

## *Coccyzus minor* (Mangrove Cuckoo)

Family: Cuculidae (Cuckoos and Anis)

Order: Cuculiformes (Cuckoos, Anis and Turacos)

Class: Aves (Birds)



**Fig. 1.** Mangrove cuckoo, *Coccyzus minor*.

[<http://birds.audubon.org/birds/mangrove-cuckoo>, downloaded 12 November 2014]

**TRAITS.** A relatively large cuckoo, 27-30cm long, with distinctive blackish tail feathers with white oval tips, a black face mask and a buffy underside (Lloyd, 2013). Males and females are alike, with a tail length at 165mm, a wing length at 135mm and weigh approximately 65g (Lloyd, 2013). They have a de-curved black maxilla (upper beak) and a yellow and black tipped mandible (lower beak). The head and wings of the cuckoo are grey-brown and their buff ranging from cream to tawny (yellowish-brown). They have 2 toes facing forward and 2 toes facing backward on each foot (zygodactyl arrangement), and grey legs and feet. A yellow orbital ring is present during non-breeding and is grey during breeding periods. Juveniles are similar to adults with less distinct tail spots, a pale lower bill (beak) (Payne and Sorenson 2005) and brownish-red flight feathers (Howell and Webb 1995). The name mangrove cuckoo comes from their mangrove habitat but they are not restricted to only that environment.

**ECOLOGY.** Mangrove cuckoos are found in the Caribbean, the Central American coastlines, the Florida coast and the Atlantic coast of South America. This species is found in mangroves, shrubs (Lloyd, 2013), woodlands, tropical thickets (Payne and Sorenson 2005), estuaries and swamps (Howell and Webb 1995). They are found living at sea-level and at 1000m, and can breed up to 2000m. They are insect eating birds, mainly feeding on caterpillars (hairy or non-hairy), grasshoppers, insect larvae, and other large insects, bird eggs and nestlings of small birds (Hughes, 2012). They also feed on fruits and lizards. Breeding season varies according to the distribution range of the cuckoo, in Trinidad, the breeding season is from July to September.

**SOCIAL ORGANIZATION.** Mangrove cuckoos are monogamous (one mate) and solitary nesters. This species of cuckoos are not brood-parasites (use nests made by other birds), similar to the squirrel cuckoo, *Piaya cayana*, which also build their own nests. They live close to the nest, where they rear their young. Both parents feed the young and teach juveniles to fly. Mangrove cuckoos show territoriality towards conspecifics, aggressively, mostly during breeding season in a home range. This species can have up to two clutches (their young) per breeding season.

**ACTIVITY.** The mangrove cuckoos are diurnally active (both night and day), taking part in foraging (hunting), nest construction and/or parental care. Although they are difficult to observe, the *C. minor*, when encountered by humans, can be quite tame and curious. By their very nature, they are known to be shy, secretive and skulking (move stealthily) and often hidden among vegetation. They are a non-migratory species, with an exception in Florida where populations travel southwards when winter approaches and then they return in March (Howell and Webb 1995). They tend to be silent during non-breeding periods, and can disperse due to natural events like hurricanes. The mangrove cuckoo's nest is built of twigs and leaves, lined with pieces of plant matter and is usually flat, by using their bills and feet. The nest is placed on either 2-3m above the mangrove water level or on a tree branch or shrub. The females lay 2-4 pale bluish green eggs per clutch. The incubation period of 9-11 days, as well as nest building, involve both males and females (Payne and Sorenson 2005). The helpless but alert and active chicks are fed insects by both parents. The young chicks grow rapidly and can leave the nest soon in as little as 10 days (Hilty and Brown 1986).

**FORAGING BEHAVIOUR.** Mangrove cuckoos forage throughout the canopy by moving slowly around branches and looking under leaves. They hop along branches of trees in mangroves and scrub forests where it gleans its prey from leaves and twigs (Henderson 2010). They hunt by ambush, remaining still and gazing from its perch, searching, the bird then grabs the insect (Fig. 2) and carries it back to their perch. Additionally, other small vertebrates and large arthropods, are beaten against the ground or branch after removing and consuming its legs (Hughes, 2012). As they feed mostly on caterpillars, they don't have to be very fast as these insects are slow moving organisms. Caterpillars are colourful creatures, indicative of noxious substances as a chemical defence, and as such is unpalatable. Therefore, *C. minor* "prepares" the caterpillar before eating, by biting off the end of the gut to get rid of the leaf toxins stored in there. Another method is to rub the caterpillar against a branch before swallowing (Hilty and Brown 1986). The goal is to always remove the toxic contents of the gut, by also beating the hairy caterpillars against a branch, the hairy caterpillars are consumed with the hairs still on the body (Hughes, 2012). For the other large insects such as cicadas, they work their prey back and forth in its bill before swallowing (Hughes, 2012). After eating the insects, they regurgitate their pellet (capsule) with indigestible substances (Howell and Webb 1995). They take fruits from trees, shrubs or from the ground level.

