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First photographic evidence of short-eared Owl *Asio flammeus* (Pontoppidan, 1763) from Sarlahi District, Nepal

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KEYWORDS

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ABSTRACT

This paper presents the first photographic record of the Short-eared Owl *Asio flammeus*, one of the least studied species of Nepal during opportunistic survey. The new record for Bagmati River stretch on 26 November 2020 were five pairs of *Asio flammeus* in a grassland dominated area adjacent to agricultural land in Sarlahi district. With this record, conservation efforts in the area should include the regular monitoring and controlled human activities. Moreover, it is crucial to develop conservation awareness on the importance of owls in the ecosystem. It is also necessary to change the perception and attitude of people towards owl which are perceived as sign of evil.

Introduction

Owls are top predators of a food chain and bio-indicators of ecosystem health; presence of which is related to the high biodiversity level (Sergio et al. 2004). A total of 23 species (GC et al. 2017) of owls have been reported so far in Nepal belonging to two family namely Tytonidae and Strigidae (DNPWC and DFSC 2020). Among these, three are critically endangered, one is endangered, five are vulnerable, nine are least concern and three are data deficient in national context (Inskipp et al. 2016). Owls inhabit varying habitat including undisturbed forest, open grassland and area close to human settlement (DNPWC and DFSC 2020). Despite

Nepal being home to 23 Owl species, various human interventions like habitat destruction, poaching and illegal owl trade in addition to habitat loss, degradation and fragmentation has impacted Owl species. Other factors resulting population decline includes overfishing, lack of conservation awareness and negative social and cultural beliefs towards Owls (Acharya and Ghimirey 2017; BCN and DNPWC 2011 and DNPWC and DFSC 2020).

The Short-eared Owl *Asio flammeus* (Pontoppidan 1763) is a widespread winter visitor to the entire Indian subcontinent including Srilanka and Maldives (Ali and Ripley 1987). This medium sized Owl species are

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active during both the day and night. Although the species is sexually dimorphic, sexes are difficult to differentiate in the field (Avery and Keller 2010). It primarily inhabits grassland and open habitats (Inskipp and Inskipp 1991), but it can also be found in short agricultural crops (Baral et al. 2013, as cited in Inskipp et al. 2016). Having large, rounded head with two short feather tufts resembling small ears; they are named as Short-eared Owl. Diet of the species consists of small mammals and rarely other bird species (Avery and Keller 2010).

Globally the Short-eared Owl is categorized as Least Concerned in the IUCN Red List of Threatened Species (IUCN 2021) while it has been enlisted as Vulnerable in Nepal by National Red List Series (Inskipp et al. 2016). In Nepal, Short-eared Owl has been often recorded from Koshi area and is uncommon and rare elsewhere (Inskipp et al. 2016). Outside the protected area system, it has been recorded from Dang Deukhuri (Cox 2008); Rupandehi district (Mallalieu 2006) in the western Nepal.

In central Nepal, records are from Manohara river of Kathmandu valley (Murphy and Waller 1992, as cited in Inskipp et al. 2016) and from Lal Bakaiya Nadi of Rautahat district (Cox 2003). Records from east Nepal includes Sunsari district (Harrap and Basnet 1997; Baral 2000; Giri 2007 and Giri 2009) and Taplejung district (Braulinch and Oehlschlaeger 1992, lama1994). A recent record of the Short-eared Owl has been reported from Phewa Wetland, Pokhara (Khatri et al. 2019).

Materials and Methods

Data were recorded from opportunistic survey and observations. Sightings and counts were recorded by two observers from 2:30 to 5:30 hrs on 26 November 2020 during the bird survey along the Bagmati River stretch. The survey was conducted in the South of the East-West Highway covering 10 km river stretch at Bagmati and Barahathawa municipality, Sarlahi district as represented in Figure 2. The region lies in the Tropical Bioclimatic Zone with



Figure 1: Short-eared Owl *Asio flammeus* roosting on the ground in Sarlahi district, Nepal

subtropical monsoon climate (BPP 1995 and Malla et al. 2020). The study area comprised of dominated grassland with adjoining farmlands. Species recorded are *Saccharum spontaneum* (dominant) with scattered tree species of *Bombax ceiba* and *Dalbergia sissoo*. Sarlahi district has experienced remarkable decline in the forest cover and grassland (Ghimire et al. 2015).

While passing through the grassland an individual owl flew off from a location of about 50 m from the roosting ground. Following this flight, a subsequent inspection of the site revealed the presence of other nine owls.

