



ECOLOGY OF LITTLE GREEN BEE EATER (*MEROPS ORIENTALIS*) FROM NAGPUR AREA (INDIA).

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Abstract:

The green bee-eaters are a group of near-passerine birds in the family Meropidae. Most species are found in Africa and Asia but others occur in southern Europe, Australia, and New Guinea. They are characterised by richly coloured plumage, slender bodies, and usually elongated central tail feathers. All have long downturned bills and pointed wings, which give them a swallow-like appearance when seen from afar. There are 26 different species of bee-eaters.

As the name suggests, bee-eaters predominantly eat flying insects, especially bees and wasps, which are caught in the air by sallies from an open perch. While they pursue any type of flying insect, honey bees predominate in their diet. Hymenoptera (ants, bees and wasps) comprise from 20% to 96% of all insects eaten, with honey bees comprising approximately one-third of the Hymenoptera.

We have considering little green bee eater for study. This species can be easily observed around the Nagpur region. We choose the species for study of habitat, its food, behavior & breeding.





Graphic Representation



Materials and Methods:

In Nagpur there were three types of Bee eater i.e. Green Bee eater, Chestnut Bee eater, Blue tailed Bee eater. Among these we have chosen green Bee eater for the study. In Nagpur there are many lakes like Ambazari, Gandhi sagar, Sakkardara & sonegaon lakes. The little green bee eater has been found around these lakes due to abundant availability of food. Identification of species was done by photographically and recorded a data for one year from various region of Nagpur.

Observations:

The little green bee-eater (*Merops orientalis*) is an exquisite little bird with bright emerald green plumage. The little green bee-eater can be identified by a narrow black stripe on its throat, known as a 'gorget', as well as a black 'mask' that runs through its crimson eyes. Also distinctive are the two central, long, narrow, black tail streamers. The wings are largely green, sometimes tinted with gold or reddish-brown, and have a black trailing edge. The crown may be green, or may be strongly tinged with reddish-brown, and the bill is long.

Eight subspecies of the little green bee-eater are recognised: *Merops orientalis viridissimu*, *Merops orientalis cleopatra*, *Merops orientalis flavoviridis*, *Merops orientalis muscatensis*, *Merops orientalis cyanophrys*, *Merops orientalis*





beludschicus, *Merops orientalis orientalis* and *Merops orientalis ferrugeiceps*. The subspecies may differ slightly in appearance. For example, the throat and chin of the little green bee-eater is electric blue in the Arabian Peninsula, green in northern Africa and Southeast Asia, yellow in Sudan, and pale green-blue in India (Baker, 1928).

The juvenile little green bee-eater is paler than the adult, and lacks the distinctive tail streamers and gorget. This elegant bird can be heard making a soft trill call, ‘*trree-trree-trree-trree-trree*’, or giving short, sharp alarm calls of ‘*ti-ic*’ or ‘*ti-ti-ti*’.

Dimensions of little green bee eater

Body length: 16 - 18 cm

Tail length: up to 10 cm

Wingspan: 8.9 - 9.7 cm

Weight: 15 - 20 g

Biology of Bird

Thought to be a monogamous bird, the little green bee-eater usually lays a clutch of four to eight eggs between March and June, although some will lay as late as August.

The eggs are laid in an egg chamber that lies at the end of a tunnel. The nesting tunnel, which is excavated by both the male and female, can measure up to two meters long and is dug into flat, bare ground or into a gently sloping bank. Little green bee-eater nest holes are typically arranged in loose colonies of 10 to 30 pairs.

The male and female little green bee-eaters take turns to incubate the eggs during the two week incubation period, and both adults also provide food for the young. In some parts of this species' range, the nesting pair will recruit the help of one or more individuals to assist in feeding the chicks and protecting the nest site. These ‘helper birds’ are more common in times of drought, when food is scarce and the chances that helpers can successfully raise a brood themselves are slim. The young birds typically fledge between 26 and 28 days after hatching.





The little green bee-eater forages either alone or in small parties of 15 to 20 individuals. From a perch on a fence, low bush, or sometimes even on cattle, the little green bee-eater takes rapid flight after an insect, seizing its prey and returning to the perch, where it strikes the insect to kill it before devouring it. As its name suggests, the little green bee-eater prefers to prey upon bees, but will also take other insects such as fruit flies and grasshoppers. They feed on flying insects and can sometimes be nuisance to bee-keepers (Sihag, 1993). It is a fairly gregarious bird, with up to 30 birds roosting closely together on a branch, and up to 20 congregating to dust bathe together. Dust bathing is believed to help the bird dislodge harmful parasites and remove excess oil from its feathers.

