

THE BIRDS OF BARKUDA ISLAND

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In the annotated list of birds that follows I have not attempted to discuss the races to which they belong, or even to bring their nomenclature "up to date." The names given them are those used by Blanford and Oates in the *Fauna of British India*. My purpose has not been taxonomic, and though there may be differences of opinion as to the proper names of some of the birds, there can be no doubt as to their specific identity, for all belong to widely distributed and well-known species.

The island provides comparatively little food for any but indiscriminate feeders and is too far from the regular feeding-grounds of many birds to be utilized by them as a nesting-place. Its freedom from arboreal carnivores, and possibly the scarcity of tree-snakes, however, with its high and spreading trees, renders it an excellent roosting-place and large flocks of crows, mynas, egrets, pigeons and (at certain seasons) cormorants, may be seen every evening wending their way towards it at sunset.

I have included in my list the names only of those birds seen alighted on the island. There are many other species (land-birds, waders and swimmers) that are common in the surrounding districts and in other parts of the Chilka Lake and must fly across the island occasionally, for example, to cite species occasionally seen, at least one of swift among the land-birds, the Open-bill and a flamingo among the waders, the Cotton-teal, the Pintail and other ducks among the swimmers.

ANNOTATED LIST.

Corvus macrorhynchus, Wagler and *C. splendens*, Vieill.

Both species of crow are common on Barkuda, where they resemble one another closely in habits. A few reside on the island and even breed there, and the number which do so seems to have increased since I have habitually visited it and lived in the bungalow. The great majority, however, gain their livelihood on the mainland and fly over at dusk to roost. The crows come from both sides of the lake and some of them must fly six or seven miles every evening. The two species arrive together in flocks. The food of residents is very mixed and is obtained both from land and water. It includes fruit of the Custard-apple (*Anona squamosa*) and of the Prickly Pear (*Opuntia* sp.). The latter they do not attack until it has fallen to the ground. Snails (*Ariophanta infausta* and *Rachisellus Praetermissus*) are also eaten, as well as an occasional

dead Chital (*Cervus axis*), or other dead bird or mammal. When large masses of dead weed are washed ashore, as is often the case, they are carefully examined by both crows, which capture the small Isopod and Amphipod Crustacea with which they swarm. Sandhoppers (*Orchestia platensis* and *Talorchestia martensii*) also form their prey and I have seen a *C. splendens* hovering over the water and finally picking a dead fish from a mass of weeds with its beak. The strangest method they have, however, of obtaining food is that of robbing young Fishing Eagles, a procedure that they have developed into a regular conspiracy, in which both House Crows and Jungle Crows are implicated. Not only do they mob the old eagles whenever they see them and frequently chase them out over the lake, but when there are young birds in the eyrie, they collect in large numbers on the branches round it every evening towards dusk. When the old birds return, carrying fish, crabs or snakes for the young, the crows allow them to deposit the food in the nest and then chase them away. I have seen a single *C. splendens* chasing an eagle, which fled before it. The crows then share the provender with the young eagles, and it is not until they begin to grow sleepy, which they do rather early, and retire to roost, that the parent eagles can return to the nest, bringing more food for their despoiled young.

Acridotheres tristis (Linn.).

Except the two crows, the Myna is the only land bird common on the island, on which it lives in small flocks and breeds, chiefly in holes in the trunks and branches of dead Banyan trees (*Ficus bengalensis*). Like the crows, it obtains a good deal of its food from the lake, as it accompanies them in the search for small Crustacea among dead weeds on the shore. Flocks also fly across the lake from the mainland to roost on the island every evening.

Copsychus saularis (Linn.).

Stray individuals of the Dyal bird are occasionally seen in thickets in the rainy season.

Arachnecthra asiatica (Latham.).

At least one pair bred on the island in the season of 1920.

Ceryle varia, Strickland.

The Pied Kingfisher is often seen fishing off the island when the water is low and occasionally perches on the shore.

Merops viridis (Linn.).

This bee-eater is not resident on the island but small flocks of it occasionally fly over from the mainland and establish themselves for the day on some large tree with spreading branches, usually a *Ficus bengalensis* or *F. infectoria*. Their object, to judge from the scattered wings under their perch, is to feed on butterflies, particularly on *Papilio polytes*, which is very abund-

ant on the island. On the headland, Ganta Sila, across the lake from Barkuda, the bee-eaters live in large numbers. There they are fond of perching on some spray of creeper or shrub overhanging the water and of darting out on butterflies that have just flown across the lake.

Lophoceros birostris (Scopoli).

Small flocks and single individuals of the Grey Hornbill visit Barkuda not infrequently in the rainy season.

Eudynamis honorata (Linn.).

The voice of the Koel is often heard on Barkuda in June and July but the bird seems very shy and keeps mainly to the thickets.

Athene brama (Temm.).

The Spotted Owlet is fairly common on Barkuda and is very tame. I have seen four individuals issuing together from a hollow branch of *Ficus bengalensis*.

Pandion haliaëtus (Linn.).

The Osprey is an occasional visitor to the shore of the island.

Haliaëtus leucogaster (Gmelin).

