; tail black, with the two outer feathers ashy grey, broadly tipped

black, as is the half of the 5th pair, and the base of the 4th; belly white; lower tail-coverts pale chesnut; bill short, not so deep as in the last; tail very long.

Bill black; legs and feet dark plumbeous: irides blood red. Length 19 inches; wing $5\frac{3}{4}$; tail 12; bill at front 1; tarsus $1\frac{3}{10}$.

This long-tailed Magpie, the handsomest of the tribe, is only found in some of the jungles of the Malabar Coast. I have seen it most abundant in the Wynaad; on the slopes of the Neilgherries up to 5,000 feet and upwards; also in Coorg and Travancore. Those which I killed had eaten fruit only. It has a loud call like others of the genus.

Another species, *D. ruficastra*, has lately been described by Gould from Southern Asia; and *D. occipitalis*. Müll., from Sumatra, is recorded in Bonaparte's Conspectus. Others of this family are *Temia varians*, from Burmah, with ten tail feathers, the central pair enlarged at the tip, and somewhat curled up as in the Drongos; also a new species of the same genus found by myself in Upper Pegu, *Temia cucullata*. *Glancopsis leucopterus*, Pl. Col. 265; *Gl. temnurus* Pl. Col. 337, both from Malacca; and *G. aterrimus*, Temm., from Borneo, are nearly related. *Ptilostomus*, from Africa, with two species, is referred here by Gray and others.

Sub-fam. FREGILINÆ, Swainson.

Syn. *Pyrrhocoracina*, Gray.

Bill more or less lengthened, slender and arched, slightly notched at the tip in some, and brightly coloured; nares covered with dense silky plumes; wings long and pointed; tail moderately long; tarsi stout, and lateral toes equal.

This sub-family contains only two genera, both of which are European, but are also found in the higher slopes of the Himalayas. In their habits they closely resemble Crows and Jackdaws, are more or less gregarious, and nidificate in rocks, or on high buildings. They are nearly related to the Crows, into which they appear to grade, and should properly have followed them.

Gen. FREGILUS, Cuvier.

Char.—Bill long, slender, arched, compressed; the tip entire; nostrils covered with setaceous plumes; wings long, somewhat pointed; 4th and 5th quills longest; tarsi strong, robust; tail square.

679. *Fregilus Himalayanus*, GOULD.

P. Z. S. 1862—*F. graculus*, apud BLYTH, Cat. 458—HORSF., Cat. 822.

THE HIMALAYAN CHOUGH.

Descr.—Black, finely glossed with purple and green; wings and tail black.

Bill and feet coral red. Length $15\frac{1}{2}$ inches; wing $12\frac{3}{4}$; tail $6\frac{3}{4}$; tarsus $2\frac{1}{4}$; bill at front $2\frac{1}{4}$.

It differs from the European species in its larger size and longer bill. It is found on the Himalayas in flocks, near the snows; some of them migrating, (with the Jackdaws) to the plains of the Punjab in winter. Its call is rough and harsh. Adams found it on the mountains of Cashmere; and it has also been sent from Nepal. Its wild excited flight, and still wilder cry, says Adams, attract the sportsman's attention.

Gen. PYRRHOCORAX, Vieillot.

Char.—Bill moderate or rather short, stronger than in *Fregilus*, and less curved, subulate; the tip of the upper mandible toothed; feet robust; claws strong, well curved.

This genus, with *Glancopis* and those very peculiar New Zealand birds, *Creadion* and *Neomorpha*, once referred by Bonaparte to this sub-family, are now separated by him as a distinct group of his *Curvirostrres*, leading to the Crows.

680. *Pyrrhocorax alpinus*, VIEILLOT.

Corvus pyrrhocorax, LINN.—GOULD, Birds of Europe, pl. 218—BLYTH, Cat. 457—HORSF., Cat. 823.

THE ALPINE CHOUGH.

Descr.—Brilliant black with iridescent tints; wings long, nearly reaching to the end of the tail.

Bill yellow; legs bright red. Length $16\frac{1}{2}$ inches; wing $11\frac{1}{4}$; tail 7; bill at front $1\frac{3}{8}$; tarsus $1\frac{1}{2}$.

The Alpine Chough is found in the higher ranges of the Himalayas. It lives in flocks, feeds on various fruits, especially on the mulberry; and it breeds in holes in rocks. In Europe it

is found on the Alps and Apennines; and it is noted by Powys as 'a curious, fearless, chattering bird.'

- One allied species, *Fregilus leucopterus*, Vigors and Horsfield, is found in Australia, since separated generically as *Corcorax*.

Podoces Panderi, a remarkable bird of Northern Asia, is placed by Bonaparte in this sub-family, but by Gray in his *Garrulinæ*, and it appears to have decided affinities or analogies for the *Timalinæ*.

The only sub-family of *Corvidæ*, not represented in India, is the **STREPERINÆ** or Piping Crows, from New Holland, New Guinea, and adjacent islands. Their bill is straight, long, compressed, broadish at base and advancing on the forehead; the tip sometimes notched, and the nostrils are linear, quite exposed, pierced in the bill. They are noisy birds, with lively manners and omnivorous habits. By their bill they appear to lead the way to the next family, the *Sturninæ*; and, at the same time, some of them have the habits of the Shrikes, whose place indeed, they partly take in Australia; most of them are coloured black, or black and white.

Fam. STURNIDÆ, Starlings.

Bill straight, or very slightly curved, longish, compressed subulate, often angulated at the base, slightly notched at the tip or entire; wings long, rather pointed; tail moderate or short; tarsi stout, moderate; lateral toes about equal.

The Starlings are, typically, birds of moderate size, with straight pointed bills, generally dividing the feathers at the base of the bill, which advance to the nostrils on each side. They have long pointed wings, fly well, and mostly walk on the ground, like Crows, which they much resemble in habits, being often gregarious, and feeding alike on grain, fruit, and insects. They nidificate in holes of trees or in buildings, a few constructing large nests in trees. In captivity they are docile and intelligent, and can be taught to imitate the human voice well. In most there is little or no difference between the sexes.

They are divided into *Sturninæ*, Starlings and Mynas; *Lamprotorninæ*, glossy Mynas, or Grakles; *Buphaginæ*, Ox-peckers; *Quiscalinæ*, Boat-tails; *Icterinæ*, Hang-nests; and *Agelainæ*, Maizers. The first three are peculiar to the Old World; the last three to America.

The Starlings may be said to grade from the Crows through the Australian Piping-crows, some of which much resemble large Starlings. On the other side they pass into the Finches, through the shorter-billed *Agelaiæ*, or Maizers of America, such as *Dolichonyx* and others.

Sub-fam. STURNINÆ.

Bill moderately long, compressed, straight, or slightly curved, entire in most; commissure usually angulated, or bent down towards the base; frontal plumes soft, dense, covering the base of the bill, which is prolonged backwards between the plumes; wings with the 2nd primary usually longest; the tail short, even, or slightly rounded; tarsus moderately long, stout.

This family comprises the Starlings of the Old Continent, and the Mynas of India, a group considerably developed throughout the Indian region. They are all more or less familiar, sprightly in their habits, loquacious, and easily domesticated.

The first group is that of the true Starlings, which are limited in number, and comprise two forms, the one distinguished by its nearly black color, and the other by its pied plumage, combined with some slight details of structure.

The typical Starlings are a very limited group, comprising only two species, one of which has but lately been discriminated, and is not very satisfactorily distinct. Both the European species occur in India, Northern Africa, and Western Asia.

Gen. STURNUS, Linnæus.

Char.—Bill long, straight, subulate, slightly depressed at the base; the culmen convex; tip obtuse, barely deflected; nostrils basal, partly closed by a vaulted membrane; wings with 1st quill minute; tail even, short; tarsus moderately long; lateral toes nearly equal; hind toe long.

681. *Sturnus vulgaris*, LINNÆUS.

GOULD, Birds of Europe, pl. 210—BLYTH, Cat. 580—HORSF., Cat. 800—*S. indicus*, HODGSON—*S. splendens*, TEMM.—*Telia-maina*, Hind.—*Tilora*, at Ghazeepore—*Nakshi-telia*, at Agra.—*Tilgiri*, in Cashmere.

THE COMMON STARLING.

Descr.—Glossy black, with a pale whitish or brownish tip to each feather, giving the bird a pretty speckled appearance; all the clothing feathers long and lanceolate. In very old birds the specks are said to disappear altogether, or nearly so. The young bird is dull brown.

Bill brown at first, for several moults, finally becoming rich yellow; legs yellow; irides brown. Length about 9 inches; wing 5; tail 3; bill at front through the feather $1\frac{1}{4}$; tarsus $1\frac{1}{2}$. The clothing feathers become longer and more pointed at each moult.

The common Starling is found, during the cold weather only, in the North-western Provinces of Bengal, as low down as Monghyr, South of the Ganges, and perhaps still lower; and as far as Purneah, at least on the North bank of the Ganges. It is, however, much more common further to the North-west, and I have never seen it out of the valley of the Ganges. It associates in large flocks, feeding both on grain, and on insects among cattle, associating with the common and Bank Mynas, and roosting on high reeds at night. Theobald found it breeding in Cashmere, in holes of bridges, of tall trees, &c.; the eggs pale clear bluish-green.

682. *Sturnus unicolor*, MARMORA.

GOULD, Birds of Europe, pl. 211—BLYTH, Cat. 581.

THE GLOSSY BLACK STARLING.

Descr.—Glossy black, never having any white specks to the feathers; the clothing feathers still more elongated than in the common Starling. Length $9\frac{1}{2}$ inches; wing $5\frac{1}{2}$; tail $1\frac{1}{2}$; bill at front 1.

This Starling, (found in the South of Europe; particularly in Sardinia, in Africa, and Western Asia,) is said by Adams to be common in Sindh, the Punjab, and in Cashmere, and to build in holes of decayed trees. It is possible that Theobald may have been referring to this species, when he describes the breeding of the former bird, but Adams says that *St. vulgaris* is also common in Cashmere.

Gen. STURNOPASTOR, Hodgson.

Syn. *Psarites*, Cabanis.

Char.—Bill nearly straight, slightly curving, more so than in *Sturnus*, deflexed at the tip, more depressed than in *Sturnus*, and stronger; base of the bill plumed to the nostrils, but ascending in the middle; orbits bare; wings shorter; tarsus and toes strong.

This genus chiefly differs from *Sturnus* by its bare orbits and pied plumage; and, as its name implies, is a sort of link between the true Starlings and Mynas.

683. *Sturnopastor contra*, LINNÆUS.

Sturnus, apud LINNÆUS—JERDON, Cat. 162—BLYTH, Cat. 579—HORSE., Cat. 801—EDWARDS, Birds, pl. 187—*S. capensis*, LINN.—*P. jalla*, HORSE.?—*Ablak maina*, H.—*Ablaka gosalik*, Beng., also *Guia-leggra*,—*Venda gorinka*, Tel.

THE PIED STARLING.

Descr.—Head, neck, and upper part of breast, glossy black; ear-coverts white, extending in a narrow line to the nape; back, wings, and tail, black, slightly glossed; upper tail coverts white, as also an oblique bar on the wing, caused by the lesser coverts and outer portion of the scapulars; beneath, from the breast, white, tinged with reddish-ash; under tail-coverts pure white. The young bird is more brown than black, and the colors are less defined.

Bill red at the base, yellow at the tip; legs yellowish; irides brown; nude skin and orbits orange yellow. Length 9 inches; wing $4\frac{3}{4}$; tail $2\frac{3}{4}$; bill at front $1\frac{1}{2}$; tarsus $1\frac{1}{2}$.

The *Ablaka* is found throughout a considerable part of India, but absent in the South and South-west. It is found throughout Bengal up to the foot of the Himalayas, extending as far as Allahabad at all events; towards the South it is found all along the Northern Circars to near Masulipatam, thence inland to Hyderabad, but no further South nor West, except perhaps a straggler here and there; thence it is found in Nagpore sparingly, more abundantly at Sangor, and through Bundelkund to Allahabad. It is unknown in the West Coast, in the Deccan, and at Mhow in Central India. According to Philipps it is found also in the Upper Provinces of India.

The Pied Starling is more abundant in the Northern Circars than anywhere else where I have seen it. It here associates in vast flocks of many hundreds, feeding among cattle. In general, it is only found in small parties. It feeds like the others on grain fruit, and insects. It is a familiar bird, feeding close to houses, and breeding on trees near houses, sometimes, as at Saugor, in the midst of the town; though as Mr. Blyth says, "it does not venture into the streets in Calcutta." It makes a large nest of sticks, grasses, and feathers, usually about 8 or 10 feet from the ground, and lays three or four eggs of a clear greenish blue. It breeds from April to June or July, according to the locality. It is very often taken young and caged; has a pleasant song, and is a great imitator of other birds.

Tytler observed a caged specimen of a uniform black colour which he believed to be a distinct race, and named *St. Moorii*, but Mr. Blyth, I know, did not consider it distinct. Birds from Asam, Burmah, and the eastwards generally, differ slightly from Indian birds by a distinct white supercilium, and some streaks of white on the forehead; this race has been named *S. supercilialis*, Blyth, J. A. S., 1863. It however should be compared with *Pastor jalla* of the Malayan region. *Pastor tricolor*, Housf. (*melanoptera*, Dandin), from Java; *P. temporalis*, Wagler, from China, and, perhaps, *Sturnus cueraceus*, Temm., from Japan, belong to this genus. *P. temporalis*, like *S. contra*, builds a large round nest on high trees; and the Japanese bird is aberrant, grading towards *Tenenuchus*.

We next come to the true Mynas, which have a rather shorter bill, slightly curved on the culmen, and a dull or slightly glossed plumage. The first group comprises the typical Mynas, a form peculiarly characteristic of the Indian province. They are birds of somewhat massive form and dull plumage, and feed chiefly on the ground, often associating with cattle. They prefer insect food, but will also eat grain, and, indeed, are almost as omnivorous as the Crows.

Gen. ACRIDOTHERES, Vieillot.

Syn. *Gracula*, Cuvier.

Char.—Bill rather short, stout, compressed; culmen gently curving and deflected; gonys slightly sloping upwards; nostrils

almost concealed by the frontal plumes, which extend above them their whole length; tail rounded; tarsus stout; feet strong; toes lengthened; the laterals nearly equal; claws moderately curved. The head is more or less crested, and some of them have a naked space behind and under the eye.

684. *Acridotheres tristis*, LINNÆUS.

