

ON THE WEAVER BIRD (*Ploceus baya* : BLYTH),
In Ceylon.

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The sub-family *Ploceinæ*, or Weaver Birds,—by reason of their singular and interesting habits, and the wonderful ingenuity displayed in the construction of their nests,—may be said to rank foremost in the great family of *Fringillidæ*; and differ, in company with another interesting section, the *Munias* (*Estreldinæ*), from others of the finch tribe, in having a minute first primary. The weaver birds, which are inhabitants of tropical Asia and of parts of Africa, are represented in the former region by only one genus, *Ploceus*, of which there are four species,—*Ploceus baya* (Blyth), *P. striatus* (Blyth), *P. Bengalensis* (Linn.), and *P. Philippinus*. The two first inhabit Ceylon, but *P. baya* is the best known of the two, on account of its wide distribution throughout the low country, and the singular and ingenious nests which it builds; while the latter, which is mostly a reed-builder, is (according to Layard, the pioneer of Ceylon ornithologists) only found in the eastern parts of the island. I have not met with it even there, and have not observed it on the west or south coasts; so that it inhabits, in all probability, but a very small portion of the island.

Before giving some little account of the habits and nesting, as well as of the distribution, of the Baya throughout the country, it may perhaps be as well, for the information of those who may not be acquainted with this interesting bird, to describe the species from Ceylon specimens in my collection.

Adult Male, in Breeding Plumage.—Total length, from $5\frac{1}{2}$ to 6 inches; tail, $2\frac{3}{4}$ in.; wing, 2·8 in.; tarsus, ·8; mid. toe without claws, ·6; bill to gape, ·7. Iris, hazel brown; bill, blackish, lighter about the gape; legs and feet, fleshy reddish grey. Forehead, crown (extending down the sides of the head), and chest, light yellow, glistening on the head; centre of nape, hind neck, back and wing coverts, sepia brown,—margined on the interscapular region with yellow, and on the back and wing coverts with fulvous grey; rump, rufous; quills and tail, brown, margined yellowish. Lores and above nostril, cheeks, and throat, blackish brown, lightest on the chin; breast and beneath, with the under-tail coverts, whitish,—washed with fulvous on the flanks, the feathers of which have dark shafts.

Adult Female differs in being sepia brown above, the feathers

margined with yellowish grey; a yellowish grey supercillium and a light patch below the eye; rump, wings, and tail as in the male, with the edgings more fulvous; beneath whitish, washed with obscure yellow on parts of the throat and chest.

Males in Winter Plumage resemble females, and Jerdan (*Birds of India*) gives younger males in breeding plumage as having the breast pale rusty instead of yellow, and wanting the yellow margins on the interscapulars.

Young Birds in nestling plumage, which I have reared up from the nest, are dark brown above, the feathers edged fulvous, a light brownish buff; supercilliary stripe buff; chin and lower parts whitish; breast fulvous; bill brownish fleshy; legs, feet reddish fleshy. The baya, as it is called in India, is distributed throughout the whole peninsula, from the Himalayas to Ceylon, extending eastwards into Burmah and Malayana. In Ceylon it inhabits the whole low country. Layard thought it to be migratory, and I was of the same opinion for some time, but from further investigation, and a knowledge of its different times of breeding in the north and south of the island, combined with the generally accepted idea that it nests but once a year, I believe that it does not migrate from one district to the other, as do so many of our small insessorial birds, but that it is stationary on both sides; merely wandering about from part to part of the same locality until the breeding season, which is at crop time, when it suddenly appears in large numbers and commences to build. In support of my theory that it does not migrate, I may state that it nests in the south-west and south from June until August, when "internal migratory"* species have been driven over to the East Coast by the south-west monsoon; and in the north from October until December, when the same birds have moved back to the west, under the influence of the north-east wind. It is found inhabiting the north and south of the island, therefore, at the time of the year when, according to the movements of migratory species, its habitat would be exactly reversed. According to the late Dr. Jerdan, it is stationary in most parts of India, and breeds there (as it does in Ceylon) during the rains, according to the locality, from April to September.

In this island the baya does not extend into the hills, that

* One "internal migration" of many of our birds takes place from west to east and *vice versa*, according as the south-west or north-east monsoons prevail. To what extent this exists, and what species are subjected to it are still among the most difficult questions connected with the study of Ceylon ornithology. I have digressed somewhat from the matter of this paper in order to touch upon the subject as connected with *Ploceus baya*, because there are so many different opinions concerning its sudden appearance in various parts of the country.

is, up to any great elevation, but is found in the well wooded districts of the low country, affecting the edges of low jungle, scrubby patches of land, or detached groves and woods in the vicinity of open places or fields, to which it resorts for the purpose of feeding on grain and various kinds of grass seeds. The "paddy"† fields, however, when the crop is ripening afford it its favourite food, and it is generally in the vicinity of these that it assembles in colonies to breed. The nest is suspended from either the cocoa-nut palm, the bamboo, or the outspreading branches of some thinly foliated tree growing in the vicinity of the material used in its construction.

It would be imagined that the projecting leaves of a palm would furnish the best situation for a long pendant nest like that of the baya, but the tops of the fronds, to which on such a tree it is always attached, do not afford so steady a hold-fast for it as the twigs of an ordinary branch, and in nine cases out of ten the little architect chooses a common tree in preference to "cocoanuts" growing close by. As many as four or five nests, however, may sometimes be counted on a palm-tree, but I have frequently seen a dozen hanging from a long-branched tree such as the "Nooga," *Ficus laccifera*, or others of similar growth. Indian writers record this weaver bird as building much on palms, with the singular exception of Burmah, where it almost invariably chooses the thatch of native houses, or even of a much frequented European bungalow.

