Notes on the Blue-crowned Motmot

Momotus momota

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Rew groups of birds are more characteristic of the neotropics than are the motmots, members of the coraciiform family Momotidae, which is distributed from northern Mexico south to northern Argentina and southern Brazil. Motmots are robust birds with a distinctive overall appearance that comes from a broad head with a proportionately long, stout bill, as well as proportionately long tarsi and, in most species, an acutely gradated tail with elongated central feathers.

It is the shape and structure of the tail, probably more than any other feature, that typifies the motmots and attracts most interest. In some species and subspecies, the elongated central tail-feathers are denuded subterminally, with the fully intact tips forming flaglike spatules. When newly acquired through molt, the central tail-feathers are without bare subterminal shafts, so it has been claimed that the birds deliberately strip away the barbs by passing each feather through the bill. However, a foremost expert on neotropical birds, Alexander Skutch, points out that along the narrower subterminal portion of each feather the barbs are loosely attached and so fall away as the bird preens and probably also in consequence of the tail rubbing against vegetation. My examination of museum specimens supports the explanation put forward by Skutch, but suggests also that feather growth is well advanced before the barbs will fall away, and then they will do so all at once. In the American Museum of Natural History, New York, there is a specimen of the Blue-crowned Motmot Momotus momota with barbs stripped from much of the subterminal shafts of the central tail-feathers, and this specimen

was collected at the same locality and only 18 days later than a specimen without bare subterminal shafts.

Widespread with Subspeciation

The most widespread, and probably the most familiar species is the Bluecrowned Motmot, which ranges from eastern Mexico south to northern Argentina, and is present also on Trinidad and Tobago, in the West Indies. Approximately 45 cm in length, adults are predominantly rich olivaceous green with black on the crown and a broad black facial band from the base of the bill and surrounds of the eye to the ear-coverts, where it is bordered above by a narrow line of brilliant pale blue. The forehead to forecrown is brilliant silvery blue, and on sides of the crown this meets a band of deep violet-blue extending to the occiput and so encircling the black crown. A prominent russet patch is present on the nape, and at the centre of the upper breast there are one or more elongated tufts of black feathers bordered by bright pale blue. The tail above is dark green, becoming deep blue to black on spatules at the end of subterminally bare central feathers. The bill is grey-black, the iris dark red, and the legs brownish-grey. Juveniles are noticeably duller than adults, having the forehead dusky greyish-brown tinged with bluish-green and with narrower superciliary bands of paler blue, while there are no tufts of black feathers on the breast and non-elongated central feathers of the markedly shorter tail are without bare subterminal shafts; there is a prominent pale tip to the bill and the iris is brown.

This description is of the nominate subspecies occurring in northern South America, from the Orinoco River east to the Guianas and south to southern Venezuela and the north bank of the Amazon River in north-eastern Brazil. Geographical variation is quite pronounced through the extensive range, with some 20 subspecies being recognized, mainly because of the extent of blue on the crown or rufous on the underparts. More divergent subspecies include *M. m. coeruliceps* from eastern Mexico, which has the crown entirely blue, and *M. m subrufescens* from the Caribbean coast of northern South America, which has the underparts and nape to mantle rich tawny-chestnut. Similar, though larger birds from the subtropical to lower temperate zones of the Andean cordilleras in western Colombia to eastern Peru are recognized as a separate species, the Equatorial Motmot *Momotus aequatorialis*.

Overlooked in the Forest

Though preferring moist lowland forests, the Blue-crowned Motmot ranges up to about 1800 m in the foothills or uplands, and is found in a variety of wooded habitats, even coming into arid areas by following gallery forests along watercourses. It is generally common, but may be locally scarce, especially in districts where there is competition from the larger *Baryphthengus* motmots. Along the lower Mahaicony River, in Guyana, I encountered it in disturbed forest and old secondary growth, but it was not plentiful.

Quiet and unobtrusive during much of the day, these motmots can be overlooked as they sit on shaded perches in the lower branches of forest trees, the predominantly green or rufous plumage blending with the surrounds. Usually, they are encountered singly, for it seems that even paired birds space themselves apart during the day, presumably to maximize hunting opportunities, and come together to roost at night. At intervals, the racket-tipped tail of a perching bird is swung from side to side in a pendulum-like movement and, when excited, a bird will hold its tail stiffly out to one side or, more rarely, will raise the tail up towards the back. For no apparent reason, a perching bird suddenly will turn about-face, the peculiar hopping movement being accompanied by a pronounced lifting of the tail.

In many parts of the range, these motmots are tame and normally will allow a close approach. At a resort on Tobago Island they have learned to take food from the hands of tourists. However, in some districts they are quite timid, and there is a suggestion that this may be due to a prevalence of mammalian predators. Dust-bathing is a favored activity, and for this the



Distribution of the Blue-crowned Motmot Momotus momota

birds often come to unsealed rural roads or tracks. Though seldom sustained for a long distance, the flight is swift and direct, the birds exhibiting flashes of blue and green as they dart through the forest with surprising speed and dexterity.