Paradisea, apud LINNÆUS—BLYTH, Cat. 574—HORSF., Cat. 806—Pastor, apud SYKES, Cat. 113, and JERDON, Cat. 163—*Gracula gryllivora*, DAUDIN—*Maina tristoides*, HODGS.—*Maina*, H.—*Desimaina*, also in the north—*Salik*, Bengal, and *Bhat-salik*—*Bemni*, or *Saloo*, in Chota Nagpore—*Salonka*, Mahr.—*Gorwantera*, Can.—*Goranka* or *Gorinka*, Tel.

THE COMMON MYNA.

Descr.—The whole head, with moderate occipital crest, neck, and breast, glossy black; the rest of the plumage quaker or snuff brown,* darkest on the back and wing-coverts, and lightest beneath; primaries black with a white spot at their base, forming a conspicuous wing-spot; tail black with a white tip, successively broader from the centre pair; lower abdomen, vent, and under tail-coverts white.

Bill and orbits deep yellow; legs dull yellow; irides red brown with white specks. Length about 10 inches; wing $5\frac{1}{4}$; tail $3\frac{1}{2}$; bill at front $\frac{7}{8}$; tarsus $1\frac{3}{8}$.

Some specimens are much darker colored than others, and those from Ceylon appear to be always darker.

The common Myna is found throughout India, extending into Assam and Burmah. It is one of the commonest birds in the country, affecting towns, villages, and the neighbourhood of man rather than the jungles. It roosts, generally in large numbers, in some particular tree in a village or cantonment, and, morning and evening, keeps up a noisy chattering concert. Soon after sunrise the birds disperse, and in parties of two, four, six or more, wing their way in different directions, to their various feeding grounds. Some remain about villages and cantonments,

* Hence probably Linnæus' name *tristis*, the 'sad colour' of our forefathers.

looking out, like the Crows, for any fragments of cooked rice that may be thrown out by the side of a house, or even coming into a verandah for that purpose; others attend flocks of cattle, which they follow while grazing, picking up the grasshoppers disturbed by their feet; while some hunt for grain or fruit. The Myna walks well, nodding his head at each step, and hops occasionally. Its flight is strong, direct, and tolerably quick. It has a great variety of notes, some of them pleasing and musical, others harsh; some have a resonant metallic sound. One of its notes has been syllabized as *prakh, prakh*; another, when flying, as *tree, tree*.

The Myna is a household bird, breeding almost exclusively in nooks and eaves of houses, under the roofs, in holes in walls, or in pots hung out for that purpose by the natives. Mr Smith, in his Notes, says: "It has several broods during the year." I have not, however, found this to be the case in general. Hutton says that at Mussooree, where it is a summer visitant, it breeds in holes in trees; Layard says the same of it in Ceylon; and doubtless many do so also in Bengal, and in other parts of India. The eggs are four or five in number, pale bluish green.

The Myna is very commonly caged and domesticated and becomes very tame and familiar, often following its master about the house like a dog. It is a good imitator, and soon learns to pick up words and sentences. It is sacred to *Ram Deo*, on whose hand it sits.

This bird was introduced into the Mauritius from India, to destroy the grasshoppers, and is perfectly naturalized there.

685. *Acridotheres ginginianus*, LATHAM.

Turdus, apud LATHAM—BLYTH, Cat. 575—HORSE., Cat. 807—*Pastor gregicolus*, HODGS.—*P. Mahrattensis*, apud ROYLE.—*Ganga maina*, H—*Gung salik*, or *Ram salik*, Beng.—*Bardi-maina*, in Nepal—*Lali*, Sindh—*Gilgila* of the Upper Provinces.

THE BANK-MYNA.

Descr.—Head, with rather short occipital crest, *lores*, *ear-coverts*, and *nape*, glossy black; the rest of the plumage dull cinereous or

inky black, paling beneath; wings black, with the wing-spot ferruginous; tail black, tipped dull ferruginous; middle of abdomen, of vent, and the under tail-coverts, pale ferruginous. The frontal feathers are slightly erectile, and those on the sides of the head, are directed towards the median line.

Bill red, yellow at the tip; nude eye spot reddish; feet dull yellow. Length $8\frac{1}{2}$ inches; wing 5; tail $3\frac{1}{4}$; tarsus $1\frac{1}{4}$; bill at front nearly $\frac{7}{8}$.

The Bank Myna is found throughout Bengal, the Upper Provinces, and Sindh, extending into Central India as far as the Nerbudda and the Mahanuddy. I got it at Mhow and Saugor, though rare, and on the banks of the Nerbudda. It is also found in the lower Himalayas, extending, it would appear, into Affghanistan, as Horsfield has one specimen from Guiffith, stated to be from Candahar, but it is possible there may be some mistake about this, especially as Adams says that it is not found in the Punjab, nor in the Himalayas. It also extends into Assam and Burmah. It certainly does not occur in Southern India, notwithstanding its specific name taken from Gingi, south of Madras. It is especially abundant in the Gangetic provinces, not occurring, says Mr. Blyth, so low down the Hooghly as Calcutta, but abounds as soon as the banks of the river become of sufficient height for it to burrow in with tolerable security. It has the usual habits of the group, feeding much with catle, and partaking alike of insects, grain, and fruit. It breeds in holes in river banks, usually in large societies; also in holes in wells, as I saw commonly at Ghazeepore and neighbouring country; and lays, according to Theobald, as many as seven or eight eggs of the usual greenish blue colour.

The next bird has the same bulky form, but no naked space on the face, and the frontal feathers form a short, erect, narrow crest.

686. *Acridotheres fuscus*, WAGLER.

Pastor, apud WAGLER—JERDON, Cat. 164—HORSF., Cat. 810—P. *Mahrattensis*, SYKES, Cat. 114—A. *griseus*, apud BLYTH, Cat. 577—Maina *cristatelloides*, HODGS.—*Gracula cristatella*, apud SÖNDEVALL—*Puhari maina*, H.—*Jhonti maina*, H. in Bengal—*Jhont salik*, Beng.

Descr.—The whole head, small frontal crest, and ear-coverts, glossy black; the upper plumage fuscous black, or blackish brown, with a vinous tinge; primaries black, with a white spot near their base; tail also black, white-tipped, most broadly on the outer feathers; beneath, the throat and breast dull cinereous blackish; abdomen reddish cinereous, paling in the centre, whitish on the vent, and the under tail-coverts pure white; the secondaries are glossed with bronze towards their end.

Bill orange yellow; irides greyish white in the South of India, yellow in the North; legs yellow. Length $9\frac{1}{2}$ inches; wing 5; tail 3; bill at front $\frac{7}{10}$; tarsus $1\frac{4}{10}$.

This Myna takes the place of the last in hilly and jungly districts throughout India. I have found it on the Neilgherries, in the Wynaad, in parts of Mysore bordering on the Ghâts, and along the crest of the Western Ghâts, also in some of the jungles of Central India and Bundelkund. It is also found in Nepal, the more jungly parts of lower Bengal, Assam, and Burmah.

It is very remarkable that this species should have grey eyes in the South and yellow ones in the North, but such is certainly the case. At one time I thought that there must be two distinct species, but specimens from both localities are barely distinguishable from each other. Those from the south of India have the color of the upper surface, perhaps somewhat lighter and more brown than in specimens from Bengal, and are a trifle smaller. These differences, with the fact of the eye being white instead of yellow, perhaps should constitute this a distinct species or race, in which case it would bear Sykes' name, *Mahrattensis*.

This bird has almost the same habits as the common Myna, like it often attending cattle, but also frequently seen in gardens, as at Ootacamund, eating seeds and fruit of various kinds; and it is very often seen clinging to the tall stem of the large *Lobelia* so common on the Neilgherry hills, feeding on the small insects (bugs chiefly) that infest the capsules of that plant. It is most abundant on the Neilgherries, where it is a permanent resident, breeding in holes in trees, making a large nest of moss and feathers, and laying three to five eggs of a pale greenish-blue colour. From what Hodgson says it is probably also a permanent

resident in Nepal, where, he says 'perpetually associating with *A. tristis*, every large flock of which has many individuals of this bird among them.' At Mussooree, Hutton says that it is only a summer visitant, breeding in holes in trees there. He further says, "it does not appear to visit Simla, but is to be found in some of the valleys below it to the south; when the young are hatched they betake themselves to the Dhoon in July." Captain Tytler says that at Dacca this bird builds in the old temples and houses about the Sepoys' huts.

A. cristatellus of China is nearly allied to this bird, as is *A. javanicus*, Cabanis, of Java, (*griseus*, apud Horsfield). The former is said by Swinhoe to breed in holes of trees in general, but sometimes to make a large oval nest on high trees.

The next birds differ from the previous group in their smaller size, less massive form, lighter and more elegant plumage, more arboreal habits, and more or less grey plumage.

Gen. TEMENUCHUS, Cabanis.

Syn. *Sturnia*, Lesson—*Heterornis*, Gray.

Char.—Bill short, compressed, less stout than in *Acridotheres*, barely deflected at the tip, often parti-coloured; wings moderate, 1st and 2nd primaries sub-equal; tail nearly even; tarsus short; lateral toes slightly unequal; claws more curved. Head usually crested.

This genus comprises several nearly allied species from India and Burmah. The first noticed differs from all the others in the black head, and it is, at the same time, more terrestrial in its habits.

687. *Temenuchus pagodarum*, GMELIN.

Turdus, apud GMELIN—JERDON, Cat. 165—SYKES, Cat. 116—BLYTH, Cat. 588—HORSF., Cat. 803—*Pastor nigriceps*, also *Maina sylvestris*, HODGSON—*Popoya maina*, H., vulgo *Bamuni maina*—*Puhaia*, H. in the Upper Province—*Monghyr pawi*, Beng.—*Pabiya pawi* at Muttra—*Papata gorinki*, Tel.—*Papata pariki*, also *Rawanati*, Tam.—*Brahminy Myna* of the English.

THE BLACK-HEADED MYNA.

Descr.—Head and long pendent crest black; body above grey; beneath and ear-coverts bright fulvous buff, with some mesial

pale streaks; wings blackish, with a white edge near the shoulder; tail dull black.

Bill blue at the base, then greenish, yellow at the tip. irides greenish white; legs bright yellow Length $8\frac{1}{2}$ inches; wing $4\frac{2}{10}$; tail 3; bill at front $\frac{6}{17}$; tarsus $1\frac{1}{10}$.

The Brahminy Myna is found more or less throughout all India, but much more abundant in some localities than in others. It is most numerous in the Carnatic, as about Madras and Trichinopoly, and in the Southern portion of the Northern Circars; rare on the Malabar Coast, only seen in the Deccan at the end of the cold weather, and a casual visitant in lower Bengal at the same time. It is found in the lower regions of Nepal, in Cashmere, and also in the lesser ranges of Cashmere, and, it is stated, more or less throughout the North-western Provinces, though only for a short time. Dr. Adams, however, who saw it in Cashmere, says that he never saw it on the plains in the North-western Provinces. It occurs also, though rarely, in Assam, and Arracan, and, in Ceylon, only towards the North.

At Madras it feeds chiefly on the ground, among cattle, in company with *Acridotheres tristis*, picking up grasshoppers and other insects. It also feeds on trees on various fruits, berries, and flower-buds, and occasionally insects. Adams says that in Cashmere, it feeds on the seeds and buds of Pines. When the silk cotton tree comes into bloom, is always to be found feeding on the insects that harbour in the flowers. I observed this at Jalna, and Blyth remarked the same at Calcutta. At Madras, it breeds about large buildings, pagodas, houses, &c., and lays three or four greenish-blue eggs. Mr. Philipps records it as building in holes of trees. It has a variety of calls, and a rather pleasing song. It is frequently caged and domesticated, is docile and hardy, and will imitate any other bird placed near it. Like the others of its tribe, it is lively in its manners and actions, and has a steady swift flight.

688. *Temenuchus malabaricus*, GMELIN.

Turdus, apud GMELIN—BLYTH, Cat. 587—HORSF., Cat. 804—*Pastor cinereus*, apud JERDON, sub. No. 166—JERDON, 2nd Suppl. Cat. 166, bis—*P. caniceps*, *P. Blythii*, and *Maina affinis*,

HODGSON—*P. pagodarum*, female, apud WAGLER and McLELLAND
—*Pawi*, H. and *Desi-pawi*, Beng. *Pali palisa*, Tel.

THE GREY-HEADED MYNA.

Descr.—Upper parts grey; the forehead and throat whitish, the feathers being centred white, and the former, occasionally, pure white; entire under parts, from the foreneck, ferruginous buff (some of the feathers of the breast also centred with whitish), deep coloured in old males, faint in young and in females; quills black; the inner web deep brown; the primaries slightly glossed and faintly tipped with grey; the middle tail feathers grey, the rest dusky, successively more broadly tipped with deep ferruginous. The colors fade much by abrasion, and become more nearly uniform.

Bill blue at the base, greenish in the middle, and yellow at the tip; irides greyish white; legs dull yellow. Length $7\frac{1}{2}$ inches; wing 4; tail $2\frac{1}{2}$; bill at front $\frac{6}{10}$; tarsus 1.

The young birds are nearly all grey, lighter beneath, and with rufous tips to the outer tail-feathers.

The Grey-headed Myna is found throughout India, but somewhat locally distributed. It is most common in the North of India, in lower Bengal, extending to the Upper Provinces and Central India, but in smaller numbers. In the South of India, it is only a cold weather visitant. It extends to Assam, and Tenasserim.

It feeds chiefly on trees, on various fruit and seeds, also on insects, and lives in small flocks; has the usual chattering notes of the Mynas, and a pleasant song. Tytler says that they build in the hollows of trees.

689. *Temenuchus Blythii*, JERDON.

Pastor, apud JERDON, 2nd Suppl. Cat. 166—*P. Malabaricus*, apud JERDON, Cat. 166—JERDON, Ill. Ind. Orn., pl. 22—BLYTH, Cat. 586—HORSF., Cat. 805—

THE WHITE-HEADED MYNA.

Descr.—Whole head with long crest, neck, throat, and breast, silky-white; back and scapulars grey; belly and under tail-coverts deep rufous; wing-coverts and outer web of most of the quills, and

all the tertiaries also grey; quills black, grey tipped; central tail-feathers dark grey, blackish at the base, the outer feathers deep ferruginous brown, dusky towards the base.

Bill blue at base, greenish in centre, yellow at the tip; irides greyish white; legs reddish yellow; claws pale yellow. Length $8\frac{1}{2}$ inches; wing $4\frac{2}{10}$; tail 3; bill at front $\frac{7}{10}$; tarsus 1.