Two pairs of the White-Bellied Sea-Eagle breed regularly on Barkuda. Each has its nest, to which it remains faithful throughout the year, in a large Banyan that overtops the surrounding forest. The breeding-season is prolonged and two broods are sometimes raised in the year. At the beginning of April, 1920, the inhabitants of one nest consisted of a pair in adult plumage and a nearly fledged young one. In the middle of June there was one adult in full plumage, one in immature plumage and two half-fledged young. The other nest I could not see so clearly, on account of the branches and foliage, but the parent birds were both in adult plumage in April, while in June the nest contained young and one of the adults was in immature plumage. It would, therefore, seem, either that one of each pair had died and that a young bird of the first brood of the year had assumed its place, or else that the young one had driven off one of its parents and taken on itself the responsibilities of parenthood, even if it was only as a step-parent. Both parents of both pairs were in full plumage in October.

This eagle is very cowardly in spite of its size. I have already mentioned the fact that a single House-Crow can put it to flight. On Cherriakuda, another island in the Chilka Lake close to Barkuda, I once saw an even more ignominious escapade. An eagle was soaring over a tree on which a large flock of flying foxes were roosting. Its appearance caused great agitation and the bats scurried about along the branches and squealed incessantly. This attracted the eagle's attention and it alighted just

above one of them and looked down at it. The bat turned up its muzzle and bit the eagle on the leg, and the eagle flew away.

The food of the Fishing Eagle consists on Barkuda largely of the fish *Triacanthus brevirostris*, the harmless sea-snake *Chersydrus granulatus* and the swimming-crabs *Scylla serrata* and *Nephtunus pelagicus*. To judge from remains at the base of the trees on which the nests are built and on other parts of the island, *Triacanthus* is the most important item, but this fish has a very solid skeleton and only part of it is as a rule eaten by the birds, while the snakes are as a rule swallowed whole and their skeletons can rarely be distinguished. *T brevirostris* is, perhaps, the most abundant fish in the lake. It is a laterally compressed active fish of the suborder Sclerodermi and goes about in shoals which often swim near the surface. It possesses powerful and poisonous spines both on its back and at the sides of its body. The snake is a very sluggish species. It never leaves the water and is found only in the open lake. Doubtless the eagle catches it as it rises to the surface and protrudes its head and neck, as it often does. The two crabs are both powerful swimmers, but the *Nephtunus* is more frequently seen on the surface than the *Scylla*, which is actually the more abundant of the two in the lake. Its remains are also more abundant, in spite of its more retiring habits, among those of the eagle's victims. Siluroid fish of the genera *Arius*, *Macrones* and *Plotosus* are also captured occasionally, and these are essentially bottom-haunting fish. As the water of the lake is usually turbid, it is rather strange that the eagle can catch them. How it does so I do not know.

As I have pointed out elsewhere, the remains of the food of this bird may provide interesting material for the palaeontologists of some future epoch. They are congregated not only round the trees on which they nest but also lie scattered over the whole island, the prey being not infrequently dropped intact, perhaps when its captor is chased by a crow.

Haliastur indus (Bodd.).

Frequently observed fishing round the island, on which at least one pair bred in 1919 and 1920.

Astur badius (Gmel.).

A pair of Shikra bred on the island in a Banyan tree in 1919. I saw one of them sitting among the foliage of another Banyan besides a dove's nest and darting out at the parent bird as it returned. The dove, however, escaped.

Crocopus phoenicopterus (Lath.).

Large flocks of this pigeon visit the island during the rainy season to feed on the figs of *Ficus bengalensis*, *F infectoria*, *F obtusa* and *F globosa*. They do not come, however, until the rains are well established (in July) even though the figs are often ripe in April. Specimens seem to agree with the northern rather than the southern species of the genus.

Columba intermedia, Strickl.

The Indian Rock pigeon is abundant, at any rate at night, on the more rocky islands of the Chilka Lake, but is only an occasional visitor on Barkuda. Small flocks do, however, roost on the island sometimes.

Turtur orientalis (Lath.).

Fairly common on the island, on which it breeds regularly.

Turtur risorius (Linn.).

Apparently no more than a casual visitor on Barkuda. A pair were observed on the shore in June, 1920, feeding on the halophytic plant *Suaeda multiflora*.

Esacus recurvirostris (Cuvier).

A common bird on the foreshore except when it is covered by the floods. When the water reaches the base of the trees at the head of the beach, the birds desert the island, but they return as soon as the floods abate. I have seen a half-fledged nestling on the island, in April. Four or five adult individuals are often seen together and once I saw twelve standing on a sand-bank. This was at the end of October.

Sarcogrammus indicus (Bodd.).

The Did-he-do-it is one of the most familiar birds on the shore of Barkuda, on which it breeds. It is present throughout the year.

Charadrius fulvus (Gmelin).

Flocks of the Eastern Golden Plover frequent the shore of Barkuda in the cold weather, arriving about the middle of September and not departing until May.

Aegialitis alexandrina (Linn.).

The Kentish Plover is common on the shore of Barkuda in the hot weather. I have seen individuals in full breeding plumage in June.

