

The Nesting Behaviour of Wetland Dependent And Associated Birds The Streak-Throated Swallow *Hirundo fluvicola* (Blyth, 1855) : A Case Study



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Abstract

The present case study was carried out to study the nest building behaviour of Streak-Throated Swallow at seasonal wetland associated bird in tehsil Kekri and nearby area of Ajmer district of Rajasthan state. Observation suggested that tehsil Kekri is an important sighting and will help in updating the behavioural and biological information of Swallows, Martins found in the study area. However very little information is available about nesting behaviour of swallows of tehsil Kekri (Ajmer), Rajasthan. Therefore, the present study provides a comprehensive nest building behavioural study of birds of Kekri located in the Ajmer District of Rajasthan State.

Keywords: Kekri, Wetland, Birds, Hirundinidae, Nest.

Introduction

The members of the Hirundinidae family are known for their graceful flight and regularity of migrations. In Korea and Japan a swallow nesting on one's house is considered a sign of good luck. They are small, slender, long winged birds with a short neck and forked tail. Their tiny triangular bill with a wide gap has bristles which act as aerial fly scoops (20:216). Swallows and Martins are considered as wetland dependent and wetland associated birds (Kumar *et al.* ,2005). Despite the known habit of swallows for returning to their regular nesting places, in this case study swallows nesting at highly disturbing site have been recorded near school and hospital. They seem to have no problem keeping up with the movement of the vehicles as well as human presence. The streak-throated Swallow *Hirundo fluvicola* is restricted to a small area of district Ajmer (Kekri). Despite the paucity of previous nest records, we found 17 nests in the years 2018–19, commonly in occupied village overhead tanks, school buildings, hospital. The nests are small mud cups fixed to roof joints and similar to those of its sister species, Brown-throated sand martin *Riparia paludicola*. The nests are reportedly used in month of August in rainy season in study area.

Review of Literature

Most of the birds have specific behaviour for nest building. Literature is full with studies on nest building behaviour of birds by Ali (1931), Davis (1973), Clark and Mason (1985), Fauth *et al.* (1991), Sharma (1991), and Brouwer and Komdeur (2004). Resettlement of Streak-throated swallow at the same site might be influenced by proximity of agriculture lands and water bodies. Ranga, *et al.*,(2011). Frederick and Collopy (1989) has reported that nest site play an important role in colonial breeding. Ecological account of most of the avifaunal diversity is given by wetland habitat and water avifaunal study by Meena, *et al.*, (2018), Dutt and Prakash (2018) and Prakash and Dutt (2018)

Aim of the Study

The present study provides a comprehensive nest building behavioural study of birds of Kekri located in the Ajmer District of Rajasthan State.

Study Site

The present case study of Cliff Swallow was studied in tehsil Kekri and nearby places, of district Ajmer of Rajasthan. It is situated 80 Km from Ajmer and 130 Km from Jaipur the capital of Rajasthan. The coordinates are 25°58'29.40" North and 75°09'10.71" East. Elevation is 1188 ft. The average maximum temperature is 41°C during the month of May, where

average minimum temperature is 9°C during the month of January. (Meena. et al., 2018).

Fig. 1

Map showing the Study Area, Kekri, Ajmer District, Rajasthan



Field Information

Date of initiation : 9 September 2018
 Date of completion: 11 September 2018
 Temperature: 26/25°C ; Humidity: 97%; Barometer-1008 mbar; Wind Flow: 5Km./h.

Material and Methodology

As part of the random wetland census programme wetlands located in Ajmer district were selected to estimate the population of wetland birds. During one such census on 9th September 2018, at about 09:00 A.M , the authors reported the mud nests of *Hirundo fluvicola* in agriculture field which is part of the school area (Urbanized area). It was identified as non breeding adult Cliff Swallow nests because there were no juvenile and eggs. Photograph of birds was captured by using sony digital SLR camera with 35 X zooming lenses. Birds were identified using " A pocket guide of the birds on the Indian subcontinent" by Grimeet et al.,(1999) and Manakkadan and Pittie (2001). They seem to have no problems keeping up with the movement of the vehicles and human crowd. Fortunately, it was a good opportunity to see bird nest at 1.5 meter. We watched them for 30 min in excellent light conditions as they flew around and directly above us and were identified as Cliff Swallow commonly known as *Nahar Ababil* by Hasan, (2001) based on the following characters.

Measurement: Length: 5.1 in (13 cm)

Weight: 0.7-1.2 oz (19-34 g)

Wingspan: 11.0-11.8 in (28-30 cm)

Colour Pattern

In light, Cliff Swallows look brownish with dark throats and white under-parts. Metallic, dark-blue backs and pale pumpkin-colored rumps. They have rich brick-red faces and a bright buff-white forehead area like a headlamp. A number of juveniles illustrate whitish throats in summer and fall.

Morphology

In size, the Cliff Swallow is smaller than the sparrow. It is glossy steel blue with a dull chestnut forehead and crown and a pale brown rump. Below it is fulvous white, streaked with blackish on the sides of the head, throat and breast. Both sexes look alike. These birds have been nesting here for some time

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now. It was fascinating to observe their behaviour of gathering wet soil from up-stream and fly back to the roof of school to built their nests. Some of them were seen immersing the collected wet soil in the water course in fields as they flew.

Results

A colony of Cliff Swallows at Patel Adarsh Vidhya Niketan Secondary School, Kekri, Ajmer (Rajasthan) was building their nests on back side of the school building. The nests were built on the underside of the roof of the school building 10 m from the agriculture ground. (Eds. photographic evidence provided). A maximum of five birds were seen together at one time. The birds continued to fly around us until one flew down and disappeared into the roof of school building.

Behaviour (Nest Building)

For building the nests the birds collected wet soil from the seasonal water ditch about 500 m south-west school bulding . Firstly they set the glob of wet soil at the selected site for making first layer of the nest. All the three days we observed some bird couples were engaged in depositing a single layer of wet soil. Some nests were found incomplete and for completing it birds added some wet soil on each side of the nests, making a tunnel. A total of (38+42+44+32+20+12) 188 nests were counted in six colonies. No other bird and predator species were found. We continued to watch for another hour and tried to take photographs and took some very quick shots of the nest hole. We observed a bird emerging from a nest hole. No other hirundines were seen that day.

Fig. 2: The nest of the streak-throated swallow *Hirundo fluvicola* / September 2018



On 10 September 2018, birds were located at the same site. On 11 September 2018, I again returned to the same location and a minimum of twelve adults were seen building their nest.

Discussion & Conclusion

From the behaviour characteristics of birds it was observed that, Cliff Swallows traditionally built their nests on vertical cliff faces. With the expansion of school infrastructure they have adopted many bridges, overpasses, and culverts as their colonial

nesting sites. They also preferred edge of water body and near areas for feeding with other species of swallows.

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