The nest in Ceylon is made of strips of cocoa palm, date palm, or bamboo leaves, and sometimes of blades of "paddy," according as the material is at hand. In the Southern Province, where the date palm luxuriates, I have found more nests made of leaves than any other two, the fibre being very strong and more durable than that of the cocoa-nut. The strips of which these wonderful structures are composed, are about $\frac{1}{20}$ th of an inch broad, and are torn off the palm frond in the most dexterous manner by the hard working little "weavers." The bird alights near the base, and with a bite and twist of its bill quickly detaches one end of the desired piece, launches itself out into the air, and after a momentary flutter, has it torn off, and is winging its way back to the nest. The neck, or part which connects the egg compartment with the branch or leaf, as the case may be, varies from 6 inches to more than a foot in length, and is in general about one inch in diameter; at the bottom it suddenly expands into the peculiar flattened "goblet" or retort-shaped mass which contains the nest itself, and the origin of the entrance to it. It is during the formation of this part that the extraordinary ingenuity and highly developed constructive powers of the male bird in

† Rice.

particular are exemplified. Carrying a long strip of material in its bill it alights on the nest and quickly weaves in one end, then taking a little hop forwards, it stretches itself out, and taking the other extremity in its bill it underlaces that in like manner, the whole operation occupying a few seconds only. It then frequently hops to another part, and clinging on well with its claws, reaches itself out and minutely inspects its work, tucking in any projecting ends that it may observe. The body of the nest takes from four to five days to construct, and when the circumference has been extended far enough down, a strong loop is thrown across the bottom, a little at one side of the centre, giving the nest, as Jerdan, in his *Birds of India*, remarks, the appearance when taken from the tree, of a basket with a handle. It is curious how many people have erred in noting the use of this loop, some being of the opinion that it is meant for the male bird to sit upon, in what has been equally erroneously described as the *male nest*! It is the keystone to the whole structure and of course exists in all nests; it is the ground work of the separation between the egg compartment and the entrance or "Spout"; and, if examined, will be found to be attached to the interior walls by strong buttresses running up for a couple of inches. On one side of this loop the exterior of the nest is brought down and up to it again, forming the receptacle for the eggs, while the opposite side is built down into the form of a tube or spout, the loop there constituting merely a bridge over which the bird has to mount in order to enter the nest. I think an examination of the nests I had the honour of presenting to the Society's Museum will illustrate what I have endeavoured to describe. The "spout," or tubular entrance, varies in length, according as the *passion for building*, if I may so describe its instinct, exists to a greater or less degree in the male bird, as it is nearly always continued by him after the female has commenced to lay, and in some cases after she has begun to sit. In some nests it is 18 inches long, in others only 3 or 4. During the time the egg compartment is being built the pieces of clay are attached, about which there are so many different theories. Layard suggests that they are for sharpening the bird's bill on. The natives have an idea in India (Jerdan: *Birds of India*, Vol. II., p. 346) that they are intended to stick fire-flies to, in order to light up the compartment at night! Jerdan himself believes that they are used for the purpose of steadying the nest and preventing its being knocked about by the wind. From my own observation, I find that these lumps of clay are but seldom used in Ceylon, probably because they do not build here at a very windy season of the year; and I have noticed that, in a whole

colony of nests build in a sheltered wood, no clay at all was used. It is therefore probable that Jerdan's theory is the correct one. During the time the weaver birds are building, the whole flock keep up an incessant chirping, varied now and then with a long grating whistle uttered by the male, as he clings to the nest he is making. Many nests are deserted when the body is being constructed, both before and after the loop has been formed; and this is, according to some writers, to furnish the male with a roosting place. This is, I am sure, an erroneous idea; the proportion of such nests is sometimes only three or four in a large colony, and it is most probable that they are rejected by the birds on account of some fault in their construction—the egg-chamber too small, the neck not strong enough, or some such weak point. I am strengthened in this view by observing, as above stated, how particular the male bird is at times in examining and inspecting his work; and under these circumstances it is only natural that badly-made nests would be deserted. Again, as Jerdan says (*Birds of India*, Vol. II., page 347), these nests may be “simply the efforts, if built late in the season, of that *constructive faculty* which appears 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.”

In Ceylon the baya lays from two to four eggs, the general number being three. Burgess and Tickell, in writing of India, say 6 to 8, and 6 to 10. They take about ten days to incubate, and are “long-oval” in shape, of a pure white colour, and measure 11 lines by $7\frac{1}{2}$ lines. Although the natural food of this weaver bird appears to be grain of all sorts, I find that they feed their young much on the fruit or berry of the *Lantana*, *Lantana mixta*, a plant introduced into this island some fifty years ago, and which has now over-run the whole cultivated portion of the country, often choking up and rendering useless acres of ground in the same spot. I cannot conclude these few remarks on the natural history of the common weaver bird without referring to the extraordinary intelligence displayed by it when taught, in confinement, by natives,—as recorded by Mr. Blyth, whose account of its performances I quote from Jerdan's *Birds of India*:—“The truth is that the feats performed by trained bayas are really very wonderful, and must be witnessed to be fully credited. The usual procedure is, when ladies are present, for the bird, on a sign from its master, to take a cardamon or sweatmeat 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 witnessed in 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."