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# Avian Diversity of Selected Sacred Groves from Ratnagiri District, M.S., India

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## ABSTRACT

Sacred groves are the vegetated patches mainly dedicated to the local folk deities or ancestral spirits. They possess high capacity of biological productivity and are intimately related with social culture, religious and similar faiths etc. Sacred groves are a better source of certain consumable goods like wild fruits, honey, folk and ayurvedic medicines, fresh water as well as dead wood as fuel. As they are a protected area due to local humane ethics, laws and regulation as well as religious beliefs etc., they harbor a very good species richness and species abundance in their habitats. In Ratnagiri district, avian diversity from two sacred groves from Chiplun Tehsil and Two from Ratnagiri Tehsil was evaluated for the sake of study. As compared to other vertebrates, avian diversity in the selected sacred groves was observed to be rich. It constituted about 79 species; which is 34.70% of all the avian diversity in Ratnagiri district. Impact of anthropogenic activities was also detected causing negative effects on all sorts of biodiversity in sacred groves.

*Key words:* Sacred groves, Avian diversity, Chiplun, Ratnagiri

## Introduction

Sacred groves are the small or big patches of a forest land or naturally vegetated land which are usually dedicated to the local folk deities or ancestral spirits. In vernacular language- Marathi, they are known as Devrai or Rai or Rahati or Devrahati and Gothan. They bear a very high potential of natural biological productivity. Sacred groves have a significant diversity of plants and animal species that might have become rare or extinct in other parts of state or country or similar type of neighbouring habitats. Obviously, they exhibit great genetic diversity also. Besides, they also serve as lungs of the nearby areas. The concept of sacred groves as special protected lands has been brought into practice by different

tribal and local communities all over India. This has brought out natural conservation as well as sustainable development in the areas where the people were mostly dependent on sacred groves for their regular bread and butter. A sacred grove is not merely a religious place; but it is a place of social culture as well as agricultural practices. It is also serves as a natural laboratory. They are the places where any type of hunting and logging activities are strictly prohibited. But few practices like collection of honey, ayurvedic or folk medicines and dead wood are permitted to some extent for the local people only. They are also a good source of fresh water resources.

Any additional anthropogenic threat is avoided by local religious rules, Government regulations and

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ethics of local people. Obviously, sacred groves are very rich places in biodiversity and harbour a wide range of microflora, microfauna, a variety of plants and animals. The species richness and species abundance in a sacred grove depends upon its geographical location and relevant environmental parameters. There are about 13,720 sacred groves reported from different parts of India.

Ratnagiri district on the West coast of Maharashtra is known for its naturally enriched areas. It is a part of Southwest Konkan region of Maharashtra. It lies at 16.98°N, 73.3°E. Average land elevation of the district from sea level is approximately 10-11 meters. Ranges of Sahyadri are present on the east border of Ratnagiri. In Maharashtra state, total 2837 sacred groves have been documented till date. Of them, 834 groves have been documented from Ratnagiri district. The total land cover occupied by these sacred groves is about 1200 hectares in the district. The sacred groves in the district have a wide range of endemic species of plants and animals, which are unique identity of the geographical region of Konkan coast. The sacred groves diversity is observed in all respects as ecosystem diversity, species diversity as well as genetic diversity.

Currently, it should be noted that the natural wealth is being overexploited and destroyed by the human population for various reasons like deforestation, mining, pollution and unplanned tourism etc. Such several causes are leading to destruction of status and ecological health of sacred groves in the district.

### Objectives

1. To study avian diversity in selected sacred groves from Ratnagiri Tehsil and Chiplun Tehsil in Ratnagiri district.
2. To prepare a checklist of the observed avian diversity according to their families.

### Materials and Methods

#### Study area

Four ecologically significant sacred groves were selected from the Ratnagiri district for the study. Two of them were from Chiplun Tehsil, 90 km away from Ratnagiri city while two groves were from Ratnagiri Tehsil itself. Ratnagiri lies on co-ordinates as 16.98°N, 73.3°E while Chiplun is located 17°32' N, 73°30' E.

### The selected sacred groves were as follows

- A. Adare Sacred Grove  
Chiplun Tehsil [Survey no. 440, total landscape 0.77 hectares]- 8 km away from Chiplun.
- B. Kumbharli Sacred Grove:  
Chiplun Tehsil [Survey no. 826, total landscape 4.96 hectares]-14Km away from Chiplun.
- C. Hatkhamba Sacred Grove:  
Ratnagiri [Survey no. 633, total landscape 1.77 hectares]- 13Km away from Ratnagiri.
- D. Pali (Khanu) Sacred Grove:  
Ratnagiri [Survey no.753, total landscape 11.24 hectares]- 28Km away from Ratnagiri.