This pretty Myna is only found in the Malabar forests, both near the level of the sea, and up to a level of 2,000 feet or so in the Wynaad and the slopes of the Ghâts. It is found from the extreme south of the Malabar coast to about North Lat. 15° or 16° . It is entirely arboreal, living in small flocks, and keeping to the tops of high trees, feeding on various insects and larvæ, small shells (*Bulini*), and occasionally on fruit. Its usual cry is neither so loud nor so harsh as that of the Mynas in general, and it has a very pleasing song. Its nails are well curved, and it climbs about the trunk and branches of trees with great facility. It is said to nidificate in holes of trees.

Other species of *Temenuchus* from neighbouring countries are *T. erythropygia*, Bl., from the Nicobars; and a nearly related race from Burmah, *T. nemoricolus*, Jerdon. *T. sericeus*, Latham, from China, by its larger and straighter, bill somewhat approximates the Starlings; and *T. burmannicus*, Jerdon (Ibis, vol. 4), is a nearly allied species from Pegu. This last bird feeds much on the ground like the true Mynas, and perhaps, with *sericeus*, ought to form a separate section. Both have red beaks. *T. sinensis*, Gmel., (*elegans* Lesson,) approaches *Calornis*. Layard (Ann. Mag. Nat. Hist. 1854) has *Sturnia albofrontata*, from Ceylon. Bonaparte has *Pastor seneæ*, Temm., from Bengal, perhaps the same as Blyth's *erythropygia*, or, as Layard suggests, with his species quoted above.

Gen. PASTOR, Temm.

Char.—Bill short, compressed, curving from the base, very slightly hooked at the tip; gonys straight; nostrils partially concealed by fine frontal plumes; wings long, pointed; 1st quill longest, 2nd sub-equal, 3rd a little shorter; tail nearly even; tarsus rather short; lateral toes slightly unequal; head adorned with a long pendent, occipital crest.

This genus, which is composed of but a single species, with somewhat the form of *Temenuchus*, has the gregarious habits of the true Starlings and Mynas, and is more a grain and fruit eater perhaps than others of this family.

690. *Pastor roseus*, LINNÆUS.

Turdus, apud LINNÆUS—GOULD, *Birds of Europe*, pl. 212—SYKES, Cat. 115—JERDON, Cat. 167—BLYTH, Cat. 593—HORSE., Cat. 811—*T. suratensis*, GMEL.—*Golabi maina*, H. in the North—TILLYER, H. in the South—*Pariki-pitta*, TEL.,—*Palisa*, TEL., of some *Sura kuravi*, TAM.—*Bya*, in Sindh—*Cholum bird* of Europeans in Madras.

THE ROSE-COLORED STARLING.

Descr.—Whole head, with crest, neck, and breast, fine glossy black, with purple reflections; wings and tail black with a green gloss; rest of the plumage pale salmon or light rose color.

Young birds have the rose color much dashed with pale brown and fuscous, and the head not so glossy; and the young of the year are more or less earthy brown, paler beneath, and without a crest.

Bill orange yellow at the base, then pinkish, and brown at the tip; irides deep brown; legs dusky reddish. Length $9\frac{1}{2}$ inches; wing $5\frac{1}{4}$; tail 3; bill at front $\frac{1}{2}\frac{5}{10}$; tarsus $1\frac{2}{10}$. The tongue is bifid at the end and somewhat fringed.

The Rose-colored Starling is found throughout the greater part of India, most abundant in the South and South-west, rare towards the North and North-east, and, apparently, not known in Assam and Burmah, unless *P. Peguanus*, Lesson, be the immature state of this bird.

It usually makes its appearance in the Deccan and Carnatic about November, associating in vast flocks, and committing great devastations on the grain fields, more especially on those of the Cholum or Jowaree (*Andropogon sorghus*), whence its familiar name in the South. Mr. Elliot, in his MSS Notes, quoted in my Catalogue, says: "Is very voracious and injurious to the crops of white Jowaree, in the fields of which the farmer is obliged to station

numerous watchers, who, with slings and a long rope or thong, which they crack dexterously, making a loud report, endeavour to drive the depredators away. The moment the sun appears above the horizon they are on the wing, and at the same instant, shouts, cries, and the cracking of the long whips, resound from every side. The Tillyers, however, are so active that if they are able to alight on the stalks for an instant, they can pick out several grains. About 9 or 10 o'clock A. M., the exertions of the watchmen cease, and the Tillyers do not renew their plundering till evening. After sunset they are seen in flocks of many thousands retiring to the trees and jungles for the night. They prefer the half ripe Jowaree whilst the farinaceous matter is still soft and milky." When they can no longer get grain, they feed on various grass and other seeds, flower-buds, fruit, and also on insects, seeking them on the ground, but rarely seen with cattle in India. Their Telugu name is derived from the name of a plant whose fruit they are particularly fond of. Mr. Blyth remarks that "they visit the neighbourhood of Calcutta only at the end of the cool season, when flocks of them are not unfrequently observed upon the arboreal cotton tree then in bloom."

Burgess states that he has seen them busily feeding on the flowers of the leafless Caper, a shrub very common in the Deccan on the banks of the larger rivers. Dr. Adams says that "it is very abundant in the Punjab, committing great havoc on the grain there." In the North-west of India, and in Afghanistan, they devour large quantities of Mulberries in spring, hence called the '*Mulberry-bird*' in the North-west, disappearing afterwards. They at times, however, feed much on insects, and are called the '*locust-eater*' in Persia, according to Chesney. They do not breed in this country, quitting the South of India in March, but lingering in the North a month or so longer. It is ascertained that they breed in vast numbers in Syria, and other parts of Western Asia, in rocky cliffs. Burgess states his belief that they breed in India somewhere, and was informed by a native that they do breed in the Ghâts. This however is, doubtless, totally without foundation. Mr. Layard states that one year he saw large flocks of these birds in July, that they remained only a week and then disappeared. They were entirely

unknown to the Natives. Burgess also states that in 1850, towards the end of August, he saw a large flock of the Rose-colored Starlings feeding on insects in an open field. These instances of their appearing so early are very unusual, and more especially their occurrence in Ceylon in July, by which time the young could only have been just fairly fledged. Most of the birds met with in India are, of course, young birds in imperfect plumage.

Sub-fam. LAMPROTORNINÆ, Grakles or Hill Mynas.

Syn. *Ptilinorhynchina*, Gray and Horsfield—*Eulabetina*, Horsf.—*Graculina*, apud Gray.

Bill somewhat stout, the ridge more or less curved and hooked, and the tip notched; nostrils more or less hidden by the close set frontal plumes; wings long or moderate, and pointed; tarsus short and stout.

The Grakles are birds of usually glossy plumage, found in the warm regions of the Old Continent. Many are found in Africa, a few in India and Malaya. They are more or less gregarious, live chiefly on fruit, and nestle, in general, in holes of trees or in rocks. Many feed habitually on the ground, associating with cattle; others are more arboreal.

The glossy Mynas of India comprise two very distinct forms, one with rather slender bill, of delicate conformation, consisting of a single species; the other of robust make, with strong beaks, and furnished with prominent wattles, the Hill Mynas. They are both strictly arboreal in their habits, living, in forests, on fruit, and nidifying in holes of trees. In his List of Genera, Gray places these birds respectively under *Juidina* and *Eulabetina*, the first including *Saraglossa*, *Calornis*, and some other Eastern forms, and all the African Mynas; the second our Hill Mynas and one or two allied genera. G. R. Gray in his Genera included the former (together with the Bower birds of Australia), under his *Ptilinorhynchina*, and the latter under *Eulabetina*. The Indian members of this group do not appear to associate very well with the African ones, in spite of some resemblance of plumage, and perhaps ought to form a distinct division. They evidently grade to the true Mynas through *Calornis*.

Gen. SARAGLOSSA, Hodgson.

Char.—Bill rather long, straight at the base and depressed, compressed at the tip; culmen ridged, curved, and slightly hooked; gonyes nearly straight; nostrils apart, but the frontal plumes descending over the base of the bill, which does not divide the frontal plumes; wings pointed, the first three nearly equal; tail firm, short, sub-furcate or nearly even; legs and feet strong and arboreal; nails acute and well curved.

The founder of this genus states that he considered it to be a 'Sturnideous bird with Melliphagous adaptations,' and compares its bill with that of *Phyllornis*. It is generally classed among the *Lamprotorninæ*, but appears to be a somewhat anomalous form of this sub-family.

691. *Saraglossa spiloptera*, VIGORS.

Lamprotornis, apud VIGORS, P. Z. S. 1831—GOULD, Cent. Him. Birds, pl. 34—BLYTH, Cat. 582—HORSF, Cat. 816—*Puli* at Mussooree.

THE SPOTTED-WINGED STARE.

Descr.—Above pale plumbeous, the feathers tipped with dusky, giving it a speckled and Stare-like appearance; upper tail-coverts tinged with rufescent brown; quills and primary coverts glossy green black, with a white spot at the base of the primaries; tail deep brown; beneath, the chin and throat, deep chesnut rufous; some of the feathers tipped with glossy grey, the rest white, deeply tinged with rufous on the abdomen and flanks.

Bill dusky horny; legs brown; irides white. Length 8 inches, wing $4\frac{1}{2}$; tail $2\frac{1}{2}$; bill at front $\frac{3}{4}$; tarsus $\frac{7}{8}$.

This bird is found only in the Western and Central Himalayas. It is not known in Sikhim. It frequents the valleys about Simla and Mussooree, up to 6,000 feet, lives in small flocks of five or six; its note and flight, says Hutton, "are very much like those of *Sturnus vulgaris*, and it delights to perch on the very summit of the forest trees. I have never seen it on the ground, and its food appears to consist of berries. It nidificates in the holes of trees, lining the cavity with bits of leaves cut by itself; the eggs are usually three

to five, of a delicate pale sea green, speckled with blood-like stains, which sometimes tend to form a ring near the larger end. Dr. Adams says that it frequents rice fields, or the sides of mountain streams, and that it is shy and timid.

Turdus madagascariensis, Gmel., figd. P. E. 557-1, is referred here by Gray, but evidently belongs to a very different family (*vide* page 79).

The next birds are the glossy or Hill Mynas of India, comprising four distinct races, one from the south of India, another from Ceylon, a third from the Himalayas and Burmah, and the last from Malayana.

Gen. *EULABES*, Cuvier.

Syn. *Gracula*, L. (in part), and Swainson—*Mainatus*, Lesson—*Maina*, Hodgson.

Char.—Bill short or moderate, stout, compressed; culmen gradually curved; tip notched; nostrils basal, lateral, placed in a plumed fossa; under mandible with the base broad and dilated; frontal feathers short, velvety, advancing on base of bill; head with naked wattles; wings long, 4th quill longest, 1st short; tail short, even; feet strong; tarsus equal to the middle toe; outer toe slightly longer than inner one; claws well curved; hind toe and claw large.

The Hill Mynas are well known birds of fine glossy plumage, and with prominent yellow wattles. They are readily tamed, and can be taught to repeat words very distinctly. They are entirely frugivorous in their habits. They progress on the ground by hopping only, not by alternate steps as the true Mynas.

692. *Eulabes religiosa*, LINNÆUS.

Gracula, apud LINNÆUS—JERDON, Cat. 168—BLYTH, Cat. 571—HORSF., Cat. 796—EDWARDS, Birds, pl. 17 (the upper figure)—*Eul. indicus*, CUVIER—*Gracula minor*, JERDON, 2nd Suppl. Cat. 168—*Kokni maina*, H. in the South—*Konda gorinka*, Tel.

THE SOUTHERN HILL MYNA.

Descr.—General plumage glossy purplish black, with green reflections on the lower back and upper tail-coverts; beneath less

brightly glossed; wings and tail coal black without reflections; a white spot on the first seven primaries, forming a conspicuous wing-spot.

The wattles on the head commence below each eye, are crossed at the lower posterior angle of the eye by a triangular patch of minute feathers, pass beyond the ear, where they form a rather large loose flap, or lappet, and then return in a narrow stripe to the top of the head. There is also a small nude patch below the eye.

Bill orange; wattles deep yellow; irides dark brown; legs deep yellow. Length 10 inches; extent $18\frac{1}{2}$; wing $5\frac{6}{10}$; tail $2\frac{8}{10}$; bill at front 1; height $\frac{3}{8}$; tarsus $1\frac{2}{10}$.

The Hill Myna of Southern India is found in the forests of Malabar from Travancore up to North Lat 16° or 17° , most abundant perhaps on the Ghâts, and especially in the Wynaad, Coorg, and other elevated districts, up to 3,000 feet or so. It also occurs in the thick forests of the Northern Circars, as far as Goomsoor, extending west into the wooded portion of the Nagpore territories. It is stated also to be found in Ceylon, where, however, another species occurs. It is somewhat locally distributed, the birds appearing to congregate in certain spots. It is found at times in small parties of five or six or more, sometimes in large flocks; and, during the cold weather, at all events, they appear to roost in company, in great numbers, especially on bamboos along the edges of mountain streams. It appears, as far as I have observed, in a wild state, to feed exclusively on fruit and berries of various kinds. The song of this bird is very rich, varied and pleasing; but it has some harsh notes also. It breeds in holes of trees, but I never saw the eggs, though I have had the young brought to me in the Wynaad. It is occasionally taken when young and caged, but less frequently than would be the case were it a denizen of Northern India, the birds in confinement being usually those of the next species brought from the North. It was most probably by confounding it with *Acridotheres tristis*, that Linnæus was led to call this bird *religiosa*, for I never heard of its being held at all sacred.

693. *Eulabes intermedia*, A. HAY.

Gracula, apud HAY, Madras Journal, XIII. 156, and J. A. S. XV. 32.—*G. religiosa*, apud SUNDEVALL—BLYTH, Cat. 570—HORSF., Cat. 797.—*Paharia-maina*, H.

THE NEPAL HILL MYNA.

Descr.—Larger than the last, but the colors similar. The bill is larger, deeper, and stronger, and much wider at the base, and less flattened; the naked skin is broader where it begins below the eye, and the patch of feathers is differently shaped; the loose flap too is smaller, and it is not continued back to the top of the head.

Bill deep orange; wattles bright yellow; irides dark brown; legs dusky yellow. Length $10\frac{1}{2}$ inches; wing $6\frac{1}{2}$; tail not quite 3; tarsus $1\frac{1}{4}$; bill at front 1; height $\frac{1}{2}$.