The little green bee-eater exhibits a particular predator-avoidance behavior that distinguishes it from many other species. If a potential predator is looking at the little green bee-eater's nest, it will not enter until the predator has looked away. This remarkable behavior demonstrates that the little green bee-eater aware of where the predator is looking, but also suggests it is aware of the predator's mental state. This awareness, known as 'theory of mind', is typically only exhibited by humans and a few other primate species.

Habitat

The little green bee-eater predominantly inhabits arid woodlands with scattered trees and bare soil or sand. The little green bee-eater can also be found in thickets around crops, in plantations, on lakesides or in dry river beds, as well as in open ground such as overgrazed pastures, gardens and farmland. This is an abundant and fairly tame bird, familiar throughout its range. It is a bird which breeds in open country with bushes. In Africa and Arabia it is found in arid areas, but is more diverse in its habitats further east. This species often hunts from low perches, maybe only a metre or less high. It readily makes use of fence wires and electric wires. Unlike some other bee-eaters, they can be found well away from water (Ali and Ripley, 1983)



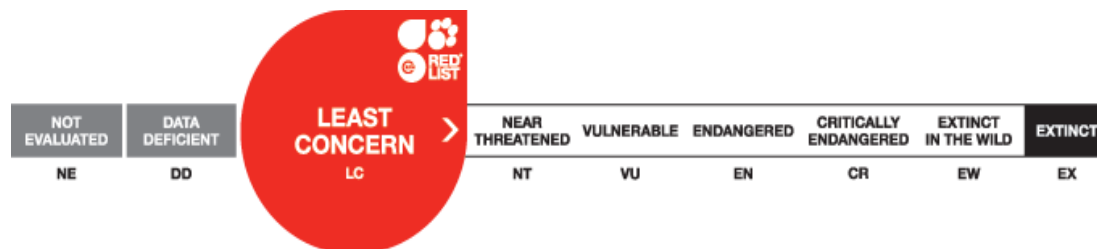


Breeding and Nesting:

The breeding season of bird is March to June. Unlike most bee-eaters, these are often solitary nesters, making a tunnel in sandy banks. They nest in hollows in vertical mud banks. The nest tunnel that they construct can run as much as 5 feet long and the 3-5 eggs are laid on the bare ground in the cavity at the end of the tunnel. The breeding pairs are often joined by helpers. They sometimes form small colonies, or nest near other bee-eaters. They lay 4 to 8 spherical and glossy white eggs. Both the male and the female take care of the eggs. The breeding season is from March to June. Unlike many bee-eaters, these are often solitary nesters, making a tunnel in a sandy bank. The breeding pairs are often joined by helpers, Burt (2002) and Sridhar and Karnath (1993). They nest in hollows in vertical mud banks. The nest tunnel that they construct can run as much as 5 feet long and the 3-5 eggs are laid on the bare ground in the cavity at the end of the tunnel. The eggs are very spherical and glossy white (Hugh, 1949).

Status of bird:

The little green bee-eater is classified as Least Concern (LC) on the IUCN Red List. It is locally common throughout its range and is not currently known to be at risk from any major threats. However, numbers of its principal food source, bees, are declining, which could pose a problem in the future. The little green bee-eater is also considered to be a pest by bee keepers in parts of its range, and this could become of increasing significance to this species.



Curtsy: www.iucnredlist.org





Result and Discussion:

This species has an extremely large range, and hence does not approach the thresholds for Vulnerable under the range size criterion (Extent of Occurrence <20,000 km² combined with a declining or fluctuating range size, habitat extent/quality, or population size and a small number of locations or severe fragmentation). The population trend appears to be increasing, and hence the species does not approach the thresholds for Vulnerable under the population trend criterion (>30% decline over ten years or three generations). The population size has not been quantified, but it is not believed to approach the thresholds for Vulnerable under the population size criterion (<10,000 mature individuals with a continuing decline estimated to be >10% in ten years or three generations, or with a specified population structure). For these reasons the species is evaluated as Least Concern.

Conclusion:

The little green bee-eater is locally common throughout its range and is not currently known to be at risk from any major threats. However, numbers of its principal food source, bees, are declining, which could create a problem in the future. The little green bee-eater is also considered to be a pest by bee keepers in parts of its range, and this could become of increasing significance to this species. As the species is in least concern zone of iucnredlist data book so that there is no need.

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