Coccyzus americanus (Yellow-billed Cuckoo)

Family: Cuculidae (Cuckoos and Anis)
Order: Cuculiformes (Cuckoos, Anis and Turacos)
Class: Aves (Birds)

Fig. 1. Yellow-billed cuckoo, *Coccyzus americanus.*

[http://leesbird.com/2012/10/30/vol-2-no-3-the-cuckoo/, downloaded 28 November 2014]

TRAITS. As its name suggests, this species of cuckoo is most famous for its distinct yellow bill (being almost as long as its head) that is slightly downcurved, long and pointed at the tip which also is characteristic of an insectivorous bird. The bill is black in colour on top and the lower mandible is yellow with a black tip. Brown in colour with a white under belly, these cuckoos possess a conspicuous, slender, long, brown tail that has white spots on the underside of its tail that occurs in two rows (Fig. 1). Cuckoos are fairly slender, long birds with a flat head (grey in colour) and wings that appear pointed, rounded and swept back when in flight that is a rusty red colour (rufous) also distinct when in flight. They are jay-sized and range from 27-32 cm, weigh 60-65 g, wingspan ranges from 37-42 cm. These measurements are for males since females are generally slightly larger than males. Females' lower mandible is more orange in colour and the white spots on the underside of its tail are larger.

ECOLOGY AND MIGRATORY PATTERN. The yellow-billed cuckoo is native to the Americas. They breed from central California, the plains of Texas to the states found on the Atlantic coast and areas in western America. They can also be found in Canada and reach as far as Mexico and migrate to Central and South America for the winter (Fig. 2). According to Laymon (1998), their earliest arrival date for the spring season in California is April 23rd , with regular but less arrivals in May. They also arrive in June and early July in pairs for their breeding season.

HABITAT AND NESTING. Inhabit deciduous trees, woodland patches, shrubs, thickets, overgrown pastures and orchards that are characteristic of dense and low vegetation. They are known to prefer riparian habitats that are dominated by cotton wood and willow trees (nesting in willows and foraging in the cottonwood). Their choice of place to live almost always has a river running through it. Their nest in the tree is usually 1-4 m above ground and 1 m from the main trunk and is 15-17 cm in diameter and the height of the tree is usually between 7-10 m. It is made with short twigs, roots and pine-needles that make up the base of the nest and then it is lined with vegetation such as grass, pine and leaves that are placed on a horizontal branch in a rickety platform. In their nests, the female lays 2-4 pale blue-green eggs. The parents incubate the eggs for, on average, 12 days and then take care of the chicks when they are hatched. They are able to climb the nest 7-9 days after hatching, but learn to fly at the age of 21 days when the feathers come out of their sheaths. Yellow-billed cuckoos are solitary nesters, though, if they are seen in groups they are 100 m apart. They are monogamous and the male usually tends to the young nocturnally.

FORAGING BEHAVIOUR AND DIET. The diet of the yellow-billed cuckoo consists mainly of insects (for example katydids), caterpillars (lepidopteran larvae, cicadas and tent caterpillars), dragonflies and butterflies and sometimes they prey on lizards, eggs from other birds, birds and tree frogs. Their preferred foods are the caterpillars and katydids however, grasshoppers and tree frogs are preferred in times where they need quick access to food for example when feeding their young. Foraging occurs extensively in cottonwood riparian habitat. These cuckoos are primarily foliage gleaners (Laymon, 1998) or sometimes sit on the branches and catch flying organisms or fly down to the ground to feed on other organisms such as the lizards or frogs. Foliage gleaning comprises of two strategies; the first and most commonly used is to slowly hop to various locations, while sitting at each location for several minutes so that they can observe quietly, the movements of their green prey on green backgrounds. The second, alternate, less frequently used strategy is to dive into the foliage that they have been observing for some time in hopes that the prey in the foliage may come out of it because of the sudden movements caused by the dive. According to Laymon & Anderson (1997), out of 2420 prey items that were fed to young cuckoos in 30 nests at the South Fork Kern river, the diet consisted of 44.9% caterpillar (sphinx moth larvae), 21.8% katydids, 23.8% tree frogs, 8.7% grasshoppers and 1.3% butterflies, dragonflies and spiders. As a result, the preferred food of the cuckoos appeared to be the caterpillars and katydids.