The Hill Myna of Northern India is found all along the lower ranges of the Himalayas, extending into Assam and Burmah, as far as Tenasserim certainly. It does not ascend to any height on the Himalayas, keeping to the Terai, and the warmer valleys. Its habits and manners do not differ from those of the last. It is taken, when young, in large numbers, in the Nepal Terai, and other parts, and sold at Monghyr and elsewhere. It is easily tamed, and learns to speak with great facility and accuracy.

E. ptilogenys, Blyth, from Ceylon, differs in only having the loose flap of skin, the rest of the cheeks being feathered. *E. javanensis* is found in the Nicobars, Malacca, and the islands. It is still larger than the Nepal bird, and has a stronger bill, about $\frac{1}{2}$ inch deep, with the wattles less developed, but the lappets larger.

Bonaparte has *Grac. venerata*, Temm, from Sumbava, with a lengthened and slender bill. An interesting form, nearly related, is found in Burmah, *Ampeliceps coronatus*, Blyth. It has the top of the head and throat yellow, as well as the wing-spot.

Other allied forms are *Mino*, from New Guinea, barely distinct from *Eulabes*; and *Gymnops*, from the Philippines; and those very remarkable birds, *Enodes erythrophrys*, and perhaps *Scissirostrum*

Pagei, the former from Java, and the latter from Celebes, appear to belong to this sub-family. *Basilornis*, or the crested Mynas, from Malayana, are usually placed near the Hill Mynas. *Calornis* may be said to be the Malayan representative of the African *Lamprotornis*. One species, *L. cantor*, Gmel. (*chalybæus* Horsf.—*affinis*, Hay) is recorded, from Tipperah, Burmah, and Malacca. Another species, *Calornis dauricus*, Pallas, is quite intermediate, both in color and structure, between the glossy Mynas and the grey Mynas (*Temenuchus*); it extends from Malayana into China and Central Asia; and *Heterornis pyrrhogenys*, Müll., and *Pastor ruficollis*, Wagler, are nearly allied species from Borneo, Japan, and the Philippines. Several others allied to *cantor* are recorded from the Malayan isles and Oceanica.

The rest of this sub-family are chiefly African. They are showy birds, with rich glossy plumage, of moderate size, and often with lengthened tails. They live in flocks, eat both fruit and insects, and often perch on the backs of cattle. One of these birds, *Amydus Tristrami*, figured by Gould, Birds of Asia, XI. pl. 9, occurs in Palestine.

Buphaginæ, or the Oxpeckers, are a purely African tribe whose position has been a subject of much doubt. They are a singular group, comprising only two species, with short, stout, somewhat curved bills, short but stout feet, with strongly curved claws. They are of plain and sombre plumage, and perch a good deal on the backs of cattle, camels, and rhinoceros, &c.; and are said to extract the larvæ of botflies and ticks from the skins of those animals.

The remaining families of the *Sturninæ* are strictly American. Some, *Quiscalinæ*, have long graduated tails, with the sides curved upwards, whence called Boat-tails. Their bill is long, straight, with the nostrils placed in triangular grooves, pointed wings, and a long hind toe, with curved claw; their plumage is usually glossy black, mixed with chesnut. They live in troops, feeding alike on grain and insects, and nestle in society, forming nests of mud, lined with grass and hair.

The *Icterinæ*, or Hang-nests, chiefly differ from the last in wanting their boat-like tail; they are often adorned with yellow

and black colors, and build long pendulous nests, open at the top, in company.

Another group, the *Agelaiæ*, or Maize-birds, are usually clad with orange or scarlet and black. They are of smaller size, have shorter bills than the last family, are very destructive to grain, and evidently grade into the *Fringillidæ*. Among them is the celebrated Cow-bird of the United States, the only bird besides the Cuckoos that lays its eggs in the nests of other birds. It is the *Molothrus pecoris*, Auct.

Certain birds of New Zealand and Oceanica, *Aplonis*, Gould, and *Creadion*, Vieillot, are generally considered, and, perhaps correctly, to belong to the Starling family; but the Bower-birds of *Australia*, *Ptilinorhynchinae*, placed here by some, are very doubtful members of this division, and, perhaps, belong to a particular section of the Birds of Paradise, as suggested by Blyth, which, as already noticed, used to be placed among the Coniostres, and are so still by many. These Bower-birds and Satin-birds, *Chlamydera* and *Ptilinorhynchus*, are birds about the size of a Myna, and are noted for the remarkable bower-like structure they make, and adorn with shells, pebbles, small bones, and feathers; and which does not appear to serve for nidification, but simply for amusement, or a place of resort for both sexes, which run through and around the bower in a sportive and plaintive manner.

Fam. FRINGILLIDÆ.

Bill short, thick, and conic; wings usually long, pointed; tail moderate, even, forked in most; tarsus moderate or short; feet suited both for perching and terrestrial habits; of small size.

The Finches comprise a very large number of small birds, with thick conical bills, which live for the most part on seeds, and many are well known and familiar birds. They exhibit a great variety of structure, varying much in the strength and thickness of the bill. The tongue is somewhat more fleshy than in most *Insectores* (except Parrots), but horny at the tip. The bill is usually entire, more or less notched in one sub-family. The œsophagus is dilated into a crop or crop, in which the food is allowed

to remain awhile, and undergo maceration, before passing into the powerful and muscular gizzard, required in these birds that live so much on hard grain. They are usually very active on the wing, with a strong jerking flight, and they hop on the ground. Many of them are social, or even gregarious in winter, and most of them construct neat, and, in some cases, elaborate nests.

They are perhaps more abundant in northern and temperate regions than in tropical countries, and, in India, if we except the Sparrows, the Munias and the Weaver-birds, most are migratory and only winter visitants.

They are divided into numerous sub-families, concerning the extent of which there is much disagreement among Ornithologists. I shall, with Blyth, divide them into *Ploceinæ*, *Estreldinæ*, *Passerinæ*, *Emberizinae*, *Fringillinae*, and *Alandinae*; besides the great group of American Tanagers, *Tanagrinae*, the most aberrant of the family.

The first two sub-families are well distinguished from the others by possessing a minute first primary.

Sub-fam. PLOCEINÆ, Weaver-birds.

Bill strong, conic, slightly lengthened; the culmen arched, and the ridge continued back upon the forehead; wings somewhat rounded, first primary very minute; tail short in most; legs and toes very strong and robust, the latter lengthened, especially the hind toe, and the claws well developed.

The Weaver-birds form a well marked group of Finches, peculiar to the tropics of the Old World, and nearly so to Africa, for there are only four Asiatic species. They are eminently social and gregarious, nidificating in society, making most ingenious and elaborate nests, and the Indian species, at least, laying pure white eggs. They have a double moult, the males of most putting on a gay plumage in spring, which is yellow in the majority, red in a few. They have a remarkable similarity, both in colours and habits, to some of the American *Icterinae* and *Agelaiinae*. They do not sing, but the flocks keep up a continual chirping. They are readily domesticated, and will, it is stated, breed in confinement.

Horsfield classes the Weaver-birds among his *Fringillina*, and Swainson in his *Coccothraustinæ*; but these differ, as already stated, in wanting the first small primary.

There is only one genus of this sub-family in India.

Gen. PLOCEUS, Cuvier.

Syn. *Euplectes*, Swainson (in part.)

Char.—Bill thick at the base, laterally compressed, pointed at the tip; culmen smooth, broad, rounded, and produced backwards on the forehead to a point; commissure nearly straight; nostrils basal, partly concealed; wings moderate or somewhat short, with the first quill small, about one third of the next four or five, 2nd a little shorter than 3rd, which is usually longest; tail short even, or very slightly rounded; feet large, hind toe and claw strong, all the claws lengthened.

This genus comprises the four Indian species, and many African. In all the Indian birds the crown of the head, in the males, becomes bright yellow in the breeding season. In winter the sexes are alike, or nearly so. All build nests of strips of leaves or grass interwoven together, from June to August, and have pure white, rather long-shaped eggs.

Of three Indian species found within our limits, one is widely diffused, and the other two are more locally distributed. They are often called Tailor-birds in India.

694. *Ploceus baya*, BLYTH.

J. A. S. XIII. 945—HORSF., Cat. 785—*P. Philippinus*, apud SYKES, Cat. 106—JERDON, Cat. 169—BLYTH, Cat. 614—*P. atrigula* and *passerinus*, HODGSON (m. and f.)—*Fring. bengalensis*, SUNDEVALL—*Baya*, H.—*Chindora*, H. in Bengal—*Bawi*, or *Tal-babi*, Beng.—*Parsupu-pitta*, Tel.—*Manja-kuravi*, Tam.

THE COMMON WEAVER-BIRD.

Descr.—Old males, in breeding plumage, have the crown of the head bright yellow, the rest of the upper plumage with the wings and tail, dull brown, edged with pale fulvous brown, some of the feathers in the middle of the back edged yellow; rump and

upper tail-coverts pale rufous brown; primaries with a narrow edging of pale yellow; lores, ear-coverts, chin, and throat, blackish brown; breast bright yellow; belly and lower tail-coverts dull white; the flanks and under wing-coverts and thigh-coverts pale rusty or buff.

Bill black; irides dusky brown; legs brownish fleshy.

Younger males in the breeding plumage have the breast pale rusty instead of yellow, and the yellow edging of the interscapulars is wanting. The females, and males in winter dress, totally want the yellow head, the crown being brown with dark streaks, have pale rufous supercilia, and the chin and throat are whitish.

Bill pale horny brown; Length about 6 inches; extent $9\frac{1}{2}$; wing $2\frac{8}{10}$; tail not quite 2; bill at front $\frac{6}{10}$; tarsus $\frac{8}{10}$; spread of foot $1\frac{1}{4}$.

The common Weaver-bird is found throughout the whole of India from Cape Comorin and Ceylon to the foot of the Himalayas, and extending into Assam, Burmah, and Malavaya. It is most abundant in the well wooded parts of the country, and in the bare table land of the Deccan you may travel for days without seeing one. It appears to wander about in some localities, for some observers have stated that it is migratory, but it is certainly a permanent resident in most parts of the country; and their roosting places on certain trees are well known. Grain of all kinds, especially rice and various grass seeds, form the chief food of the Weaver-bird, and I never observed it feeding on fruit, as Sykes asserts he has known it do on the fig of the Banian tree. Whilst feeding, particularly, as well as at other times, the whole flock keeps up a perpetual chirruping. I have seen it feeding in grain fields in company with flocks of *Emberiza melanocephala*; and Sykes relates that he has seen it associate with the common Sparrow.

The Baya breeds during the rains, according to the locality, from April to September, but I am not aware if they ever have more than one brood. Its long retort-shaped nest is familiar to all, and it is indeed a marvel of skill, as elegant in its form, as substantial in its structure, and weather-proof against the down-pour of a Malabar or Burmese Monsoon.

It is very often suspended from the fronds of some lofty Palm-tree, either the Palmyra, Cocanaut, or Date, but by no means so universally so as Mr. Blyth would imply, for a Babool (*Acacia arabica*, or *Vachellia Farnesiana*), or other tree will often be selected, in preference to a Palm-tree growing close by, as I have seen within a few miles from Calcutta on the banks of the canal. Very often a tree overhanging a river or tank, or even a large well is chosen, especially, as Tickell says, if it have spreading branches and scanty foliage. In India I have never seen the Baya suspend its nests except on trees, but in some parts of Burmah, and more particularly in Rangoon, the Bayas usually select the thatch of a bungalow to suspend their nests from, regardless of the inhabitants within. In the cantonment of Rangoon, very many bungalows may be seen with twenty, thirty, or more of these long nests hanging from the end of the thatched roof, and, in one house in which I was an inmate, that of Dr. Pritchard, Garrison Surgeon there, a small colony commenced their labors towards the end of April, and, in August, when I revisited that station, there were above one hundred nests attached all round the house! In India, in some localities, they appear to evince a partiality to build in the neighbourhood of villages or dwellings; in other places they nidificate in most retired spots in the jungle, or in a solitary tree in the midst of some large patch of rice cultivation.

The nest is frequently made of grass of different kinds plucked when green, sometimes of strips of plantain leaf; and not unfrequently of strips from the leaves of the date palm, or cocanaut; and I have observed that nests made of this last material are smaller and less bulky than those made with grass, as if the little architects were quite aware that with such strong fibre less amount of material was necessary. The nest varies much in the length both of the upper part or support, and the lower tube or entrance, and the support is generally solid from the point whence it is hung for two or three inches, but varies much both in length and strength. When the structure has advanced to the spot where the birds have determined the egg compartment to be, a strong transverse loop is formed, not in the exact centre, but a little at

one side. If then taken from the tree, and reversed, the nest has the appearance of a basket with its handle, but less so in this than in the next two species, which have seldom any length of support above. Various authors have described this loop or bar as peculiar to the male nest, or sitting nest, whereas it exists primarily in all, and is simply the point of separation between the real nest and the tubular entrance, and, being used as a perch both by the old birds and the young (when grown sufficiently), requires to be very strong. Up to this time both sexes have worked together indiscriminately; but when this loop is completed, the female takes up her seat on it, leaving the cock bird to fetch more fibre and work from the outside of the nest, whilst she works on the inside, drawing in the fibres pushed through by the male, re-inserting them in their proper place, and smoothing all carefully. Considerable time is spent in completing this part of the nest, the egg chamber being formed on one side of the loop and the tubular entrance at the other; after which there appears to be an interval of rest. It is at this stage of the work, from the formation of the loop to the time that the egg compartment is ready, that the lumps of clay are stuck on, about which there are so many and conflicting theories. The original notion, derived entirely, I believe, from the natives,* was that the clay was used to stick fire-flies on, to light up the apartment at night. Layard suggests that the bird uses it to sharpen its bill on; Burgess that it serves to strengthen the nest. I of course quite disbelieve the fire-fly story, and doubt the other two suggestions. From an observation of several nests, the times at which the clay was placed in the nests, and the position occupied, I am inclined to think that it is used to balance the nest correctly, and to prevent its being blown about by the wind. In one nest lately examined, there was about three ounces of clay in six different patches. It is generally believed that the unfinished nests are built by the male for his own special behoof, and that the pieces of clay are more commonly found in it than in the complete nests. I did not find this the case at Rangoon, where my opportunities of observing

* See the interesting and almost unique *Natural History* by a native, Akbar Ali Khan of Delhi, of the *Baya*, in the *Asiatic Researches*, vol. 2.

the bird were good, and believe rather that the unfinished nests are either rejected from some imperfect construction, weak support, or other reason, if built early in the breeding season; or, if late, that they are simply the efforts of that constructive faculty which appears, at this season, to have such a powerful effect on this little bird, and which causes some of them to go on building the long tubular entrance long after the hen is seated on her eggs.