Numenius arquata (Linn.).

The Curlew is by no means uncommon on the shore of Barkuda in the cold weather and the latter part of the rains. I have seen individuals as early as the end of September.

Limosa belgica (Linn.).

Large flocks feed on the shore, just below the water-level, in the cold weather.

Totanus glareola (Gmelin).

A common bird on the shore throughout its stay in the south.

Totanus calidris (Linn.).

The Redshank is common on the shore in the cold weather and the latter part of the rains. It arrives at least as early as the beginning of October.

Totanus glottis (Linn.).

The Greenshank is common on the shore in winter and autumn, arriving before the end of October.

Tringa subarquata (Güldenstorp).

Yet another common shore-bird in its season. I think I have seen it as early as the end of July.

Himantopus candidus (Bonn.).

Several pairs frequent the shores of the island in the winter and hot weather, but leave them when the floods rise. I found a nest in June, 1920. It contained three eggs arranged with the pointed ends inwards and was constructed as described in the "Fauna." It was situated on gravel amidst masses of dead weed. The old birds were very bold in its vicinity, dashing close down and almost touching one's head, screaming all the time.

Larus ichthyætus, Pallas.

I think this is the large black-headed gull sometimes seen resting on the shore.

Larus ridibundus, Linn.

Occasionally seen on the shore in the cold weather.

Sterna melanogaster (Temm.).

Not uncommon round the island in the hot weather.

Sterna minuta, Linn.

Also fairly common. I have seen the species in the breeding season on the shore, but am sure that it does not nest on the island.

Other species of terns probably visit Barkuda, but I have not been able to identify them with certainty.

Phalacrocorax carbo (Linn.) and *P. javanicus* (Horsf.).

These two cormorants visit the island occasionally.

Phalacrocorax fuscicollis (Steph.).

Very large numbers of this cormorant visit the island nightly in the hot weather and the early part of the rains to roost. After sitting for some time on rocks on the shore, they fly to certain trees near the middle of the island, leaving at dawn. The places stink of them. About the beginning of September they begin to disappear, and have done so completely by the end of the month.

The last to go are young birds in immature plumage. The species breeds in enormous numbers, with the Common Herons and the Open-bill on Kalidai, the sacred island of the Chilka Lake, some ten miles north-east of Barkuda. By the end of October the young birds are nearly fledged.

Plotus melanogaster (Pennant).

Not uncommon on the rocky parts of the shore of the island.

Ibis melanocephala (Lath.).

I have seen several birds of this species roosting on trees with the egrets in the hot weather and early part of the rains, but it does not breed on the island.

Dissura episcopus (Bodd.).

An occasional visitor to the shore.

Xenorhynchus asiaticus (Lath.)

Also an occasional visitor to the shore.

Ardea cinerea, Linn.

A common visitor. It breeds both on Kalidai and on Cherriakuda, which lies just across the bay from Barkuda. Eggs were taken on the latter island in September.

Herodias alba (Linn.), *H. intermedia* (Wagler), and *H. garzetta* (Linn.).

These three egrets roost on trees of *Pongamia glabra* and *Azadirachta indica* near the south shore of the island, but do not breed there.

Ardeola grayi, (Sykes).

Common on the shore but I do not think it breeds on the island. I have seen it accompanying a herd of deer (*Cervus axis*) grazing on the scanty herbage of a cleared area on Barkuda, for the sake of the grass-hoppers disturbed by them. It does not, however, feed on the backs of the deer or even approach them very closely.

Nycticorax griseus (Linn.).

Several birds breed on trees near the south side of the island, but their main nesting place in the vicinity is on Cherriakuda.

Anser indicus (Lath.).

An occasional visitor to the shore in the cold weather and as late as the beginning of April.

Dendrocycna javanica (Hors.).

Large flocks frequent the more level parts of the shore in the winter and the hot season. They leave simultaneously, however,

as soon as the rains are established and I have never seen the species on the island between the end of June and November.

Dendrocycna fulva (Gmelin).

A pair frequented the island throughout the rainy season of 1919 and probably bred upon it.

Casarca rutila (Pallas).

Not uncommon on the shore in the cold weather.

Anas poecilorhyncha, Forst.

One or two pairs haunted the shores of the island in April and June, 1920, but I don't think they bred upon it.

APPENDIX.

Mr. Cedric Dover informs me that the following species have been seen by him on Barkuda.

Dendrocitta rufa (Scop.).

"A pair were observed on the top of a large fig-tree in April, 1920."

Dicrurus ater (Hermann).

"An occasional visitor to the south shore of the island."

Orthotomus sutorius (Forst.).

Mr. Dover found the Tailor-Bird not uncommon in the more wooded areas of Barkuda. It probably breeds on the island.

Alcedo ispida, Linn.

"Seen occasionally in September and October, 1919, and in August, 1920, perched on poles on the south shore of Barkuda."

Halcyon smyrnensis (Linn.).

"Not infrequently seen in August, 1920, in the same situation as the preceding species."

Strix flammea, Linn.

"A single individual was observed in the vicinity of a disused well at about 8 p.m. in October, 1919."