**COMMUNICATION.** The mangrove cuckoo vocalizations are distinctive and loud but are not given often outside of the breeding season. Their most common call is a low, deep or raspy “gawk gawk gawk gawk gawk” at a low frequency of 1 kHz. This sequence of hard, nasal sounds accelerates towards the end, with an overtone of 2 kHz (4 notes in a second), a “coo coo coo coo” of a low 0.8 kHz (5 notes in 2 seconds), and a single “whit” (Payne and Sorenson 2005). An alarm call is given near the nest site when danger approaches in the form of a “cha-kook” and “cha-gook-chook”. Other vocalizations include a “cluck” and squirrel-like notes. Their calls are lower in pitch than of the yellow-billed cuckoo, *Coccyzus americanus* (Payne and Sorenson 2005). Females pump their tails strongly to indicate their willingness to mate, accompanied with calls for the male to locate them and males can display their tails as an attraction signal (Fig. 3). During foraging, stealth required in most situations, therefore almost no communication is needed or done.

**SEXUAL BEHAVIUR.** Mangrove cuckoos are monogamous and sometimes found in pairs as both males and females are responsible for parental care. During courtship, an adult male brings and feeds the female an insect, however, it is not a precursor to mating. Courtship feeding is done by the male settling on the upper back of the female and offering the food (insect). If the female is interested, she rotates her head and raises her bill to accept the food offering from the male (Fig. 4) (Lloyd, 2013). During mating, the female initiates copulation by raising her upper body, bill and tail as a display. She then proceeds to thrust her tail up and down vigorously while producing calls for almost 2 minutes to indicate that she is ready for mating. The male then arrives to the female without any sounds, mounts her and the couple mates for a short 6 seconds, simultaneously, the male grasps the female’s bill (Payne and Sorenson 2005). Another courtship display suspected, is done by the male when they use the white oval tips of their tail feathers as an attraction signal (Howell and Webb 1995), to express their suitability to the female. The male spreads and raises its tail in a “fan-like” position to lure the female.

**JUVENILE BEHAVIOUR.** Young mangrove cuckoos are altricial; depending on their parents for food and protection from predators while in the nest (Henderson 2010). As the young chicks remain in the nest, one parent is always nearby for defence against threats. They grow rapidly and can leave the nest as soon as 10 days and fledging (flying from nest for the first time) occurs when flight feathers and muscles have developed, which they attempt using their bills, feet and legs (Fig. 5). If the young individuals are threatened or troubled, they can climb into the branches around the nest as they don’t fly very far. Flying is learnt by observing their parents. After they are capable of flight, they will soon leave the nest and begin a solitary life as an adult mangrove cuckoo.

**ANTIPREDATOR BEHAVIOUR.** Mangrove cuckoos are usually hidden among the thick vegetation as their first line of defence to avoid detection and predation (Henderson 2010). They also build their nest in the dense canopy mostly out of sight to evade potential threats. Alarm calls are given whenever in danger and then they fly away quickly, since they are cautious, they generally do not engage in fights with predators. However, to protect its young, they alert their mate via alarms calls. Their constructed nests are made of twigs and plant matter to conceal or camouflage the nest from predators. To ensure the safety of the young mangrove cuckoos, one parent constantly remains close to the nest when the other forages so the young can always be protected since they are the most susceptible to predation (Lloyd, 2013).

**REFERENCES**

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**Fig. 2.** Mangrove cuckoo feeding on an insect.

[<http://bna.birds.cornell.edu/bna/species/299/articles/introduction>, downloaded 30 October 2014]



**Fig. 3.** Mangrove cuckoo spreading its tail feathers.

[<http://www.oiseaux-birds.com/page-family-cuculidae-sbf-coccyzinae.html>, downloaded 5 November 2014]





**Fig. 4.** Mangrove cuckoo showing courtship feeding and copulation.

[[http://neotropical.birds.cornell.edu/portal/species/gallery?p\\_p\\_spp=202776](http://neotropical.birds.cornell.edu/portal/species/gallery?p_p_spp=202776), downloaded 2 November 2014]



**Fig. 5.** A young mangrove cuckoo fledging.

[[http://neotropical.birds.cornell.edu/portal/species/gallery?p\\_p\\_spp=202776](http://neotropical.birds.cornell.edu/portal/species/gallery?p_p_spp=202776), downloaded 2 November 2014]