I have generally found that the Baya lays only two eggs, which are long, cylindrical, and pure white, but other observers record a larger number. Sundevall states that he found three in one nest. Layard says from two to four; Burgess six to eight; Tickell six to ten. Blyth thinks that four or five is the most usual number. From many observations, I consider two to be the usual number, but have found three occasionally. In those exceptional instances, where six or more eggs have been found, I imagine they must have been the produce of more than one bird. The Baya, is stated not to use the same nest for two years consecutively, and this I can quite understand, without having actually observed it.

The Baya is frequently taken when young, tamed, and taught to pick up rings, or such like articles, dropped down a well; or to snatch the Ticca mark off the forehead of a person pointed out. It is also taught occasionally to carry a note to a particular place, on a given signal. Mr. Blyth, in an unpublished paper, has the following interesting account of some of this bird's performances: "The truth is that the feats performed by trained Bayas are really very wonderful, and must be witnessed to be fully credited. Exhibitors carry them about, we believe, to all parts of the country; and the usual procedure is, when ladies are present, for the bird, on a sign from its master, to take a cardamom or sweetmeat, in its bill, and deposit it between a lady's lips, and repeat this offering to every lady present; the bird following the look and gesture of its master. A miniature cannon is then brought, which the bird loads with coarse grains of powder one by one, or more commonly with small balls of powder made up for the purpose; it next seizes and skilfully uses a small ramrod; and then takes a lighted match from its master which it applies

to the touch-hole. All this we have personally witnessed is common with most persons who have resided in or even visited India; and we have seen the little bird apply the match five or six times successively before the powder ignited, which it finally did with a report loud enough to alarm all the crows in the neighbourhood, while the little Baya remained perched on the gun, apparently quite elated with its performance." Captain Tytler mentions also "the twirling of a stick with a ball of fire at each end. This the bird turns in several ways round its head, making luminous circlelets in imitation of a native practice; the stick being held by the beak in the middle."

In an ordinary cage or aviary, they will employ themselves constantly, if allowed the chance, in intertwining thread or fibres with the wires of their prison, merely gratifying the constructive propensity, with apparently no further object; unless, indeed, the sexes are matched, when they breed very readily in captivity; of course, provided they are allowed sufficient room, as in a spacious aviary.

This bird has currently passed as *P. philippinus*, Auct., but on a reference to the figure in the Pl. Enl. of Buffon, the type of that species, I am convinced that it refers to the species named *hypoxantha* by Daudin.

695. *Ploceus manyar*, HORSFIELD.

Fringilla, apud HORSFIELD—BLYTH, Cat. 615—HORSF., Cat. 783—JERDON, 2nd Suppl. Cat. 170—*Euplectes flaviceps*, SWAINSON—*E. striatus*, BLYTH,—*E. bengalensis*, JERDON, Cat. 170—*Bamani baya*, H. in the Deccan—*Telia baya*, Beng.—*Bawoyi*, in Rungpore.

THE STRIATED WEAVER-BIRD.

Descr.—The male in full breeding dress has the crown of the head intense yellow; lores, cheeks, ear-coverts, chin, throat, and neck, brownish black; back, wings, and tail, brown; the feathers of the back with a mesial dark streak, those of the primaries and tail edged with yellowish; rump streaked like the back; upper tail-coverts rufescent; beneath, from the throat

whitish, tinged with fulvous, and streaked on the breast and flanks with dusky black.

Bill black; irides light brown; legs fleshy. Length about $5\frac{9}{16}$ inches; extent 9; wing $2\frac{3}{4}$; tail $1\frac{3}{4}$; bill at front $\frac{9}{16}$; tarsus $\frac{3}{4}$; stretch of foot $1\frac{3}{4}$.

The male in winter dress is clad like the female, and has the head brown, streaked like the back, a pale yellow supercilium, and a small yellow spot behind the ear-coverts; the chin and throat are whitish, and the streaks on the lower surface less developed. The bill is pale horny fleshy.

This species of Weaver-bird is found in suitable localities, throughout all Northern India, spreading into Central India, and more rarely to the Deccan. It does not appear to occur in the N. W. Provinces. It is also found, and perhaps more abundantly, in Assam, Burmah, Malacca, and some of the Islands. It chiefly frequents long grass and reeds on the banks of rivers and jheels, and was hence named by Buchanan Hamilton *Loxia typhina*. It invariably breeds among high reeds, and usually in places liable to be inundated; and, as the breeding season is during the rains, the nest is thus unassailable except from the water. The nest is fixed to two or three reeds, not far from their summit, and the upper leaves are occasionally turned down and used in the construction of the nest, which is, in all cases that I have seen, made of grass only. The nest is non-pensile, that is to say, it is fixed directly to the reeds, without the upper pensile support that the nest of the last species has; and, in some cases, the eggs are laid before any tubular entrance is made, a hole at the side near the top forming the entrance. This, however, is often, but not always, completed during the incubation of the female; and, in other cases, a short tubular entrance is made at first, in a very few, prolonged to a foot or more. I have found the eggs in this case, as in the last, to be generally two in number, three in a few; and in one nest I found five.

696. *Ploceus Bengalensis*, LINNÆUS.

Loxia, apud LINNÆUS—BLYTH, Cat. 616—HORST., Cat. 784—*Euplectes flavigula*, HODGSON—*E. albirostris*, SWAINSON—P.

aureus, LESSON—*Sarbo baya*, H.—*Shor baya*, and *Kantawala baya* in Bengal.

THE BLACK-THROATED WEAVER-BIRD.

Descr.—The male in breeding plumage has the crown brilliant golden yellow, with, in some instances, a slight inclination to flame color; back dusky brown; rump dingy grey brown; wings and tail dark brown, the former with very slight pale margins to some of the feathers; the throat white; the cheeks, ear-coverts, and sides of the neck white, more or less suffused with dusky on the ear-coverts and throat; a broad, brownish black pectoral band; the rest of the lower plumage sullied or fulvous white, brownish on the flanks. In some the pectoral band is broad and entire, in others narrower, and divided along the middle.

The female has the head streakless dusky brown, the feathers of the back edged with pale rufous brown, a pale yellow supercilium, and a spot of the same colour behind the ear; also a narrow moustachial stripe; throat white, yellowish in some, and usually separated from the yellow moustache by a narrow black line, pectoral band less developed. Males, after the autumn moult, resemble the females, but the breast and flanks are more rufescent; the pectoral band is frequently wanting, or rather concealed by pale fulvous deciduary edgings.

Bill always pearly white; sides light brown; legs dusky carneous. Length $5\frac{1}{2}$ inches; extent $9\frac{1}{4}$; wing $2\frac{3}{4}$; tail $1\frac{3}{4}$.

This very pretty Weaver-bird is more locally distributed than either of the preceding. It is found in various parts of Lower Bengal, extending into Assam, Tipperah, and parts of Burmah. It appears unknown in Central India and the N. W. Provinces. I found it abundant near Purneah, also in Dacca, building in low bushes, in a grassy churr overflowed during the rains. The nest was non-pensile, and had either no tubular entrance or a very short one, made of grass, and more slightly interwoven than either of the others. Though a good many pairs were breeding in the neighbourhood, the nests were, in no instance, close to each other, rarely indeed two on the same bush.

The figure in Pl. Enl. 398, f. 2, usually quoted for this species, appears to me more applicable to *manyar*, but, in either case, is barely recognisable.

The only other eastern species of *Ploceus* is *P. philippinus*, (*hypoxanthus*, Daudin) vide p. 348, recorded from Java, and various parts of Malayana, perhaps extending to the Philippines. I found this very pretty Weaver-bird at Thayet-myo in Upper Burmah, rare; in Rangoon, where observed also by Mr. Blyth; and frequent in swampy ground near the mouth of Rangoon river, where I also found its nest, solitary, in a thick thorny bush, very similar to that of *P. bengalensis*.

Africa is the head quarters of this tribe, and there are many species very similar to our Indian birds; others are clad in black and red, or flame color. Most of them build pensile nests of grass, but the eggs are described as being bluish-white, or greenish-blue, in some instances speckled. They are referred to several genera. One remarkable species, *Philæterus socius*, builds in society, constructing a common roof or shed, beneath which their nests are placed contiguously. The Whidah birds, *Vidua*, during the breeding season, develop tails of extraordinary length and form, and, in one instance, a ruff. It is supposed by some that these birds are polygamous.

Sub-fam. ESTRELOINÆ.

Of small size; bills large in many and bulged, more slender in others; wings short, rounded; feet large; tail rounded or cuneiform.

The *Munias* or *Amadavads* closely resemble the Weaver-birds in many particulars, and perhaps, with these, should form one group. They inhabit Africa, India, Malayana, and Australia, in which country they are the sole representatives of the *Fringillidæ*. The first primary is minute, as in *Ploceinæ*, and, like them, they are often social, even during the breeding season, but they do not construct such elaborate nests. The eggs of all known are pure white, as in our Indian Weavers; many are very pleasingly colored, and some of them are very beautiful. In general they do not sing, but one of the Indian species has a rather pleasing song.

The sexes are usually alike; in a few that moult in spring, the male is more richly colored than the female. They inhabit grassy or reedy ground, bushy jungle, and open spaces in forests, occasionally being found in immense flocks. There are two forms found in India, one the Munias, with a thick tumid bill; the other the Amadavads, (*Estrela*), with a more slender, conic, and waxy red bill.

Gen. MUNIA, Hodgson.

Syn. *Lonchura*, Sykes—*Spermestes*, in part, Swainson.

Char.—Bill very thick and at the base as deep as long, compressed at the tip; culmen arched, flattened, prolonged backward to a point on the forehead; gape strongly angulated; nares round, sunk and free; wings short; 1st primary minute, the three next nearly equal; tail moderate or short, rounded or wedged; tarsus stout, moderate; toes long, slender; claws long.

The birds appertaining to this genus are found in India, Malaya, and Australia, and almost all have the large beak of a pale glaucous lead color. They are of small size, but larger than the next group; and build large, loosely-constructed nests of grass. They feed much on rice, as well as on grass seeds; are readily domesticated; and the young of most are light brown.

697. **Munia Malacca**, LINNÆUS.

Loxia, apud LINNÆUS—EDWARDS, Birds, pl. 355, f. 2—BLYTH, Cat. 623—HORSF., Cat. 773—JERDON, Cat. 174—*Nakal-nor* H. *Nalla jinawayi*, Tel.

THE BLACK-HEADED MUNIA.

Descr.—Whole head, neck, and breast, rich black; back, wings, and tail, pure rich cinnamon red; upper tail-coverts brighter tinged, and with a glistening lustre; beneath, from the breast, white, with the middle of the abdomen and vent black.

Bill bluish, yellowish at the tip; irides dark brown; legs plumbeous. Length $4\frac{1}{2}$ inches; wing $2\frac{6}{10}$; tail $1\frac{1}{2}$. The young bird is pale cinnamon brown above, whitish below, dusky about the head and neck.

The *Black-headed Munia* is chiefly found in Southern India and Ceylon, a few stragglers occurring in Central India, and even in Bengal occasionally. It is very abundant in parts of Southern India, especially on the Malabar coast, frequenting long grass by the sides of rivers and tanks, occasionally dry grain fields, and very commonly sugar-cane fields. It often associates in very large flocks. The nest is usually placed among reeds, in tanks, or in the beds of rivers; occasionally in long grass in the bunds of paddy-fields. It is a rather large, nearly round or oval nest, neatly but loosely made of grass, with the hole at one side, this in general being very artfully concealed by the interlacing of the fibres of grass, so that I have been puzzled for a few moments to discover the entrance; and the eggs, four to six in number, are pure white.

698. *Munia rubronigra*, HODGSON.

As. Res. XIX. 153—BLYTH, Cat. 622—HORSF., Cat. 774—LOX: malacca, var., LATHAM—*Lonchura melanocephala*, McLELLAND.

THE CHESNUT-BELLIED MUNIA.

Descr.—Head, neck, and breast, black; rest of the plumage deep chesnut or cinnamon, passing to glistening maroon on the upper tail-coverts, and tinged with fulvous on the tail; a stripe down the middle of the belly, vent, and under tail-coverts, black.

Bill and feet plumbeous; irides dark brown. Length $4\frac{1}{2}$ inches; wing $2\frac{1}{2}$; tail $1\frac{1}{2}$; bill at front $\frac{1}{2}$; tarsus $\frac{2}{5}$. The young are brown above, paler brown below; head and breast somewhat infuscated.

This very closely allied species, which differs from the last only in having the belly chesnut in place of white, replaces it in the north of India, being found throughout Lower Bengal, and all along the foot of the Himalayas as far as the Dehra Doon; and also in some of the more wooded adjacent districts, but it would appear to be rare in the open country of the N. W. Provinces. I have seen specimens from the Eastern coast north of Madras, and Mr. Layard procured it in Ceylon, but it is certainly rare in Southern

India. It is much more common in the countries to the eastward, Assam, and Burmah as far as the Tenasserim provinces, southwards of which it is replaced by *M. sinensis*, which wants the black abdominal stripes altogether.

According to Mr. Frith the nest is ordinarily placed in a Baubul tree in Lower Bengal, solitarily, and is composed of a large ball of the tufts of *Saccharum spontaneum*. I have always found its nest fixed to reeds or long grass, and suspect that Mr. Frith must have been mistaken in the identity of the owner of the nest above noticed, the more so because that is exactly the character, both as to materials and site, of the nest of the next species noticed.

699. *Munia undulata*, LATHAM.

Loxia, apud LATHAM—BLYTH, Cat. 624—HORSE, Cat. 772—*M. lincoventer*, HODGSON—*Amadina punctularia*, apud PEARSON—*Lonchura nistoria*, apud SYKES, Cat. 109—JERDON, Cat. 172—EDWARDS, Birds, pl. 40—*Telia munia*, H. in the North—*Sing-baz* or *Shin-baz*, H. in the Deccan, and at Mussooree—*Shubz munia*, Beng.—*Kakkara jinuwayi*, Tel.

THE SPOTTED MUNIA.