COMMUNICATION. The most common call of the cuckoo is the lengthy calls of *kowp* notes (sounds like kuk kuk kuks) that become slower with decreasing tempo and pitch at the end of the call, progressing into *ka-lowp* notes that are two noted. This is known as the kowlp call. It is believed that the cuckoo calls more on rainy days and as such, known as the "rain crow". These vocal birds' call can be described as guttural, slow, rolling, wooden and hallow. The female yellow-billed cuckoo gives a soft "cooing" sound which signals that she is ready to copulate and mate. A specific call is given for the parents' bonding behaviour when their chicks have hatched. It is a "rapid cuk-cuk call". Other signaling habits include the pre-copulatory behaviour which

commences after finding suitable habitats and nesting grounds. The female pretends to flee from a tree branch then stops and abruptly lowers, then raises her tail; it is referred to as tail pumping and can be repeated up to a total of 8 times. The male responds by offering a small twig to her, which he breaks off from the tree himself, and then flies to the female and lands on her back, while the twig is still in his bill, and offers it to her over her shoulder. The purpose of the twig is symbolic as it is an offering aid in building the nest or it can help balancing during copulation. Other courtship signals comprise of spreading of the tail, swaying and lowering its wings.

BREEDING AND SEXUAL BEHAVIOUR. Yellow-billed cuckoos mate during the spring season during June and sometimes as early as May, in California which lasts for 4 months, so that it ends at the beginning of fall. They mate and reach their sexual maturity 1 year after hatching; however males begin mating 1-2 years after hatching. These birds are monogamous and they both care and incubate their young. They lay one clutch per season, typically 2-4 eggs between mid-June to mid-July and their incubation period lasts for 9-11 days. The young birds develop quickly and fledging occurs 6-9 days later. In order for a rapid and successful breeding cycle, the arrival of this season is correlated with the level of food supply because it is the source of food and nutrients to the rapidly growing young. In the abundance of caterpillars females tend to lay more eggs. Low vegetation and food supply can delay the breeding season by a few weeks and even up to a month. Both the male and female provide equal amount of care for the young (Fig. 3), however the male incubates and takes care of the young during the night. Therefore cuckoos display monogamous ehavior. The cost of parental care is high in birds so therefore the presence of both parents can double the amount of care, incubation and food that is brought to the nest.

A common tendency of cuckoos is brood parasitism, found in 40% of the species. This is where the birds lay their eggs in the nest of another species. This behavior involves the cuckoo removing one of the birds' eggs and replacing it with hers, so that the host bird can hatch, incubate and raise it as her own. In order for successful brood parasitism, the cuckoo has to lay an egg that is very similar to the host's egg so that she does not get rid of the foreign egg, known as egg mimicry. The cuckoos have to act quickly to avoid detection and as such only produce one egg per host's nest, only taking approximately 10 seconds to lay. The advantage and evolutionary significance of this ehavior is to rid the parents of parental duties so that it may have more time to forage, rid itself of the responsibilities of finding a suitable habitat, building a nest, incubating and feeding her young since breeding is dangerous, time and energetically consuming. The yellow-billed cuckoo, however, builds its own nest and cares for its own young (Fig. 3).

REFERENCES

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Fig. 2. Locations of the yellow-billed cuckoo for the different seasons.

[http://www.nhptv.org/wild/yellowbilledcuckoo.asp, downloaded 15 November 2014]

Fig. 3. Parental care by yellow-billed cuckoo.

[http://what-when-how.com/birds/yellow-billed-cuckoo-birds/, downloaded 28 November 2014]