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Predation pressure of Oriental Rat Snake *Ptyas mucosa* causing nesting adaptation in Streak-throated Swallows *Petrochelidon fluvicola*

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The streak-throated swallow or the Indian cliff swallow (*Petrochelidon fluvicola*) is a small brown-black passerine bird with a short tail and blackish-brown streaks on white underparts, including chin, throat and upper breast (Ali & Ripley 1987). It is the Least Concerned resident bird of South Asia, found in India, Pakistan, Nepal, and Afghanistan (BirdLife International 2023). It is gregarious and builds nests in colonies under natural cliffs or on the roof of man-made structures such as buildings, bridges etc. The nests are gourd-shaped with a narrow tunnel-like opening and are generally built near water sources (Ali & Ripley 1987). Their nests are made up of mud

with an appropriate proportion of silt and sand (Kilgore & Knudsen 1977). The entire process of nest building lasts between 20-25 days and the eggs are laid before the completion of the gourd shape of the nest, within a week of the construction of the nest, first egg is laid (Chaya & Channaveerappa 2012). The birds possess site fidelity for nesting and are reported to rebuild their nest on the same site after disturbances (Ranga *et al.* 2011).

A huge flock of Streak-throated Swallows was observed on November 9, 2021, flying in air while passing by a small bridge



Photo 1: Location of nests of Streak-throated Swallow during 2021. The nests are raided by Oriental Rat Snake Ptyas mucosa.

over the channel from Brahmani River near Tikar village (23° 08' 11.36"N; 71° 05' 54.65"E) located in Halvad tehsil of Surendranagar district, Gujarat state. The birds seemed disturbed and kept on flying around the bridge and frequently entering the space below the bridge. A careful observation under the bridge revealed their nesting colonies, which were raided by two meters long Oriental Rat Snake *Ptyas mucosa* (Photo 1). More than 230 nests were found in four groups built on side walls of bridge pillars. The lowermost nests were about 1m above the water level (photo 1) which made it easy for the snake to access the nests. The snake crawled over the nests and entered its head in a few nests to feed on the eggs or chicks (Photo 2 & 3).



Photo 2: Oriental Rat Snake *Ptyas mucosa* on the nests of Streak-throated Swallow.



Photo 3: Oriental Rat Snake *Ptyas mucosa* entering its head into the nest to access prey.

The Oriental Rat Snake or Indian Rat Snake is a non-venomous snake found throughout South Asia except Nicobar Islands (Whitakar & Captain 2008; Uetz *et al.* 2023). It is the Least Concern snake species in the IUCN category (Wogen *et al.* 2021). However, its population is exposed to threats like loss of habitat, pollution, loss of prey from agricultural fields due to the use of pesticides, road kill, trade, etc. (Wogan *et al.* 2021). It is a terrestrial snake found in the surroundings of urban gardens and forests, freshwater wetlands, and paddy fields and feeds chiefly on various types of tetrapods, including frogs, fishes arthropods and rodents and birds (Whitakar & Captain 2008). It is a strong swimmer and diver, capable of climbing trees and capturing even Flying Fox *Pteropus giganteus* (Daniel 2002; Mallick *et al.* 2022).



Photo 4: Streak-throated Swallow shifted nests on roof of underside bridge in the following year.

The site was revisited in the following years. The birds had built nests at the same site for three successive years. However, the nests were shifted to the roof of the bridge's underside, leaving the side walls to avoid the raiding by the water snake (Photo 4). The Indian Rat Snake feeds various types of tetrapods and also raids the nests on trees (Daniel 2002). Predation of swallows is reported here along with the swallows shifting to the new place at the same site. Shifting the nests on roof shows the adaptation of swallows to avoid predation but maintain the site fidelity.

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First record of Jungle Nightjar Caprimulgus indicus from Kachchh district.

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On 30 August 2023 at 10:00 a.m., I went to a scrub forest area near Madhapar, Bhuj for birding. There I saw a Spotted Flycatcher *Muscicapa striata*, perched on a *Prosopis juliflora* tree. I followed it to get some record shots. To my surprise, that bird flew away, but a nightjar roosted on one inside branch of the same tree caught my attention. It was very well camouflaged. I observed the bird carefully. It had greyishbrown upperparts, creamish buff throat and sides of the neck, tawny brown spots on wings with dark centers, and finely barred pale underparts. After capturing a few record shots, I left the place without disturbing the bird. After sharing the