Descr.—Above ruddy brown, deeper on the head and neck, inclining to whitish on the rump, and the upper tail-coverts and margins of the lateral tail-feathers, glistening fulvous; quills chesnut externally, dusky within; beneath, the chin and throat, with the face and ear-coverts, rich chesnut; breast and flanks white, with numerous zig-zag cross bars of black; lower abdomen, vent, and under tail-coverts, whitish, unmarked.

Bill and legs plumbeous; irides brown. Length $4\frac{1}{2}$ inches; wing $2\frac{2}{3}$; tail $1\frac{1}{2}$; bill at front $\frac{1}{8}$; tarsus $\frac{1}{2}$. The two central tail-feathers are very slightly elongated. The young are rufous brown above, paler below.

The Spotted or Barred Munia is found throughout India and Ceylon, somewhat rare in the extreme south, common in the north, and spreading into Assam, and Burmah as far as Tenasserim. It is

somewhat local in its distribution, but, where met with, is there tolerably abundant. I have seen it on the edges of the Neilgherries, and in various parts of the Carnatic and Central India, as well as in Bengal, but it does not occur in the Malabar Coast. It is occasionally found in grassy or bushy ground, and Buchanan Hamilton states it to live in thickets of Hugla grass (*Typha elephantina*), near villages where small grains are sown; but more frequently it occurs near cultivated ground, affecting mango groves, or patches of tree jungle. It builds in thorny bushes, chiefly about fields, and makes a large nest of very fine grass, or not unfrequently of the flowering tufts of some *Saccharum*, which I have often seen it conveying to its nest; and I have always found the nest solitary, contrary to Mr. Layard's observations, who states that he has seen thirty or forty nests in one tree, and that in one instance he found one structure containing several nests. The eggs, of course, are pure fleshy white, usually four to six in number. At Thayet-myo I found it building in a hole in the thatch of my bungalow. Blyth states that this bird, which is very commonly caged, is known in Bengal as the Nutmeg-bird from the peculiar mottling of its breast.

The nearly allied *M. punctularia* (nisoria of Temminck), occurs in the Malayan provinces.

700. *Munia pectoralis*, JERDON.

Spermestes, JERDON, Suppl. Cat. 173 bis.

THE RUFOUS-BELLIED MUNIA.

Descr.—Head, neck, and back, brown, the shafts of the feathers pale; upper tail-coverts dark brown, the feathers tipped with glistening yellow; wings and tail dark brown; face, forehead, throat, and breast, dark brown, strongly contrasting with the sides of the neck; lower parts from the breast, reddish-fawn colour; under tail-coverts dark brown with pale shafts.

Bill plumbeous; legs plumbeous brown; irides dark brown; Length $4\frac{1}{2}$ inches; wing $2\frac{2}{3}$; tail $1\frac{7}{8}$; tarsus $\frac{4}{5}$. The central tail feathers are barely longer than the next pair.

This species occurs only, that I have observed, in Wynaad and Coorg; but most probably may be found all along the crest of the Western Ghats. I found it associating in small flocks, in bushy and jungly ground near rice fields.

A nearly allied species *M. Kelaarti* Blyth, occurs in Ceylon, with the lower parts, from the breast, mottled black and dull white.

The three next species have the tail feathers successively more elongated.

701. *Munia striata*, LINNÆUS.

Loxia, apud LINNÆUS—BLYTH, Cat. 628—HORSF., Cat. 779—*Fringilla leuconota*, TEMM. Pl. Col. 500, f. 1—SYKES, Cat. 111—JERDON, Cat. 173—*Shakuri munia*, Beng.

THE WHITE-BACKED MUNIA.

Descr.—Plumage above rich dark brown, deepest on the head, and the feathers white shafted; rump white; tail almost black; beneath from chin to breast uniform deep blackish brown; belly, flanks and vent white; under tail-coverts and thigh-coverts brown.

Bill bluish; legs dark slaty; irides brown. Length $4\frac{1}{2}$ inches; wing $2\frac{1}{8}$; tail $1\frac{1}{8}$. The middle tail feathers exceed the outermost by nearly half an inch.

This species is most abundant in the Malabar coast, where it is occasionally to be seen in vast flocks feeding in the rice fields. It also occurs sparingly in other parts of India, in the Northern Circars, in lower Bengal, Arrakan, and Ceylon; but is replaced in the lower Himalayas, and throughout the Burmese province, by the next species. It is also stated to occur in Java.

In Malabar it is a familiar bird, being constantly seen on the road side, about houses, and in stable yards; and it builds in gardens and orchards, solitarily, making a large loosely constructed nest of grass, and laying four or five white eggs during the rains.

702. *Munia acuticauda*, HODGSON.

As. Res. XIX. 153—HORSF., Cat. 778—*M. molucca*, apud BLYTH, Cat. 626—*Samprek-pho*, Lepch. *Namprek*, Bhot.

THE HIMALAYAN MUNIA.

Descr.—Above deep brown, blackish on the forehead and sides of the face, all the feathers white shafted; rump white; upper tail-coverts black, tipped brown; tail deep black; throat and breast brown black, the throat almost black, the feathers of the breast pale-shafted, and with whitish edges (more or less); belly dull white, with narrow hastate marks of dusky brown; under tail-coverts and thigh-coverts brown; the lining of the wings buff.

Bill and legs slaty blue; irides dark brown. Length $4\frac{1}{2}$ inches; extent $6\frac{1}{2}$; wing 2; tail $1\frac{3}{4}$; the medial tail feathers are much elongated, exceeding the outermost by $\frac{5}{8}$ inch.

This species, which differs chiefly from the last in the lower parts being lineolated, in place of pure white, is found, within our province, only in the Himalayas; but extends into Assam, parts of Burmah and Malayana; and is perhaps identical with the birds said to be from the Moluccas, named *L. molucca*, Lin., and figured Pl. Enl. 139 f. 2.

In the Sikhim Himalayas it ascends to at least 5,000 feet, and is tolerably abundant near cultivated lands. Its nest is of the usual structure, large and loosely made of fine grass, and there are generally five or six white eggs. I found it far from rare on the Khasia Hills, whence it had not been previously sent, and it probably will be found all through the intervening country to Mergui (where Blyth obtained it), in suitable localities.

The next species has the central tail feathers still more lengthened, and Sykes made it the type of his genus *Lonchura*, but, as already seen, there is a regular gradation in this respect.

703. *Munia Malabarica*, LINNÆUS.

Loxia, apud LINNÆUS—BLYTH, Cat. 630—HORSE., Cat. 776—JARD and SELBY, Ill. Orn 2nd ser. pl. 34—*Lox. bicolor*, TICKELL, —*Lonchura cheet*, SYKES, Cat. 110—JERDON, Cat. 174—*Chorqa*, H. in the North—*Charchara*, in the N. W. P.—*Piddari* in Southern and Central India—*Sar-munia*, Beng.—*Jinuwayi*, Tel.

THE PLAIN BROWN MUNIA.

Descr.—Upper plumage pale earthy brown, slightly rufescent on the head, and darker towards the forehead; wings and tail blackish; the tertiaries slightly bordered with whitish at their truncated tips; upper tail-coverts white, edged with black externally; cheeks and lower parts white, tinged with pale earthy brown on the flanks, which sometimes have some faint cross rays.

Bill plumbeous; legs livid carneous; irides deep brown. Length 5 inches; wing $2\frac{1}{2}$; tail 2. The central tail-feathers are much elongated, being $\frac{3}{4}$ inch longer than the outermost pair.

This plain coloured Munia is found throughout India, not entering the hills, nor extending to the countries towards the east, but very abundant in Sindh and the Punjab. It also occurs in Ceylon. It frequents bushy jungles, hedgerows, thickets near cultivation, and groves of trees, often entering gardens, and is to be met with, in the south and in Central India, near every village; it is more rare in Malabar and other well-wooded districts, and generally so indeed in forest country. Like all the others it associates in small flocks, and feeds on grass seeds and grains. The nest is a large, loosely constructed fabric, of fine grass, with an opening at one side, which, says Theobald is "sometimes prolonged into a short deflected neck, partially closed by the elasticity of the long spikes of grass forming it." The eggs are numerous, small and white. Sykes took ten from one nest; Burgess never more than six; I have usually found from five to eight. Theobald on one occasion took "twenty-five in different stages of incubation from one nest, but he has satisfactorily accounted for this by showing that two pairs of birds" (if not more) "are frequently, if not usually, employed in the construction of one nest, and the two hens lay consecutively in it." The same observer states that "sometimes the nest is a simple platform of grass, open at each end, but the grass ends curved over to meet at the top. It is much to be doubted if the eggs found occasionally in October and December are often hatched." With Mr. Blyth, I consider that the nest last described was not intended for incubation. Col. Sykes states that they "frequently take

possession of deserted nests of the Weaver-bird; and that the cry of this bird is "*cheet, cheet, cheet,*" uttered simultaneously by flocks in flight."

"This bird is very commonly tamed, and a pair," says Buchanan Hamilton, "always being kept in the same cage, each bird has a small cord fastened round its body, and the owner, holding one bird by the cord, throws up the other, which always returns and sits by its companion."

Besides the Asiatic species already referred to, there are several others from Malayana. *M. maja*, L., from Malacca and the isles; *M. ferruginosa*, Latham, from Java, both with white heads, but otherwise like *M. rubronigra*; and *M. leucogastra*, Blyth, from Malacca, is another species. *Donacola*, an Australian group, is very close to *Munia* in structure and mode of coloration. The well known Java sparrow, *Oryzivora leucotis*, Blyth, Pl. Enl. 388, has the bill more lengthened than in *Munia*, but still very thick, and bright cherry red, thus leading to the next group. So many birds of this species have escaped from cages at Madras, that, I am informed it is to be seen wild in the neighbourhood.

The next birds have the bill more slender, and waxy red.

Gen. ESTRELDA, Swainson.

Char.—Bill much more slender than in *Munia*; the culmen less arched and flattened at the base, more compressed throughout, deep red color; tail soft and graduated; feet moderate. Of still smaller size, and more delicate conformation.

In the form of their beak the Wax-bills, as Blyth calls them, deviate towards the Finches and Linnets, as the Munias do towards the Grosbeaks. There are two Indian species, one or two in Australia, and many in Africa,

704. *Estrela amandava*, LINNÆUS.

Fringilla, apud LINNÆUS—SYKEs. Cat. 105—JERDON, Cat. 175—BLYTH, Cat. 637—HORSF., Cat. 766—Amaduvade Finch, EDWARDS, Birds, Pl. 355, f. 1—*Lal* (the male), *Munia* (the female,) H.—generally called *Lal munia*—*Yorra jinuwayi*, Tel.—*Amadwad* of Europeans.

THE RED WAX-BILL.

Descr.—The male in full summer plumage is more or less crimson, darkest on the throat, breast, supercilia, cheeks, and upper tail coverts; tail black, the outer feathers more or less white tipped; wings brown; a range of minute white feathers beneath the eye, and the wing, flanks and sides of breast, with numerous round white spots, and a few smaller specks on the back; abdominal region infuscated; lower tail-coverts black.

Bill deep red, the upper mandible black above; irides crimson; feet fleshy. Length about 4 inches; wing $1\frac{7}{8}$; tail $1\frac{3}{8}$.

The female is olive-brown above, with the lores blackish, bounded by a whitish semi-circle below the eye; a few white specks occasionally on the back; rump and upper tail-coverts tinged with crimson; beneath paler brown, the abdomen strongly tinged with fulvous yellow; the lower tail-coverts dull white. The young is brown above, paler beneath, whitish on the throat and belly, tail blackish, and a few small white specks on the wings. After breeding the males assume, by moulting, a plumage similar to that of the female.

The Amaduvad (*par excellence*) is found throughout all India, more rare in the South, abundant in the North. In the south of India, I have seen it tolerably frequent on the lower hills of the Neilgherries, in Mysore, here and there throughout the Carnatic, but rare in the Deccan and the bare table-land generally. It is more common in Central India, and abundant in Oudh and in Lower Bengal, extending into the lower ranges of the Himalayas, as well as to Assam and Burmah.

It frequents bushy ground, gardens, and especially sugar-cane fields, and long grass, associating in large flocks, except towards the end of the rains, at which season it breeds. The nest is large, made of grass, and placed in a thick bush, or occasionally in long grass or reeds, and the eggs, six to eight in number, are very small, round, and white. This species moults twice a year, the male after breeding assuming the plumage of the female. Large numbers are taken in many parts of the country and caged. The male has a pleasant little song, and it is also said to fight with much spirit, for which purpose it is kept by the natives. The

popular name of *Amaduvad* was originally applied to this species, and Mr. Blyth has shown that this word took its origin from the city of Ahmedabad, whence it used to be imported into Europe in numbers.

A nearly allied species, *E. punicea*, Horsfield, inhabits Java and other Malayan isles.

705. *Estrela formosa*, LATHAM.

Fringilla, apud LATHAM—BLYTH, Cat. 638—*Harre lal*, H., or *Harre munia*—i. e., the green Munia.

THE GREEN WAX-BILL.

Descr.—Above light olive-green, quills and tail dusky, the former edged with green; beneath very pale yellow, somewhat darker on the lower belly and under tail-coverts, and with broad transverse dashes of dusky on the flanks and sides of the abdomen.

Bill waxy red; feet plumbeous brown; irides pale brown. Length barely 4 inches; wing $1\frac{3}{4}$; tail $1\frac{3}{8}$.

This very pretty little bird is chiefly found in Central India. I have seen it in the jungles north of Nagpore, on the high land near Seonee, on the Pachmarri range of hills, rather abundant, and on the Vindhian range of hills near Mhow. It has also been found at Omerkantak, near the source of the Nerbudda, and in other parts of Central India, and I am told that it occurs in Oudh, and other parts of Northern India, in the Pindooa Dhoon according to Col. Tytler. It is occasionally caught and caged at Kamptee, Saugor, and Mhow. It associates in tolerably large flocks, with a low chirping note, and keeps much to the woods.

Blyth indicates, from a drawing, a plain colored species from Assam. This group is greatly developed in Africa. Among the Eastern species especially deserving notice here, is the very beautiful *Erythrura prasina*, from Sumatra and Java, with three or four allied species from the oceanic region; and there are one or two similarly colored Australian species, viz. *Poephila Gouldiæ*, and another, which resemble Parrots in the gaudiness of their plumage.

The remaining sub-families want the minute first primary of the two preceding groups,

Sub-fam. PASSERINÆ, Sparrows.