Result and Discussion

Similar to the explanation on roosting and nesting habitat of the species given by Vargiya

and Chakraborty (2018) owls were sighted roosting on the ground ($27^{\circ}1'44.40''\text{N}$, $85^{\circ}24'36.00''\text{E}$) as shown in Figure 1. Findings of our study matches with the records provided by Khatri et al. (2019) providing support for more frequent opportunistic sightings of the species. Moreover, local herders were found grazing their cattle close to the roosting site of the bird species. During the field survey, we also noticed the flight behavior of the Short-eared Owl. The birds were taking the short distance flight not so high above the ground and were found hiding among the bushes. This particular behavior was observed whenever people were approaching in vicinity of the owl's roosting grounds. The area not only harbors habitat for Short-eared Owl but also for globally threatened bird species like Asian Woolly-neck Stork and Lesser Adjutant Stork. Bagmati River is a roosting and nesting sites for many winter migratory birds like

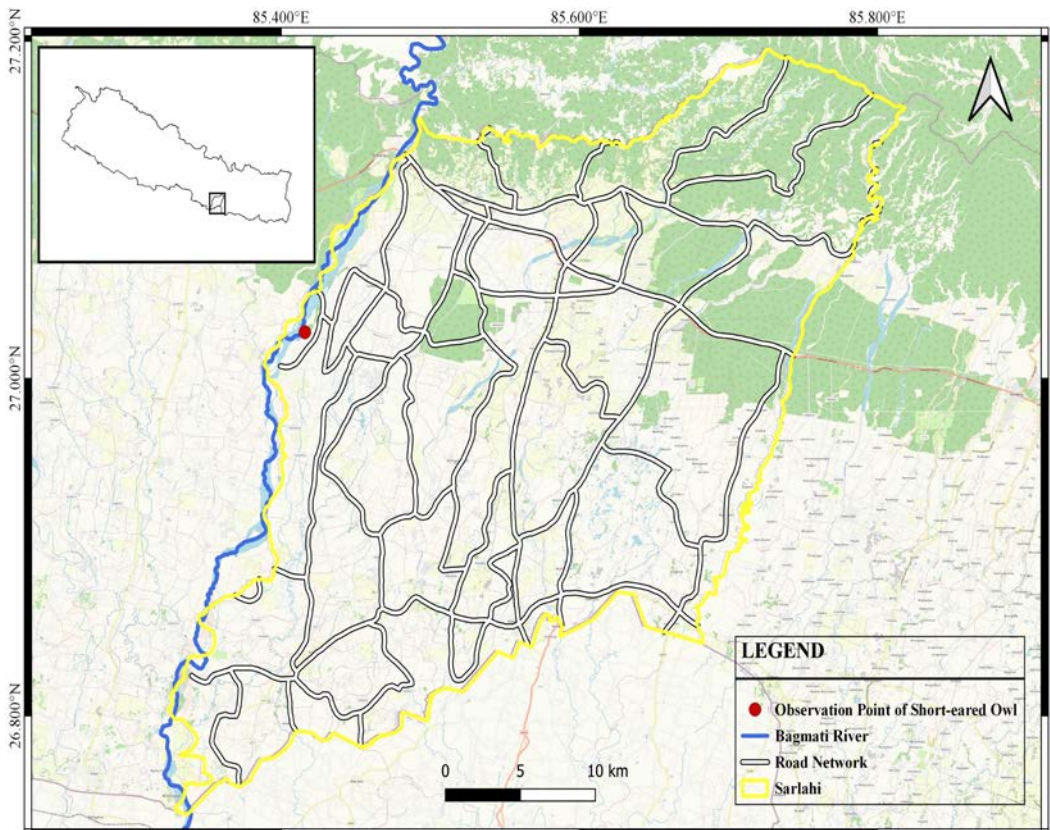


Figure 2: Map showing location of Short-eared Owl

Ruddy Shelduck, Great Cormorant, Gosander, Red Crested Pochard and Common Teal (Rokka and Pradhan 2020). Despite supporting these species, fire on grassland, expansion of agricultural lands on natural grassland and extraction of boulder, gravel and sand on Bagmati River threatens bird survival including Short-eared Owl.

Earlier Short-eared Owl presence has been mentioned in the Owl Conservation Action Plan for Nepal from the Sarlahi district, this finding now provides the first photographic record of Short-eared Owl from the district. Presence of this passage migrant and nomadic (Smith et al. 2013) species on the study area suggests the necessity of further exploration of the similar habitats. Moreover, study directed on fragmentation effect on the species habitat may be an instrumental and may provide insightful findings to adopt effective conservation strategies. Based on the IUCN National Red List series (Inskipp et al. 2016), the population trend of the species is still unknown due to the lack of assessment and insufficient data collection. Further, Owls are considered to be lucky or

unlucky as well as wise or foolish in different cultures as explained by Ahmed (2010). People have varying perception regarding Owls based on myths, folklore and superstitions concerning black magic and with craft, prophecy, birth and death (Khadka 2016). Social and cultural beliefs of people along with lack of awareness on conservation importance are major factor behind increasing hunting of Owls (Gosai et al. 2012; Khadka 2016). On this note, immediate actions and conservation interventions seems to be crucial for Owl conservation. The current discovery of this new distribution record may trigger further studies of this lesser-known bird species.

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