

A STUDY ON AVIAN DIVERSITY OF KALESAR NATIONAL PARK, HARYANA, INDIA

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ABSTRACT : The present study was conducted to study various aspects of avian diversity from April 2014 to January 2017 in Kalesar National Park (located 30° 18' to 30° 27' North latitude and 77° 25' to 77° 35' East longitude) situated in Yamunanagar district of Haryana. A total of 195 bird species were observed during present survey and these bird species belongs to sixteen different orders of Aves. Maximum number of bird species were observed in order Passeriformes(S=98). Among the observed avian fauna, 139 bird species were resident to Kalesar National Park, 50 bird species were winter migratory and only 6 bird species were found to be summer migrants. In terms of IUCN conservation status, out of the total 195 bird species, a total of 183 bird species belongs to IUCN Least Concern category; 5 species belongs to near threatened; 2 species belongs to vulnerable; 2 species belongs to endangered and 3 species belongs to critically endangered category. Further it was observed that 92 bird species show stable population according to IUCN. Out of the 195 bird species , 26 bird species were those which were sighted in every visit in Kalesar National Park and 37 bird species were those which were reported as 'rare' as abundant status was considered.

Key words : Diversity, endangered, Kalesar, point count, transect.

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INTRODUCTION

Biodiversity is the variety of all the genes, species and ecosystem which are found on planet earth. It is the total variety of life on earth (Rajendran *et al*, 2014). World biodiversity is generally divided into three basic parts genetic diversity, species diversity and ecosystem diversity. Biodiversity also plays important environmental and developmental role which are very crucial to human survival but are not according to economic value (Khan, 1998). There are about 18,99,587 described species (Chapman, 2009) against the 11,327,630 estimated species. India has rich diversity of plants and animals in variety of habitats and ecosystem (Wanjari, 2013). India has three of the world's 34 biodiversity hotspots located in Western Ghats, Indo-Burma and in the eastern Himalayas (Myres *et al*, 2000). According to ministry of environment and forest report (1999), the country is estimated to have over 45000 plants species and 81000 animal species representing about 7.0% of the world flora and 6.5% of its fauna. According to Agrawal (2000), there are about 372 mammalian species, 1228 avian species,

446 reptilian species, 204 amphibian species and 2546 species of fishes. Bird diversity forms a main part of the natural environment (Nason, 1992). These bird species are good environmental indicators revealing the state of the ecosystems such as forest boundaries, wetlands and major river basins. Birds inhabit every type of ecosystem across the globe, from Arctic to Antarctic. Birds are social vertebrates and communicate by using visual signals, songs, and calls and participate in social behaviour including co-operative hunting, cooperative breeding, flocking and mobbing of predators. Birds show variations greatly in their diversity, habitats, abundance and distribution throughout the globe. Some avian species have small breeding ranges in some particular region whereas others travel long distance and annual migrations throughout the globe. Their distribution reflects many other wildlife groups (Karr, 1976). The forests play a key role in maintaining a wide range of delicate relationship with nature and its ecosystem (Khaleel *et al*, 2014). Due to their ecological role and recreational values birds are an important forest resource (Scott and Gottfried, 1983).

of January, 2017 in winter season. Further, a minimum of 28 bird species per visit was observed during the month of September, 2016 in post monsoon season.

DISCUSSION

The protected areas such as national parks, wildlife sanctuary and biodiversity reserves are recognized for supporting high diversity of avian species. In other parts of the world as well as in India a little work has been done on avian diversity in the protected areas. Javed and Rahmani (1998) studies on the conservation of the avifauna of Dudwa national park, India; study of Chhangani (2004) on avifauna of Kumbhalgarh Wildlife Sanctuary, in the Aravalli Hills, Rajasthan; Srinivasulu (2004) study on the birds of Kewal Wildlife-Sanctuary, Andhra Pradesh; Talmale *et al* (2012) works on avian diversity of Singhori wildlife sanctuary in Madhya Pradesh; Kidwai *et al* (2013) studies the bird community structure and function in two different forest types of Corbett national park; Abdar (2014) study on the faunal diversity of Chandoli national park in Maharashtra; Chavhan and Dhamani (2014) studies on the avian fauna of Chaprala wildlife sanctuary; Dubey *et al* (2015) studies on the avifaunal assemblages at Gorumara and Jaldapara National Parks and Khan and Pant (2016) studies on the conservation status, species composition and distribution of avian community in Bhimbandh wildlife sanctuary, India are some important studied conducted in protected area in India. As far as state of Haryana is concerned, few references are available on avian diversity in protected areas of Haryana (Kalsi, 1998; Harvey, 2003; Chopra *et al*, 2012;). Kalsi (1998) observed a total of 161 bird species in Kalesar National Park. Out of these 161 avian species reported, 112 were resident and 49 were migrant species. Harvey in 2003 observed 100 migratory bird species in Sultanpur National Park. Chopra *et al* (2012) studied the status and conservation of avian species of Sultanpur national park Gurgaon and observed a total of 113 bird species. he also observed 7 'globally threatened' bird species, viz., Painted Stork, *Mycteria leucocephala*; Black-neck Stork, *Ephippiorhynchus asiaticus*; Black-headed Ibis, *Threskiornis melanocephalus*; Darter, *Anhinga melanogaster*; Pacific Reef Egret, *Egretta sacra*; Sarus Crane, *Grus antigone* along with Hogson Bushchat, *Saxicola insignis* in this important protected area. Changes in weather conditions causes seasonal fluctuations of birds number as well as diversity. The present study indicated that maximum of 59 bird species per visit was observed during the month of January, 2017 in winter season. Further, a minimum of 28 bird species per visit was observed during the month of September, 2016 in post monsoon season.

CONCLUSION

A number of stress factors were recorded in Kalesar National Park which included anthropogenic activities (collection of fuel wood by local people and Shortage of fodder), water scarcity, grazing of the livestock (limited extent), spreading of urbanization and Mal touristic practices. These stress factors led to the deterioration and disturbances in the natural habitat resulting in interference in the ecology and behavior of wild populations, in general and avian fauna, in particular, in the Kalesar National Park. On the basis of approximately three years of extensive study, it is suggested that there is an immediate need of organization of bird watching camps with the help of professional bird watchers and local people. Government should promote non-conventional sources of energy like LPG (liquefied petroleum Gas), Solar Panels, and Solar Water Heaters. This will reduce the fuel wood load on this protected area. At regular intervals, awareness programmes and camps should be organized for the local people to realize the importance of biodiversity for mankind. The most effective strategy will be to deliver scientific education to local people on biodiversity conservation and wildlife importance. Some established institutions like WII, ZSI and experts from these types of institutions can play an important role in this direction.

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