Bill stout and strong, somewhat tumid, slightly compressed towards the tip; the culmen broad, convex; commissure straight; wings moderate, the first three primaries about equal, the fourth nearly as long; tail moderate, nearly square, or very slightly forked; tarsus moderate; feet formed both for hopping on the ground and perching; lateral toes about equal.

The sparrows comprise a small group only found in the Old World, none occurring in America nor in Australia, and only one species is known in Malaya. They are social in their habits, and many species evince a marked predilection for the neighbourhood of man, even living in the midst of crowded cities. They breed either in suitable spots and nooks in buildings, or in holes of trees, and occasionally on trees. Their nests are a large loose mass of grass, or any soft material, usually copiously lined with feathers; and their eggs are white, speckled with dusky or olive brown. They chiefly live on grain, but will also eat insects, and many feed their young chiefly on the latter food. Their plumage is plain, usually more or less chestnut brown above, and the sexes differ in some species, but not in others.

Gen. PASSER, Brisson.

Syn. *Pyrgita*, Cuv. and Swainson.

Char.—Those of the family, of which it is the only genus.

There are several types of form and colour among the Sparrows, but none so well marked as to constitute a distinct genus.

Two species are found throughout the greater part of India, one affecting the neighbourhood of man, the other chiefly confined to open forests, or well wooded districts; and there are a few other species with a limited geographical distribution in India.

706. *Passer indicus*, JARD. and SELBY.

Ill. Orn., pl. 118—BLYTH, Cat. 642—HORSF., Cat. 761—P. domesticus, apud SYKES, Cat. 112—and JERDON, Cat. 176—*Gouriya*, H. in the North—*Churi* and *Khas churi*, H. in the South—*Charia* or *Chata*, Beng.—*Uri-pickike*, Tel.—*Adiki lam kuravi*, Tam.

THE INDIAN HOUSE SPARROW.

Descr.—Male, head above and nape dark grey; a deep chesnut patch behind the eye, widening on the nape; wing-coverts, scapulars, and mantle, dark chesnut, the scapulars and back with brown stripes or dashes; a white band on the tip of the lesser coverts; quills dusky, with their outer edges rufous, more broad on the secondaries, and tipped pale; rump and upper tail-coverts ashy brown; tail dusky, light-edged; lores, round the eyes, and base of the bill, black; chin, throat, and breast, black; ear-coverts and sides of the neck white; lower parts whitish, ashy on the sides of the breast and flanks.

Bill horny brown; irides light brown; legs dusky. Length $5\frac{1}{2}$ to 6 inches; extent 9; wing 3; tail $2\frac{1}{4}$.

The female is light brown above, back and scapulars edged with pale rufous; a pale eye-streak, and the lower parts sullied white; slightly smaller than the male.

The common Sparrow of India differs very little from that of Europe, but most systematists agree in placing it as distinct. It chiefly differs from *P. domesticus* in the greater purity of its colours and in the female being somewhat paler. It is somewhat smaller too than its European congener, the black of the breast in the male is more extended laterally, and the cheeks and sides of the neck are purer white, as are the lower parts generally. these being distinctly ashy in the European bird

This Sparrow is generally diffused over all India, from the extreme south and Ceylon, to the foot of the Himalayas, and eastwards to Assam, Arrakan, and Upper Pegu, and also to Siam, according to Crawford. It is less abundant on the Malabar Coast, and, generally, in the very rainy districts, and Quilon is said to be exempt from its society, as well as that of the common striped squirrel (*Sciurus palmarum*), two of the greatest pests of most other stations. It is not found at Darjeeling, but it occurs on the N. W. Himalayas up to a moderate height. Out of India we have no accurate record of its distribution, but it is said to occur in Afghanistan.

The Sparrow builds in thatched roofs, under the eaves of houses, and in similar concealed nooks and cavities, making a nest quite

like that of the English bird, and the eggs also are very similar, and much varied in their markings. In various parts of India, and in Ceylon, the natives hang up earthen vessels on trees, and in verandahs, for this bird to build in, which it does very readily.

The note of this sparrow is quite like that of the European one, and, as it familiarly enters rooms (where, indeed, if allowed, it often breeds on the cornices of ceilings), it is quite a nuisance in many parts of the country, especially during the hot weather. I have frequently seen it chase and capture moths in a room.

707. *Passer salicicolus*, VIEILLOT.

Fringilla, apud VIEILLOT.—GOULD, Birds of Europe, pl. 185, f. 1
—BLYTH, Cat. 644—HORSE, Cat. 764—Fringilla hispaniolensis,
TEMM.

THE WILLOW SPARROW.

Descr.—Male, head and back of neck dark chesnut, the feathers edged paler; the mantle blackish, with creamy-white edgings to the feathers; rump and upper tail-coverts pale brown; shoulder of wing chesnut, with white borders to the lesser coverts; the rest of the wing dusky, with broad pale rufous brown edgings, and a whitish bar, formed by the tips of the greater coverts; secondaries edged and tipped whitish; tail dusky with pale edging; lores, cheeks, and a narrow supercilium, white, passing into ashy brown on the ear-coverts; beneath, the chin, throat and breast, black, some of the feathers edged whitish; rest of the lower parts sullied white, the flanks and under tail-coverts with dusky longitudinal streaks.

Length $5\frac{1}{2}$ inches; wing 3; tail 2. The female resembles that of the common Sparrow, but the striation of the dorsal feathers is less strongly marked.

This Sparrow very closely resembles the last, chiefly differing in the back of the male more resembling that of the female of the common Sparrow, and in the black of the breast being less defined, and passing into dashes on the flanks. It has only occurred, within our limits, at Peshawar and Shikarpore; but it appears to be common further west, in Afghanistan. Out of India

it is common in the north of Africa, spreading to the south of Europe and Western Asia. It is said to be common at Kandahar, and to build both in houses and on trees.

708. *Passer cinnamomeus*, GOULD.

Pyrgita, apud GOULD, P. Z. S. 1835—BLYTH, Cat. 645—HORSF., Cat. 762.

THE CINNAMON-HEADED SPARROW.

Descr.—Male, with the whole upper plumage, including the shoulder and fore part of the wings, bright cinnamon rufous, marked on the middle of the back with black streaks; a small white bar on the wing, formed by the tips of the lesser coverts; wings dusky, the feathers edged and tipped with pale brown; primaries pale brown at their base on the outer webs; plumage beneath, and cheeks, yellowish, with a tinge of grey, albescent towards the vent and under tail-coverts; chin and throat with a narrow central black patch.

The female is light brown above, with a pale supercilium, wants the black throat band, and is dingy brown beneath. Length $5\frac{1}{2}$ inches; wing $2\frac{7}{8}$; tail barely 2.

This Sparrow is found chiefly in the N. W. Himalayas, but also occurs in Nepal, and even in Bootan, according to Horsfield. I never procured it in Sikhim, nor has Mr. Blyth seen specimens from Darjeeling or Nepal. Hutton says that it breeds at Mussooree, and that he suspected it to build in sheds, though he did not actually observe it to do so. It is chiefly a jungle bird, perhaps, and Adams records that it is common in Cashmere, and is seen in flocks, in wooded copses, and round hamlets. Its chirp is stated by Hutton to resemble that of the common Sparrow.

709. *Passer pyrrhonotus*, BLYTH.

J. A. S. XIII. 946—BLYTH, Cat. 643.

THE RUFOUS-BACKED SPARROW.

Descr.—Male above, head and ear-coverts grey, with a chesnut stripe from the eye to the nape; the rest of the plumage maronne,

the feathers of the back centered dark; wings and tail dusky, the feathers pale edged; beneath sullied brownish-white; throat black.

Length 5 inches; wing 2½; tail 2.

This Sparrow differs from *P. indicus* by its smaller size; the rump feathers are dull maroon instead of greyish brown; and the black of the throat does not descend over the fore-neck and breast. The beak and feet too are conspicuously smaller. It has only been procured at Bahawalpore, in Sindh, and nothing is known of its habits. It appears much to resemble *P. rutilans* of Japan.

The female is at present unknown.

The next Sparrow is remarkable for both sexes being clad alike, in a plumage similar to that of the males of the previous species.

710. *Passer montanus*, LINNÆUS.

Fringilla, apud LINNÆUS—GOULD, *Birds of Europe*, pl. 184 f. 2—BLYTH, *Cat.*—647—HORSF., *Cat.* 763.

THE MOUNTAIN SPARROW.

Descr.—Head above and nape vinous chesnut; the shoulders of the wings rich chesnut; the back and wings rusty chesnut, with black streaks; rump and upper tail-coverts unstriped yellowish-brown; the quills dusky, edged with rufous, and with the outer webs, near their base, entirely so; two whitish bars on the wings formed by the tips of the coverts; tail dusky, narrowly edged with rufous; the lores, a stripe below the eye, and the posterior edge of the ear-coverts, black, as are the chin and throat; the anterior parts of the ear-coverts, and the sides of the neck extending towards the nape, white; beneath pale ashy, albescent on the lower abdomen and under tail-coverts, and tinged with fulvous brown on the breast, flanks, and thigh-coverts.

Sexes alike. Length about 5 inches; wing 2½; tail 2.

The Mountain Sparrow is found, in India, only on the Himalayas, thence extending to the South-east throughout the hill ranges of Assam; and finally in Burmah, from Ramree in Arrakan and

Upper Pegu, southwards to Singapore and Java, frequenting the plains, as well as the hills, and, in many places, it is the only species of Sparrow found.* It is also common in China, Afghanistan, and other parts of Asia, in the North of Africa, and all through Europe, being found in Britain, and as far north as Lapland and Siberia. Where it occurs in India, Burmah, in China, and most other Eastern countries, it replaces the common Sparrow, building about the roofs of verandahs and houses, and being quite as familiar as its better known representative, and, indeed, in Eastern Europe, it appears to have the same habits. I have seen it at Darjeeling, where it is the only Sparrow; at Thyet-myo, where it occurs along with *P. indicus* and *P. flaveolus*; and in Rangoon and Moulmein. Its voice is less harsh than that of the common Sparrow, and it is not nearly so noisy nor so troublesome as that bird.

Lesson, in Belanger's *Voyage aux Indes Orientales*, records a Sparrow from Southern India, said to inhabit the Coromandel Coast, and to be common in the neighbourhood of Pondicherry. I have never been able to procure it, nor do specimens exist in any of our Museums. Mr. Blyth suspects that it may be *P. italicus*; if so its locality is probably incorrectly given, but "more probably it refers to the common Indian Sparrow badly described." I give a brief description of it in case it should be recognised hereafter.

PASSER PYRRHOPTERUS, *Fringilla*, apud Lesson.

Size of the common Sparrow.—Head and neck spotless rufous brown; the mantle bright rufous, with black central streaks to the feathers; shoulder deep maronne, bordered by a small oblique white line; the middle wing-coverts black, edged with rufous and maronne, and the rest of the wing pale ashy externally, and brownish on the inner barbs of the feathers; under parts rufous grey; the throat reddish grey, with a black patch commencing on the lower part of the neck; bill and tarsi yellowish. Female grey brown, above silky brown with central streaks to the feathers; below of a blonde-grey throughout; wings ash grey, with a white ray on the shoulder, but no maronné."

* Blyth noticed that Burmese examples were more rufous above, and whiter beneath than birds from Sikkim, which are identical with British specimens.

P. flaveolus, Blyth, I found common at *Thyet-myo*, in Upper Pegu, usually building on thorny trees, but occasionally in verandahs. *P. jugiferus*, Temm., from the Philippines, is recorded by Bonaparte.

The only other Sparrows of Europe and Asia not previously alluded to are *P. italicus*, Degland (*cisalpinus*, Temm.), of S. Europe and North Africa; and *P. jagoensis*, Gould, from the Cape de Verde Islands. There are several others from Africa.

The next species has been classed as a *Ploceus* by Sykes, and Hodgson makes it the type of his genus *Gymnoris*, but it scarcely differs, except in its mode of coloration, from some of the preceding Sparrows.

711. *Passer flavicollis*, FRANKLIN.

Fringilla, apud FRANKLIN—BLYTH, Cat. 649—HORSF., Cat. 759—JERDON, Cat. 177—SYKES, Cat 107—*Raji*, H., vulgo *Jangli churi*—*Adavi pichike*, also *Konde pichike*, and *Cheruku pichike*, Tel.

THE YELLOW-NECKED SPARROW.

Descr.—Above ashy brown, beneath dirty or brownish white, more albescent on the vent and under tail-coverts, and white on the chin; a yellow spot on the middle of the throat; shoulders and lesser-coverts chestnut; wings with some white marks on the tertiaries, and two white bands formed by the tips of the coverts.

The female merely differs in the yellow neck-spot, and the chestnut on the wings, being paler than in the male.

Bill black; irides brown; legs cinereous brown. Length $5\frac{1}{2}$ inches; extent 10; wing $3\frac{1}{10}$; tail 2; tarsus $\frac{7}{10}$.

The yellow-necked Sparrow is found over the greater part of India, but does not appear to occur in Lower Bengal, nor in the countries to the eastward; and it does not ascend the Himalayas to any height. It has not yet been observed in Ceylon.

It frequents thin forest jungle; also groves of trees, avenues, and gardens, in the better wooded parts of the country. It lives in small parties, occasionally, during the cold weather, congregating in very large flocks; feeds on various seeds, grains, and flower-buds, and has much the same manners and habits as the common house-sparrow. It has also a very similar note. It breeds in holes in trees, and in some parts of the country, in the

roofs of houses, in the hollow bamboos of the roof, and, occasionally, in pots hung out for the purpose. The eggs are three or four, greenish white, much streaked and blotched with purplish brown.

Two allied species are *P. petronius*, Linn. of S. Europe and Afghanistan, which may occur in the extreme N. W. of India; and *P. superciliosus*, A. Hay, from Africa, both of which have the yellow throat spot.

Sub-fam. EMBERIZINÆ, Buntings.

Bill with the upper mandible typically smaller and more compressed than the lower, which is broader, equal in a few; a palatal protuberance in many; commissure usually sinuate; tail moderate, even or emarginate.