Loud calling during peak periods of activity in the early morning and evening is one of the characteristic sounds of the forest, and always is a reliable indicator of the presence of these motmots in a district. The normal contact call is a deep, resonant *hoothoot*, which can be heard from afar, and occasionally the disyllabic notes may be repeated up to eight times. Another call has been described as a repetitive, loud, clucking *kla* . . . *kla* . . . *kla* of variable intensity and lasting from two to five minutes, and there was evidence that this served to maintain contact within small foraging groups.

A Varied Diet

Blue-crowned Motmots are predominantly insectivorous, but their diet also includes fruits, berries and seeds, earthworms, land-snails, frogs, small reptiles or mammals, and occasionally small birds and their nestlings. Favored food items are large insects, such as beetles, grasshoppers, locusts or phasmids. Undigested fragments of prey are regurgitated as pellets.

On a horizontal or near horizontal perch, a foraging motmot sits upright, its tail almost vertical, and looks about in search of prey. Before leaving its perch, the bird often stares at the intended prey for some time and commences to jerk the tail upward or swing it from side to side, while uttering one to several grunting notes. A sudden flutter is made to the ground, where the prey is grasped in the bill and then brought back to be shaken vigorously, struck repeatedly against the branch, and chewed briefly before being swallowed. Birds will follow columns of army ants, fluttering to the ground or sallying forth to capture flushed prey. Sallying flights also are made to take prey from amidst foliage or from treetrunks. While watching a motmot dropping down from its vantage perch to take prey on the ground, I was reminded of Todiramphus kingfishers using





the same wait-and-pounce technique in Australian woodlands.

Sexes Share Nesting Duties

In Central America and northern South America, breeding takes place during late March to June, but towards the south it occurs later in the year, and courtship feeding has been recorded. The nest is in a burrow excavated by the birds in an earth bank, often a steep riverbank or roadside cutting, and the entrance usually is well concealed amongst tree-roots or behind overhanging vegetation. At Tikal, in northern Guatemala, nests have been found in holes in the walls of temple ruins.

Renesting in the same burrow in successive years has been recorded, but the usual practice is for pairs to return to the same site to excavate a new burrow near to those used in previous years. Excavation of burrows may take place in the wet season, when the soft soil can be excavated easily, and well before eggs are laid in the dry season. Digging is carried out by both sexes, and is done chiefly in the morning and late afternoon. A typical burrow has a tunnel approximately one meter in length, with an entrance hole 15 cm wide and 10 cm high, and positioned to the left at the end of the tunnel is a chamber some 20 cm in depth.

No nesting material is used, the 3 to 5 white eggs being laid on the earth floor of the chamber. Incubation commences with laying of the first egg, and is undertaken by both sexes. When approaching the nest for changeovers or to feed chicks, the parents are extremely wary. Alexander Skutch estimated the incubation period to be approximately three weeks, and reported that in one nest under observation all three eggs hatched within 24 hours. Also in this same nest, the newlyhatched chicks were brooded by a parent for four or five nights, but daytime brooding decreased quite rapidly. These chicks were fed by both parents, and the rate of feeding increased from 1.2 times per hour in the first week to 1.7 times per hour in the second week and 2.3 times per hour when the chicks were 19 days old, but had dropped back to 1.6 times per hour by the time they were 25 days old. The young birds left the nest at 28 to 30 days after hatching.

Uncommon Aviary Birds

Motmots certainly could not be considered common aviary birds, but Bluecrowned Motmots have been bred successfully in zoos and in private collections. Heated wintering quarters are required at high latitudes, and in a spacious, well-planted flight aviary a pair makes a most attractive exhibit.

The first successful captive breeding in Britain was achieved some 30 years ago at Winged World, where the pair had been held for four years. On several occasions, these birds tunnelled into the earth floor of their aviary, but the burrows normally were used for nightime roosting, and collapse of the tunnels excavated in level or near level ground thwarted nesting attempts.

Eventually, the pair was transferred to a large, glass-fronted aviary, together with many thrushes, starlings, woodhoopoes, bulbuls, orioles, barbets, a Cock-of-the-Rock and a Ground Cuckoo. In this aviary there was a continual supply of clean maggots, and other food items offered repeatedly through the day included mealworms, crickets, locusts, baby mice and earthworms, supplemented with strips of lean beef. A burrow was excavated beneath a concrete pool, and the first chick left the nest after a nestling period of exactly 28 days. The second chick fledged two days later, and both were as large as the adults, though with short tails, and they lacked the tufts of black feathers on the breast. Within one week of leaving the nest, both youngsters were observed feeding themselves, and three weeks later their tails were as long as those of the parents, but the elongated central feathers lacked bare subterminal shafts. Immediately afterwards, the parents renested in the same burrow.

Don Bruning tells me that Bluecrowned Motmots have bred successfully at Bronx Zoo, New York, but obtaining information on their nesting habits always has been difficult. Nests were in burrows excavated in the ground and, while at or near the nest, pairs were quite secretive in their actions.