### Methodology

1. Visits to all the selected sites were done at regular interval of time of 8 days.
2. Observations on bird diversity were made by using competent binoculars.
3. Identification of the species observed was done by using proper identification keys available at hand.
4. Photography was done by using competent digital camera (Model- Nikon, COOLPIX P510).

### Results and Discussion

1. Overall, 71 species of birds were observed during the study period. The avian diversity constitutes 34.70% of the total avian diversity in the district. Thus, it is significantly rich and well distributed all over the study area.
2. Population density of all the bird species was varying according to the season and the type of habitat.
3. Open and arid lands represented very less biodiversity and that also of typical land birds. But overall population density of such species is very less and seasonally fluctuating. Some of those species were also found in other habitats too.
4. Some species were found to be migratory and were seen mostly after the rains till the next rains. But almost 75% of the avifauna was found to be permanent resident of the area.
5. The overall result was that the selected sacred groves have a rich avian diversity but the occurrence and overall population density is different and differs according to the season. The birds

**Table 1.** Checklist of the Birds Observed during the Study

Sr No.	Order	Family	Common Name	Scientific Name	Marathi Name
1	Galliformes	Phasianidae	Jungle bush quail	<i>Perdicula asiatica</i>	Ran lava
2	Galliformes	Phasianidae	Red jungle fowl	<i>Gallus gallus</i>	Lal Rankombada
3	Galliformes	Phasianidae	Indian peafowl	<i>Pavo cristatus</i>	Mor
4	Piciformes	Picidae	Black rumped flameback	<i>Dinopium benghalense</i>	-
5	Piciformes	Picidae	White-naped woodpecker	<i>Chrysocolaptes festivus</i>	-
6	Piciformes	Megalaimidae	Brown headed barbet	<i>Psilopogon zeylanicus</i>	Motha Tambat
7	Piciformes	Megalaimidae	Coppersmith barbet	<i>Megalaima haemacephala</i>	Tambat
8	Bucerotiformes	Bucerotidae	Indian grey hornbill	<i>Ocyroceros griseus</i>	Rakhi dhanesh
9	Bucerotiformes	Bucerotidae	Malabar pied hornbill	<i>Anthraceroceros coronatus</i>	Malabar dhanesh
10	Coraciiformes	Alcedinidae	Common kingfisher	<i>Alcedo atthis</i>	Khandya, Dheever
11	Coraciiformes	Alcedinidae	Pied kingfisher	<i>Ceryle rudis</i>	Shabal khandya
12	Coraciiformes	Meropidae	Blue bearded bee eater	<i>Nyctyornis athertoni</i>	Dadhi dhari veda Raghu
13	Coraciiformes	Meropidae	Green bee eater	<i>Merops orientalis</i>	Veda raghu
14	Cuculiformes	Cuculidae	Common hawk cuckoo	<i>Hierococcyx varius</i>	Pawasha pavasha
15	Cuculiformes	Cuculidae	Banded bay cuckoo	<i>Cacomantis sonneratii</i>	Patteri pawasha
16	Cuculiformes	Cuculidae	Grey bellied cuckoo	<i>Cacomantis passerinus</i>	Rakhi pawasha
17	Cuculiformes	Cuculidae	Asian koel	<i>Eudynamis scolopacea</i>	Kokil
18	Cuculiformes	Cuculidae	Greater coucal	<i>Centropus sinensis</i>	Bharadwaj
19	Psittaciformes	Psittaculidae	Rose ringed parakeet	<i>Psittacula krameri</i>	Popat
20	Psittaciformes	Psittaculidae	Plum headed parakeet	<i>Psittacula cyanocephala</i>	Toi popat
21	Apodiformes	Apodidae	House swift	<i>Apus nipalensis</i>	Pakoli
22	Columbiformes	Columbidae	Rock pigeon	<i>Columba livia</i>	Parava
23	Columbiformes	Columbidae	Spotted dove	<i>Spilopelia chinensis</i>	Kavada
24	Columbiformes	Columbidae	Yellow Foot Green pigeon	<i>Columba pallidiceps</i>	Hariyal/ harel
25	Columbiformes	Columbidae	Orange Breasted Green Pigeon	<i>Treron bicinctus</i>	-
26	Gruiformes	Rallidae	White Breasted	<i>Amaurornis phoenicurus</i> <i>Waterhen</i>	Lajari paan kombadi
27	Gruiformes	Rallidae	Common moorhen	<i>Gallinula chloropus</i>	Paan Kombadi
28	Strigiformes	Tytonidae	Barn owl	<i>Tyto alba</i>	Gavhani ghubad
29	Strigiformes	Strigidae	Spotted owl	<i>Athene brama</i>	Pingala
30	Charadriiformes	Charadriidae	Red Wattled lapwing	<i>Vanellus indicus</i>	Titawi/Titavi
31	Accipitriformes	Accipitridae	Oriental honey buzzard	<i>Pernis ptilorhynchus</i>	Mohol ghar/ Madhubaj
32	Accipitriformes	Accipitridae	Black kite	<i>Milvus migrans</i>	Ghar
33	Accipitriformes	Accipitridae	Shikra	<i>Accipiter badius</i>	Shikra
34	Accipitriformes	Accipitridae	Changeable Hawk eagle	<i>Nisaetus cirrhatus</i>	Vyadh
35	Suliformes	Phalacrocoracidae	Little Cormorant	<i>Microcarbo niger</i>	Paan Kawla
36	Suliformes	Phalacrocoracidae	Indian cormorant	<i>Phalacrocorax fuscicollis</i>	Shag
37	Pelecaniformes	Ardeidae	Little egret	<i>Egretta garzetta</i>	Bagala
38	Pelecaniformes	Ardeidae	Grey egret	<i>Ardea cinerea</i>	Rakhi bagala
39	Pelecaniformes	Ardeidae	Cattle egret	<i>Bubulcus ibis</i>	Gay bagala
40	Passeriformes	Pittidae	Indian pitta	<i>Pitta brachyura</i>	Navrang
41	Passeriformes	Corvidae	Rufous Treepie	<i>Dendrocitta vagabunda</i>	Takachor
42	Passeriformes	Corvidae	House crow	<i>Corvus splendens</i>	Kavala
43	Passeriformes	Corvidae	Large billed crow	<i>Corvus macrorhynchos</i>	Eaan/Dom Kawla
44	Accipitriformes	Accipitridae	Bhraminy kite	<i>Haliastur indus</i>	Samudri ghar
45	Passeriformes	monarchidae	Black- naped monarch	<i>Hypothymis azurea</i>	Jambhali litkuri
46	Passeriformes	Leiothrichidae	Jungle babbler	<i>Turdoides striata</i>	Saat bhai

