

# DIURNAL RAPTORS OF BANDHAVGARH NATIONAL PARK AND ITS CONSERVATION ASPECTS

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## Introduction

The presence of large number of resident raptors in Bandhavgarh National Park has influenced many studies. Some of the species were lesser known in the area which was studied after extensive survey.

## Study area (Location and habitat) :

Bandhavgarh National Park comprises of an area of 448.84 km<sup>2</sup> and lies between 22°30' 12" to 23° 45' 45" North latitude and 80° 47' 15" to 81° 11' 45" East longitude. The study area was confined to one of its ranges i.e. Tale Range, covering an area of 105 km<sup>2</sup>. The topography is undulating varying in altitude from 200 to 1000 m. The Bandhavgarh hill is 807 m high and river Charanganga and Damnar originate from here. A number of nallahs (springs) originate from this catchment and act as secondary source of water inside the park. This also forms small tract of grasslands known as "Vali"

## Vegetation

The forest types can broadly be classified in three broad types i.e. :

Sal forests 20% Sal vegetation (*Shorea*

*robusta*) which is climax stage of vegetational succession, which covers low undulating and plain tract of the park.

*Mixed forests* : Occur on upper hill slopes with few patches near nallah banks in alluvial black clay soil, where moisture content is high.

*Grasslands* : These occurs near nallahs and rivers i.e. Charanganga, Damnar, etc. Some meadows were formed where villagers relocated. These represent partially drained swamps occurring as climax. Bamboo is found throughout Tale range as gregarious flowering occurred during the year 1984-85.

According to Champion and Seth's classification (Forest Types of India) :

Sub group 3C - North Indian Moist Deciduous Forest comprising of  
3C/C2A - Moist peninsular low level Sal and  
3C/C3A - West Gangetic Moist Mixed Deciduous Forest.

## Avifauna

The diverse habitat from Sal, mixed forest with grasslands of peninsular and

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Eastern Gangetic region with undulating terrain accounts for its species diversity.

Over 240 species of birds including some migratory avian species make the park habitat rich. The richest areas in raptor diversity were along river Charanganga, Damna, Seshshaiya, Janar etc. which comprise of grasslands and forests. The edge of the forests are abode for different avian as well as herbivore species. The water sources act as additional attraction to a variety of water birds. Rivers and streams are valuable source of food for migratory birds.

### Results

A total of 12 species of raptors were recorded and listed during the studies. It was found that Crested Serpent Eagle, Crested Honey Buzzard nested within each other's territory. The forest dependent Hawk Eagles were the most successful breeders within and outside the Park, though their prey preferences differed correspondingly.

Yellow Throated Martin and common Langur (*Presbytis entellus*) showed aggressiveness in nest defence against natural predators and they nested more successfully than other species.

According to observation breeding dates of some raptor species in Bandhavgarh National Park are given below :

1. Black Shouldered Kite (*Elanus caeruleus*) fairly common in the open grassland area of the park. Numbers fluctuate annually in relation to prey availability. Few birds may breed inside the park, but most exploit the grassland for foraging and breed outside the park.

2. Crested Honey Buzzard (*Pernis ptilorhynchus*) is commonly seen throughout the park. Its displays are observed during March and April, pairs were observed incubating mostly in May.

3. Northern Goshawk (*Accipiter gentilis*) Migratory. It is uncommon but one adult was seen at 1000 m in May at Seshshaiya. Sporadic breeding may occur in the lower foot hills.

4. Shikra (*Accipiter badius*). The commonest resident bird seen throughout the park.

5. Red-headed Vulture (*Sarcogyps calvus*). Also called king Vulture in India. Common throughout the park and observed foraging upto 1000 m. It is equally at home in dry deciduous forest or in the degraded open country.

6. Longbilled Vulture (*Gyps indicus*). Resident along the hill slopes of the park southwards, breeds mainly on cliffs near the banks of rivers and nallahs.

7. Oriental Whitebacked Vulture (*Gyps bengalensis*). Commonest vulture and breeding raptor in the park. Also breeds in the plains and on foothills upto 1000 m.

8. Serpent Eagle (*Spilornis cheela*). One of the commonest raptors in the park, and a versatile species found throughout the lower and middle foothills upto 1000 m. The species is known to build its own nest. It also breeds in unused nests of the original White-backed Vulture, Hawk-eagles. In BNP the prey varied from the usual snakes, lizards and rodents to occasionally birds e.g. Jungle Babbler (*Turdoides striatus*). Common Myna (*Acridotheres tristis*) etc. The species is easily driven off the nest by the Common



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Langur which, along with the Yellow-throated Marten, feed on the eggs. Displays observed in February to early March, incubation by end March through April or variably later. Unsuccessful nesting in the park is mainly due to the high rate of nest predation. Outside the park, in relative unprotected, degraded reserved forest close to human habitation, nesting success was higher, and this was probably due to lower density of potential predators.

