

Athene cunicularia (Burrowing Owl)

Family: Strigidae (Typical Owls)

Order: Strigiformes (Owls)

Class: Aves (Birds)



Fig. 1. Burrowing owl, *Athene cunicularia*.

[http://naturemappingfoundation.org/natmap/facts/burrowing_owl_k6.html, downloaded 16 October 2014]

TRAITS. Burrowing owls are generally ground dwelling birds. They have facial discs that are poorly developed with prominent white eyebrows and yellow eyes, and a distinctive white throat band. The rest of their body is brown with pale rounded spots (Lewis, 2013) (Fig. 1). The chest has brown bars, absent in juveniles (Wikipedia, 2014) (Fig. 2). They also have a buffy-white stripe on the interior part of their eyebrow to their cheek that becomes fully exposed when the owl stands upright during territorial disputes and coupling behaviors. Their long legs have little feathering with the presence of short, fine plumage while their olive grey toes are bristled with

feathers with black claws Their flight is irregular with jerky wing beats with long frequent glides, interspersed with rapid wing beats but they are very maneuverable while in the air. Adult males appear lighter in colour because their feathers are “sun-bleached” due to the time spent outside of the burrow. The length of a burrowing owl is 19-28cm, wing length is 14-20cm, and tail length is 6-11cm while their weight is 147-240g. Males may have a wing span 3-4 mm greater than females.

ECOLOGY. The burrowing owl can be found in Canada, the USA, Central and South America and Caribbean islands including Cuba, Hispaniola, the Bahamas, and Guadeloupe. It is a rare accidental visitor to Trinidad (not Tobago). During the winter season, they leave the northern areas and migrate south September to October and north in March to May. These owls are highly terrestrial. They inhabit areas with short vegetation such as short grass prairies, well drained grasslands and even deserts. They also live among humans in agricultural and suburban areas. Western burrowing owls rely on the availability of an empty burrow while those living in Florida are capable of digging their own. They are opportunistic feeders and their available food is determined by the time of the year and location. Their diet consists of large invertebrates, arthropods such as beetles and grasshoppers, small mammals such as rodents and ground squirrels and other birds such as sparrows. They won't hesitate to snatch up any small reptiles or amphibians (Oklahoma Department of Wildlife Conservation, 2011). It is extremely fond of termites and they also eat fruits and seeds (Wikipedia, 2014).

SOCIAL ORGANIZATION. There are three types of social orders of burrowing owls, solitary birds, breeding pairs and colonies of birds. These colonies may contain 9-19 birds with no complex social order being present. After chicks are grown the colony will break up and they become nomadic while migrants become solitary during winter seasons. These owls are only territorial during their mating season; males create and maintain a particular territory based on the presence of burrows and its surrounding area. Males would only attack other males if they reach within 10m of their burrow, after making a primary call to inform the intruder of his presence.

ACTIVITY. Burrowing owls are crepuscular, feeding at dusk and dawn. It can also be observed eating during the daytime (Oklahoma Department of Wildlife Conservation, 2011). They are highly terrestrial and perch on mounds and posts, standing on one foot. When excited or agitated they bob the head up and down which displays a white expanded chin patch (Wikipedia, 2014). Burrowing owls often use abandoned burrows of other animals even though they are capable of building one of their own. They also place mammal dung in and around their burrow, which attracts dung beetles which it preys on.

HUNTING BEHAVIOUR. Burrowing owls have a variety of techniques in which they use to hunt their prey. Some of these include; hopping, walking or running after the prey or pouncing. While hunting they perch while standing on one leg (Fig. 3), when they spot a prey they swoop down and capture it with their talons. They also hover over open areas or run along the ground to chase down prey and can catch flying insects by lunging upwards in flight. They chase insects on the ground and use their talons to catch them in the air. While watching from perches they are able to silently glide towards their prey. These owls will hunt throughout a 24-hour period when necessary, such as having young one to feed (Lewis, 2013). Any food captured is caught by their talons and may be transferred to the bill to be carried to feed young. During the day they mostly feed on insects, and on small mammals at night.

COMMUNICATION. Male burrowing owls make a hollow "*cu-cuhooh*" while the female has a similar higher pitched call. When alarmed they use vocal alarm signals such as a chattering "*kwekwekwekweeh*" which can get louder to a harsh "*jaket-jakaket... gowaeh-keket-gowaeh*" or a screeching "*chreeh-ketketket*" while clucking "*chee-gugugugugug*" is used for a contact function (Lewis, 2013). A primary call consisting of five coo-coos is given in connection with copulation while seven calls are connected with defence or begging of food. Females use a smack or eep sound during copulation while males tweet and warbling is done by both. Females rasp to indicate to the male to start collecting food it is also done during distress. Defensive sounds include a chuck, chatter or even a scream. Chicks make an eep that is connected with distress and hunger.

ANTIPREDATOR BEHAVIOUR. Juvenile owls and adults if threatened while in the nest mimic the sound of a rattlesnake rattling its tail which deters predators such as badger, long tailed weasels, even rattlesnakes. During the nesting season, they dive or fly at mammalian predators near their nest. However to escape avian predators they retreat to their burrows. If nests are compromised they may re-nest in a different burrow once it is early in the breeding season. Burrowing owls nesting on prairie dog colonies eavesdrop on the dog's alarm calls and increase their vigilance for approaching predators to appropriately protect their nests (Bryan, 2001).

REPRODUCTIVE BEHAVIOUR. Burrowing owls form monogamous pairs during the nesting period; this means they have one mate for life. Sometimes a male may have two mates; this polygamy has been seen in Saskatchewan. In order to find a mate the male sings and bends forward parallel to the ground and displays his white patches on his throat and brow. Some other courtship displays include cooing, bowing, preening and the presenting of food. The males perform flights rising quickly off the ground and hover for 5-10 seconds then drop, repeated several times. They nest during late March or April in North America. They use abandoned underground burrows, open grasslands for nesting, farms, homes and other places to nest. Burrowing owls show a preference for prairie dog burrows on active colonies. A study on National Grasslands on the Great Plains showed owls present on 69% of active prairie dog colonies, but they were present on only 11% of inactive colonies. Adults usually return to the same nesting sites and nest in loose colonies i.e. among other birds in the same place and time. This maybe due to the abundance of burrows and food or defence as colony members can alert each other of the presence of a predator and help to drive them away (Lewis, 2013). After a mate is selected the male mounts the female while she stands erect and gives a primary call and terminates with a tweeter call, flipping his wings while still mounted, he may even scratch the females head and they may bill nip (Fig. 4.) Copulation is done 1-3 times every evening and it last about 4-6 seconds. The female lays a clutch of an average of 6-12 white eggs, incubated for 28-30 days. During incubation the female remains at the nest. The male stays within 250m and guards the nest and brings food. 3-4 weeks after hatching the family switches burrows every 10-15 days, and 6 weeks after hatching the juveniles are capable of flight. At 44 days they leave the nest, and begin chasing insects when approximately 49-56 days old.

REFERENCES

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Fig. 2. Juvenile burrowing owl.

[http://whozoo.org/AnlifeSS2001/samjones/SJ_BurrowingOwl.htm, downloaded 16 October 2014]



Fig. 3. Burrowing owl perched on one leg while hunting.

[<http://www.featheredphotography.com/blog/2011/10/02/burrowing-owls-of-antelope-island-2/>, downloaded 16 October 2014]



Fig. 4. Burrowing owls mating.

[<http://www.birdphotographers.net/forums/showthread.php/59988-Mating-Burrowing-Owl-IV>, downloaded 16 October, 2014]