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Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

NOTE

OBSERVATION OF SHAHEEN FALCON *FALCO PEREGRINUS PEREGRINATOR* (AVES: FALCONIFORMES: FALCONIDAE) IN THE NILGIRIS, TAMIL NADU, INDIA

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26 October 2017 | Vol. 9 | No. 10 | Pp. 10850–10852

10.11609/jott.3040.9.10.10850–10852



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ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

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The Shaheen Falcon *Falco peregrinus peregrinator* is a subspecies of the Peregrine Falcon *Falco peregrinus* found mainly in the Indian subcontinent and Sri Lanka (Dottlinger 2002; Dottlinger & Nicholls 2005), central and southeastern China, northern Myanmar, and Andaman & Nicobar Islands (de Silva et al. 2007; Pande

et al. 2009). Although limited data is available for the Shaheen, based on secondary information, it is a rare, breeding resident in India and Sri Lanka, preferring rocky outcrops over forest areas (Wait 1931; Henry 1971; Cade 1982; Brown & Amadon 1989; Weick 1989; Lamsfuss 1998; Dottlinger 2002; Dottlinger & Nicholls 2005; Ramakrishnan et al. 2014). The subspecies is classified as 'Vulnerable' in the Sri Lanka Redlist (Hoffmann 1998). The population estimation showed 63–82 breeding pairs in Sri Lanka (Dottlinger & Hoffmann 1999; Dottlinger 2002). It is understood that the population has constantly been numerically small. Tropical raptors tend to have smaller populations than temperate species (Newton 1979; Deshmukh 1986). The studies on Shaheen Falcon are very scanty in India (but cf. Pande et al. 2009). Our aim was to elucidate the distribution and breeding of the Shaheen Falcon on the steep rocky slopes in the Nilgiris, Tamil Nadu.

The study area is the Nilgiris District (11.4916 N & 76.7337 E), Tamil Nadu State (Fig. 1). The Nilgiris is an ancient land mass thrust upwards at the junction of the two major mountain ranges near the southern end of India, some 70 million years ago. A total of 57% of the

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surface of the Nilgiri Hills of the Western Ghats rises over 1,000m above mean sea level and 43% of that towers over 1,800m with the pinnacle at 2,670m. The total area of the district is 2,551km². The district is bounded on the west by Kerala, on the north by Karnataka and on the south-east and south by Coimbatore District of Tamil Nadu. The Nilgiris is mostly a hilly district located on the fragile environment of the Western Ghats. A major part of the district is under forest cover (56%), and about 20% is under plantation crops. Average annual precipitation is 1,920.8mm. During summer the maximum ambient temperature is 21–25 °C and the minimum 10–12 °C. During winter the temperature ranges between 21°C–2°C.

Methods: Data were collected from January 2014 to December 2016. A 260km transect was established along existing roadways that passed through Lower (65km) and Higher (195km) elevation areas of the Nilgiris

DOI: <http://doi.org/10.11609/jott.3040.9.10.10850-10852> | **ZooBank:** urn:lsid:zoobank.org:pub:166F8DF4-B6B5-4A59-BFF9-B3F114F238D8

Editor: Reuven Yosef, Ben Gurion University of the Negev, Eilat, Israel.

Date of publication: 26 October 2017 (online & print)

Manuscript details: Ms # 3040 | Received 08 November 2016 | Final received 16 August 2017 | Finally accepted 10 September 2017

Citation: Samson, A., B. Ramakrishnan, P. Santhoshkumar & S. Karthick (2017). Observation of Shaheen Falcon *Falco peregrinus peregrinator* (Aves: Falconiformes: Falconidae) in the Nilgiris, Tamil Nadu, India. *Journal of Threatened Taxa* 9(10): 10850–10852; <http://doi.org/10.11609/jott.3040.9.10.10850-10852>

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Funding: Raptor Research & Conservation Foundation (RRCF).

Competing interests: The authors declare no competing interests.

Acknowledgements: Our whole hearted thanks to the Principal Chief Conservator of Forests and Chief Wildlife Warden of Tamil Nadu state for giving us necessary permission to carry out the field work. This observation record is part of the long term study on the project entitled "Conservation strategies for securing Critically Endangered White-rumped Vulture *Gyps bengalensis* and Long-billed Vulture *Gyps indicus* species in the Tamil Nadu part of the Nilgiri Biosphere Reserve" funded by the Raptor Research & Conservation Foundation (RRCF). We thank our field assistants Mr. R. Bomman, B. Vishnu, K. Manikandan and P. Prabhu for taking a lot of pain in collecting field data in the forests amidst elephants. Special thanks to P. Ravi, naturalist for the support and encouragement in the field work.