9. Peregrine (*Falco peregrinus japonensis*). A migrant, a few individuals were regularly seen perched on dead trees and stumps in open areas within the park in the vicinity of the Charanganga river, Dhobiakhhol and Gondhi vah. The resident Shahin F.p. peregrinator is a forest dependent falcon, seen more frequently from high points in the park. Breeds on cliffs on the upper slopes of steep forested hills and upto at least 1000 m.

10. Common Kestrel (*F.t. tinnunculus*). Both

species are migratory to the park, birds on passage are seen around September/October, foraging in the open grassland. The resident race *F.t. interstinctus* is a common breeder in the hills upto 1000 m, the breeding season extending from March to June.

11. Eastern Steppe Eagle (*Aquila rapax*). Found near water in open areas of scrub country, often seen in the neighbouring village area. Pirate scavenger, nests on platform of sticks and grasses on top of the thorny trees. Breeds from December-April.

12. Crested Hawk Eagle (*Spizaetus cirrhatus*). Commonly seen in deciduous forest near forest clearings. Nests are made on large platform of green leaves on high trees. Breeds from December-April.

### Discussion

Due to geographical location (drier part of Sal forests in comparison to Kanha

Table 1

Name of the Birds	From plains upto 1000 m
Black Shouldered Kite ( <i>Elanus caeruleus</i> )	R
Crested Honey Buzzard ( <i>Pernis ptilorhynchus</i> )	LM, R?
Northern Goshawk ( <i>Accipiter badius</i> )	R
Shikra ( <i>Accipiter badius</i> )	R
Crested Hawk-Eagle ( <i>Hieraaetus kienerri</i> )	—
Eastern Eagle ( <i>Aquila nipalensis</i> )	M, C, PM.
King Vulture ( <i>Sarcogyps calvus</i> )	R, B, FC.
Indian Longbilled Vulture ( <i>Gyps indicus</i> )	R
Indian or Oriental Whitebacked Vulture ( <i>Gyps bengalensis</i> )	R, LM, C.
Crested Serpent Eagle ( <i>Spilornis cheela</i> )	PM
Peregrine ( <i>Falco peregrinus japonensis</i> )	PM
Kestrel ( <i>Falco tinnunculus</i> )	R, B, C.

C: Common (easily visible); FC: Fairly common (not uncommon, but less visible than the common species; R: Resident; M: Migrant; B: Breeding; LM: Local Migrant; PM: Passage Migrant; —: Not present.

National Park) and its micro-habitats (presence of a number of small hillocks inside the park) boasts raptors density and diversity. As the prey base are mostly distributed in the valleys, chances for presence of raptors in these areas are more. In spite of observation of large number of raptors in the park, change in habitat in the buffer area due to deforestation outside the park can affect the numbers of raptors in some way or the other.

Increase in tourists causes increase in littering, which can also affect the riverine ecosystem. Contamination of water sources which originate from the park cannot be

ruled out. Thus constant population monitoring is essential to access the sustainability of the ecosystem. Causes of increase or decrease in its population will act as indicator for determining the steps necessary to be taken for conserving the forests and wildlife well in time.

The Crested Hawk Eagles were the commonest and successful nesters. But habitat loss in buffer area outside the park will affect their future status. Open habitat i.e. riverine areas and vahas have benefitted the vulture and kestrel for foraging. But it will put pressure on the carnivores of the park in due course.

### SUMMARY

Diurnal raptors were reported over a period of 2 years in BNP. A total of 12 species are recorded and studies here out of the total of 69 species reported from the Indian subcontinent. The problems of conservation and status of resident species in the park are discussed here. None of the resident species appears threatened, but if alteration of the habitat through deforestation outside the park, that is in the buffer area, is bound to affect adversely future status of distribution of many species inside the park.

वांधवगढ़ राष्ट्रीय प्राणी उद्यान के दिन में शिकार बनने वाले पक्षी और उनके संरक्षण पक्ष

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वांधवगढ़ राष्ट्रीय उद्यान में दिन के समय शिकार बनने वाले पक्षियों की 2 वर्षों तक सूचना एकत्र की गई। भारतीय उपमहाद्वीप की मृगियल हुई कुल 69 जातियों रही। उद्यान की सदा वहीं रहने वाली जातियों के संरक्षण की समस्या और उनकी स्थिति का विशेष किया गया है। उनमें से किसी भी जाति को विलुप्ति खतरे में नहीं पाया गया परन्तु यदि उद्यान के बाहरी भाग में निर्वनीकरण के कारण प्राकृतावास में परिवर्तन हो गया तो उसका उद्यान के भीतरी भाग के पक्षियों की भविष्य में स्थिति और उद्यान के अन्दर बहुत सारे पक्षियों के वितरण पर कुप्रभाव पड़ना लाजमी है।