The Buntings form a considerable group of birds found in all parts of the world, except in Australia, more abundant in temperate than in tropical climes. Some have unequal mandibles, the upper one small, and furnished internally with a palatal knob or protuberance; whilst others have the mandibles nearly equal, and no trace of the palatal knob. The ridge of the upper mandible is usually straight, or nearly so, and the margins of both are more or less inflected. The legs are of moderate length, and the claws slender. They are not remarkable for beauty of plumage or rich colours; several have more or less yellow, and the head is often marked with supercilia or medial coronal stripes. A few are crested; and, in general, the males are brighter coloured than the females. They do not appear, as a rule, to have a vernal moult, but, in winter, the colours of some are less pure, having pale edges, which wear off towards summer; and a few do put on a richer plumage in spring. They are more or less terrestrial in their habits, and build their nests in low bushes, or in tufts of grass. These are neat, cup-shaped, and the eggs are marked with spots and irregular streaks or dashes. The young are said to be fed chiefly on insects. Some species, in winter, collect in huge flocks and migrate. They have little or no song in general, and are less noisy than many other *Fringillidæ*. They form, with two exceptions, a very inconspicuous part of the Indian Fauna, none of them being permanent residents. Three or four are winter

visitants to the plains; and the remainder are almost confined to the Himalayas and adjacent districts, one or two species only occurring in Assam, Burmah, and the countries to the East, and none apparently visiting the Malayan isles. They have been subdivided into several groups, which however are not very strongly characterized, except in the case of certain American Buntings. They approximate some of the *Fringillinae*; and the Snow Buntings, by their long hind claw, approach the Larks; but these are by Blyth referred to the *Fringillinae*. The Indian Buntings may be referred to three groups: the true Buntings; the yellow Corn-Buntings, or *Gundams* of India; and the crested Buntings.

1st. True Buntings.

Gen. EMBERIZA.

Bill of varied strength, and the mandibles more or less unequal, usually somewhat lengthened; wings moderate or rather long, with the 1st quill a little shorter than the second and third, which are longest; tail of moderate length; the outermost feathers more or less marked with white.

The first on the list are the most typical Buntings, to which the yellow ammer of England belongs. They are the restricted *Emberiza* of some.

712. *Emberiza pithyornis*, PALLAS.

GOULD, Birds of Europe, pl. 180—HORSF., Cat. 728—*E. albida*, BLYTH, J. A. S. XVIII., and Cat. 705—*E. leucocephala* and *E. dalmatica*, GMELIN.

THE WHITE-CROWNED BUNTING.

Descr.—Top of the head white in the male, greyish in the female; upper parts rufescent brown, with central dark-brown streaks, nearly wanting on the back of the neck; rump and upper tail-coverts cinnamon-rufous, edged with pale brownish; wings and tail dusky brown, edged yellowish, and the two outer tail-feathers with a patch of white on the inner web, largest on the outer feathers; beneath, the chin, throat, and a moustachial line, are dark rufous with pale edgings, and there is a triangular patch of white on the middle of the throat; ear-coverts pale brown; breast and sides

of abdomen rufous, with pale edgings, and the middle of abdomen, of vent, and the lower tail-coverts white with a few streaks.

Length 6 to 6½ inches; wing 3½; tail 3; tarsus ¾.

This is a typical Bunting, very like *E. citrinella*, but the yellow replaced by white. It has been only found, in India, in the N. W. Himalayas. Hutton found it on the Tyne range, beyond Simla, and Dr. Adams in the same locality; and it has also been procured near Peshawur. It is a native of Siberia and Northern Asia, in summer, occasionally straggling into Eastern Europe.

The next birds have the bill weaker, with the mandibles less unequal, and the palatal knob smaller. They constitute Kaup's genus *Cia*.

713. *Emberiza cia*, LINNÆUS.

GOULD, Birds of Europe, pl. 179—BLYTH, Cat 719—HORSF., Cat. 729.

THE WHITE-BROWED BUNTING.

Descr.—Above rufescent brown with black central streaks, brighter on the rump and tail-coverts, which are unstreaked; crown black, with a pale median line, and a broad white supercilium; a black line through the eye round the pale ear-coverts, meeting another, from the base of the lower mandible; cheeks and chin greyish white, passing into pale ash grey in the neck, throat, and breast, with obsolete dusky spots on the front of the neck; the rest beneath ruddy brown; wings dusky, edged rufescent; the two outer tail-feathers chiefly white.

Bill dusky plumbeous; legs light fleshy yellow. Length 6½ to 7 inches; wing 3½; tail 3¼; tarsus ¾.

The female has the head and lower parts more weakly and dully colored than in the male; the crown and breast are more or less streaked and spotted with dusky; and, in some, there is scarcely a trace of grey on the crown. In winter the colors are less pure; with somewhat rufous edgings to the coronal feathers, and a tinge of the same on the grey neck.

This well known European Bunting has been killed near Simla, and appears not very rare in the N. W. Himalayas. It extends

throughout most of Western and Northern Asia. It is said to nestle in low bushes, and the eggs are whitish, with delicate black lines.

714. **Emberiza Stracheyi**, MOORE.

P. Z. S. 1855, pl. 112—HORSF., Cat. 730—BLYTH, Cat. p. 337.

THE WHITE-NECKED BUNTING.

Descr.—Allied to *E. cia*; differs in having the markings about the head more broadly developed, and of a deeper black colour, and forming three well defined black bars, as seen laterally; in the throat and sides of the neck being whiter, and ashy on the front of the neck only; the breast, and the rest of the under parts being uniform bright rufous-brown, which colour is also prominent on the back, and especially on the scapulars, rump, and upper tail-coverts.

Length about 6 inches; wing $3\frac{1}{4}$; tail 3; tarsus $\frac{3}{4}$.

This species has been killed in Kumaon. The chief differences from *cia*, are the whiter chin and throat.

EMBERIZA CIOIDES, Temm., is recorded by Adams to be common in the lower ranges of the N. W. Himalayas. It is said to differ from *E. cia*, by the shorter wing and more distinct markings. Adams' Bird, is probably the same as the last bird; but Temminck's species was originally described from Japan, is said to occur in China, and may also be found in the Himalayas.

The next group is that of the European Ortolan, and some nearly allied species of Northern India, and probably of Central Asia, which differ by a peculiar mode of coloration, and, in their structure, approach the African group named *Fringillaria*. They are the *Glycyspiza*, of Kaup. There is considerable confusion about the first two species, and I shall follow Horsfield's nomenclature here, as there are not sufficient materials at my disposal for a thorough examination of these birds.

715. **Emberiza hortulana**, LINNÆUS.

GOULD, Birds of Europe, pl. 176—BLYTH, Cat. 715—HORSF., Cat. 734—E. Buchanani, BLYTH, J. A. S. XIII. 957 (not XVI. 780)—*Jamjohara*, Hind.

THE ORTOLAN BUNTING.

Descr.—Whole head, neck, and breast, grey, with a green cast; a pale yellow streak from the base of lower mandible, and a broad central stripe of the same colour down the chin and throat; upper parts rufescent brown, with dark central streaks; wings and tail dingy brown, pale edged; the outer tail-feathers with a large patch of white on the inner web; beneath, from the breast, ferruginous, paling posteriorly.

Bill reddish; feet fleshy yellow. Length $5\frac{3}{4}$ to 6 inches; wing $3\frac{1}{4}$; tail $2\frac{1}{8}$.

The Ortolan of Europe, considered by Horsfield identical with Blyth's species, formerly named by him *E. Buchanani*, is recorded to have been occasionally found in Western India. It is well known in the south of Europe, where they are caught in great numbers, fattened for the table, and considered a great delicacy. In India the social lark (*calandrella brachydactyla*) and the *Pyrrhulauda grisea* are popularly called Ortolans.

The next bird has the bill somewhat stouter and larger.

716. *Emberiza Huttoni*, BLYTH.

J. A. S., XVIII., 811—HORSF., Cat. 735—*E. Buchanani*, BLYTH, J. A. S., XVI., 780.

THE GRAY-NECKED BUNTING.

Descr.—Nearly allied to *E. hortulana*, but differing in colour, having the head, neck, throat, and interscapularies, greyish, without marks, but a few traces of striation on the lower part of the back; orbital feathers whitish; scapularies, forepart of wing, and margins of the coverts and tertiaries of the same pale rufous buff as the entire lower parts, from the breast inclusive, which is similar to that of the abdominal region, only, of *E. hortulana*.

Bill reddish; feet pale fleshy brown. Length 6 inches; wing $3\frac{1}{2}$; tail 3; tarsus $\frac{3}{4}$.

From the N. W. Himalayas; found in winter in flocks near shingly and stony hills. Hutton found it at Candahar in summer. It does not appear certain whether this, or the preceding species, is Sykes' *E. hortulana*, Cat. 102; no specimen of which appears to exist in the Museum E. I. C. H., but it was most probably this

species, or perhaps *E. fucata*. Mr. Blyth states that I sent a specimen of the present bird to him as my No. 181, which I must have confounded with that species. If this was the case, it makes it more probable that the present was Sykes' Ortolan, and in this case it is probably a rare straggler into Western India.

In the next three the bill is still smaller and more compressed.

717. *Emberiza spodocephala*, PALLAS.

E. melanops, BLYTH, J. A. S. XIV. 554, and Cat. 716—*E. chlorocephala* of Nepal, J. A. S. XV. 39—*E. personata*, TEMM. P. C. 580 ?

THE BLACK-FACED BUNTING.

Descr.—Head, neck, and breast, dull green, faintly streaked with dusky on the crown; lores, chin, and feathers at the base of the lower mandible, black; belly and lower tail-coverts sulphur yellow; flanks greenish, with dusky streaks; scapulars and interscapulars greenish rufescent, black streaked; wings blackish, edged rufescent; rump plain rufescent-greenish; tail dusky, outer feathers, with the terminal two-thirds white, also about a third of the inner web of the next one.

Bill dusky, lower mandible whitish; legs pale. Length 6 inches; wing $2\frac{1}{2}$; tail $2\frac{1}{2}$; bill at front $\frac{7}{16}$; tarsus $\frac{3}{4}$.

This Bunting has been found rarely in Nepal, and extending through the hill ranges of Assam and Sylhet into Tipperah. It appears to correspond better to the description of Pallas' *spodocephala* than to *personata*, which has the whole under parts yellow, but they are perhaps the same bird. The former is said to be an inhabitant of Northern Asia, the latter of Japan, and Swinhoe says that *E. personata* is the commonest winter Bunting in China.

718. *Emberiza Stewarti*, BLYTH.

J. A. S. XXIII. 215—*E. caniceps*, GOULD, Birds of Asia, pt. VI., pl. 16—HORSEF., Cat. 736.

THE WHITE-CAPPED BUNTING.

Descr.—Male, crown greyish-white; lores, a broad line passing over the eye to the nape, and the throat, black; cheeks and ear-coverts white; back, scapularies, rump, and upper tail-coverts,

deep reddish-chesnut; wing-coverts dark brown, edged with buffy brown; wings brown, narrowly edged with greyish white; the central tail feathers blackish brown; the two outer on each side blackish brown at the base, and white for the remainder of their length, with the exception of the outer web, which is brown; the whole under surface creamy white, crossed on the chest by a broad band of lively chesnut red.

Bill and feet fleshy brown. Length 6 inches; wing $3\frac{1}{2}$; tail $2\frac{3}{4}$; tarsus $\frac{7}{16}$.

The female has the whole upper surface, wings, and tail, pale olive-brown, with a streak of dark brown down the centre of each feather; a slight tinge of rufous on the upper tail-coverts; under surface pale buffy brown, streaked with dark brown.

This Bunting is said by Adams to be common in Cashmere in fields, near the mountains, with the habits of the yellow Bunting. It was also found by Dr. Royle in the N. W. Himalayas, and in the Salt range of the Punjab by Stewart.

719. *Emberiza fucata*, PALLAS.

PALLAS, Zoog. Ross. As. pl. 46—GOULD, Birds of Europe, pl. 178—BLYTH, Cat. 717—HORSF., Cat. 741—E. lesbia, apud TEMMINCK—E. cia, apud JERDON, Cat. 181—*Puttlur-chirta*, H.

THE GREY-HEADED BUNTING.

Descr.—Above, head and neck darkish grey, with some darker mesial streaks; scapulars, back, and rump, deep rufous or rufescent brown, also streaked with black, except on the rump and upper tail-coverts; ear-coverts deep rufous; a whitish supercilium; wings and tail dark brown, broadly edged with reddish fawn colour; and the outer feathers of the tail partly white on their inner webs; throat, foreneck, and breast, greyish white; a narrow black streak from each corner of the gape, widening as it descends, and forming a gorget with the opposite one; below this white; then an interrupted pectoral band of rufous; and the belly whitish, tinged with rufous on the flanks, and sides of vent.

Bill dusky reddish; feet dirty yellow; irides dark brown. Length $6\frac{1}{2}$ inches; wing $3\frac{1}{2}$; extent 10; tail $2\frac{1}{2}$; tarsus $\frac{10}{16}$; bill at front barely $\frac{1}{16}$.

In some specimens the pectoral band is more or less imperfect, consisting chiefly of spots, and the sides of the abdomen are streaked with brown. In the cold weather the majority of birds want the mesial streaks to the feathers of the back, the black lines from the gape, and the black pectoral band; and the lower parts are uniformly whitish-cinereous, tinged with rufous on the throat and breast, and passing into reddish-white or fulvous posteriorly. The ash of the head and neck, too, has a fulvous tinge. The female is said by Blyth to want the cinnamon-colored band, and the colours to be generally duller.

This Bunting appears to be spread sparingly through Northern and Central India, in the cold weather. It has been found in Bengal, near Calcutta occasionally, in some seasons occurring rather plentifully; also in Nepal, and the Dehra Dhoon; and not uncommon about Simla and Mussooree. I have seen it at Jalna in the Deccan, at Mhow and Saugor, and also near Nagpore. In most of these cases it was frequenting rocky and bushy hills in small parties; and I occasionally saw it in the fields, near hedges and trees. Its Hindustani name, which means stone-grazer, is given from being seen so much about rocks and stones; and I see that Buch. Hamilton applies the same name to another Bunting. Out of India it appears to be an inhabitant of Central Asia, visiting the south of Europe occasionally, and common in Greece and the Crimea. Swinhoe records it as frequenting standing cornfields in China.

The next bird, the last of our true Buntings, differs somewhat from the others, and has received distinct generic rank from Hodgson. It has the bill very acute and perfectly conic, culmen and gonyes being equally straight, and there is no palatal knob. It somewhat resembles *Emb. schanielus*, of Europe, the type of *Cynchramus*, Kaup.

720. **Emberiza pusilla**, PALLAS.

Zool. Ross. Asiat. 2, pl. 47, f. 1.—*E. sordida*, HODGS., J. A. S. XIII. p. 958.—*Ocyris cinopus*, HODGSON.—BLYTH, Cat. 718—HORSF., Cat. 742.