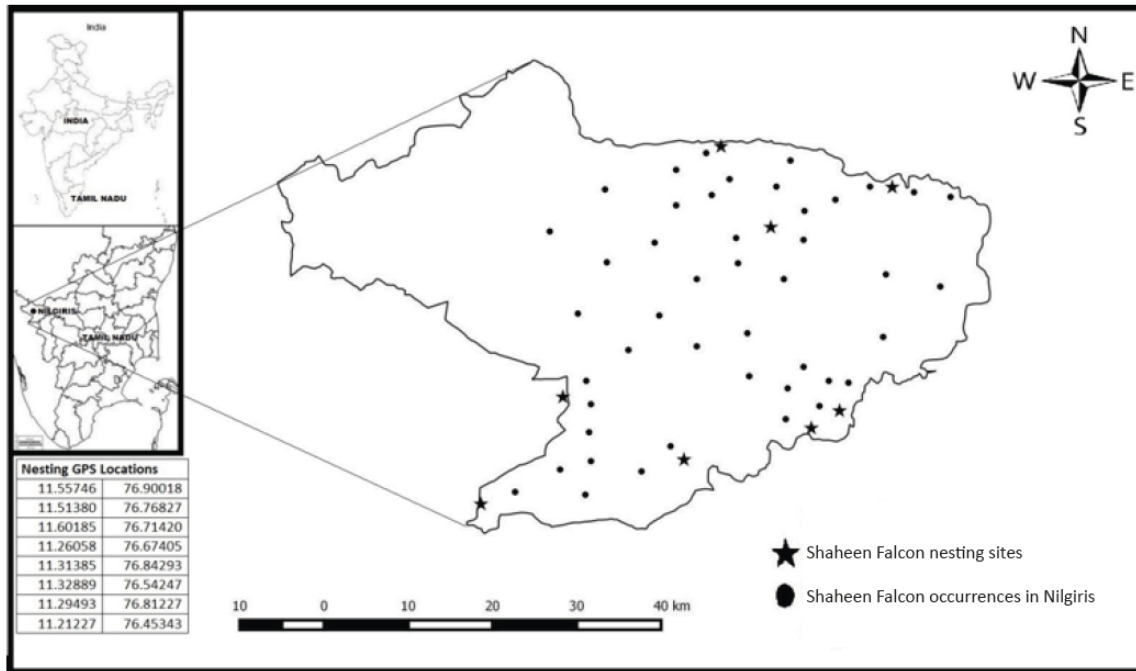


Figure 1. Distribution and breeding occurrences in the Nilgiris



Image 1. A pair of Shaheen Falcon perch on a tree branch near Kinnakorai.

District. The transects were covered once in month and opportunistic count also made in that survey. Nesting habitat search were done in the rocky mountain areas of Nilgiris. Once the presence was confirmed, we searched the surrounding rocky cliffs for nests using a Celestron Power Seeker 60AZ Telescope and Nikon binocular (10 X 52), during the drier months of November to May.

A total of 45 sightings of 57 (1.27±0.06 SE ER=0.0091) individual Shaheen Falcons were recorded (Fig. 1; Image

1). Most of the records 29 sightings of 38 individuals were at a higher elevation of 1,300–2,500 m (2000.6±98.39) in 4680 km (ER=0.0081). A total of 16 sightings of 19 individuals were recorded at lower elevations of 300–900 m (761.5±58.54) in 1,560km (ER=0.012). A total of eight nest sites were recorded in the Nilgiris (Fig. 1); six nests were situated at a higher elevation ranging from 1,500–2,500 m, and two nests were located between 600–800 m. The nest exposure details show that six nests were located on the north-east facing exposures and two nests were on the south-east exposures.

Little is known about the raptors of the Nilgiris mountain range (Zarri & Rahmani 2005). The Peregrine Falcon was the only falcon species recorded in the Nilgiris (Davison 1883; Thirumurthi & Balaji 1999). However Ramakrishnan et al. (2014) recorded the nest sites of the Shaheen Falcon in the Nilgiris. In this study, we found that the Shaheen Falcon occurrence was greater at higher elevations and in mountainous areas. This is similar to Sri Lanka, where most records of Shaheen Falcon were also in the inland forest area and mountain regions (Dottlinger & Nicholls 2005). Shaheen Falcons tend to nest on rock cliffs in the Nilgiris. Our observations concur with Ali & Ripley (1987) who reported that the Shaheen Falcon is normally seen as a solitary bird or in pairs that live on cliffs and rock pinnacles. In the Nilgiris, Shaheen Falcon built their nests on rock cliffs facing north east to south east direction. Vengkitachalam & Senthilnathan (2015) reported that long billed vulture

50% nests were located in the north facing exposure. Brown (1985), Mundy (1982) and Brown & Piper (1988) reported that selection of cliff nesting raptors nest exposure and direction is based on some criteria such as more sunshine, congenial atmospheric temperature and wind direction. The preliminary observation shows that the rocky cliffs of the Nilgiri Mountains support a breeding population of Shaheen Falcons and further studies are required.

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ISSN 0974-7907 (Online); ISSN 0974-7893 (Print)

October 2017 | Vol. 9 | No. 10 | Pages: 10741–10864

Date of Publication: 26 October 2017 (Online & Print)

DOI: 10.11609/jott.2017.9.10.10741-10864

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