Table 1. Continued ...

Sr No.	Order	Family	Common Name	Scientific Name	Marathi Name
47	Passeriformes	Sturnidae	Common myna	<i>Acridotheres tristis</i>	Salunkhi
48	Piciformes	Megalaimidae	Lineated barbet	<i>Megalaima lineata</i>	Tambat
49	Passeriformes	Muscicapidae	Oriental magpie robin	<i>Copsychus saularis</i>	Dayal
50	Passeriformes	Dicruridae	Drongo	<i>Dicruridae</i>	Kotwal
51	Passeriformes	Zosteropidae	White Eye	<i>Zosteropidae</i>	Chashme wala
52	Passeriformes	Rhipiduridae	White browed fantail	<i>Rhipidura aureola</i>	Nachan
53	Psittaciformes	Psittaculidae	Vernal Hanging Parrot	<i>Loriculus vernalis</i>	Lahan Popat/ katara
54	Passeriformes	Oriolidae	Black hooded oriole	<i>Oriolus xanthornus</i>	Haladya
55	Passeriformes	Muscicapidae	White rumped shama	<i>Copsychus malabaricus</i>	Shama
56	Passeriformes	Aegithinidae	Common Iora	<i>Aegithina tiphia</i>	Subhag
57	Passeriformes	Muscicapidae	Blue rock thrush	<i>Monticola solitarius</i>	Niltop kastur
58	Passeriformes	Campephagi dae	Small minivet	<i>Pericrocotus cinnamomeus</i>	Nikhar
59	Passeriformes	Cisticolidae	Common tailor bird	<i>Orthotomus Sutorius</i>	Shimpi
60	Passeriformes	Cisticolidae	Jungle prinia	<i>Prinia sylvatica</i>	Ran vatvatya
61	Passeriformes	Cisticolidae	Ashy prinia	<i>Prinia socialis</i>	Rakhi vatvatya
62	Passeriformes	Pycnonotidae	Red Whisker Bulbul	<i>Pycnonotus jocosus</i>	Narad Bulbul
63	Passeriformes	Pycnonotidae	Red vented bulbul	<i>Pycnonotus cafer</i>	Lal budya bulbul
64	Passeriformes	Passeridae	House sparrow	<i>Passer domesticus</i>	Chimani
65	Passeriformes	Nectariniidae	Purple sunbird	<i>Cinnyris</i>	asiaticus Shinjir
66	Passeriformes	Ploceidae	Baya weaver	<i>Ploceus philippinus</i>	Sugran
67	Passeriformes	Estrildidae	Scaly breasted munia	<i>Lonchura punctulata</i>	Thipka Munia
68	Passeriformes	Estrildidae	Black headed munia	<i>Lonchura atricapilla</i>	Kaldok munia
69	Passeriformes	Muscicapidae	Tickle's blue flycatcher	<i>Cyornis</i>	tickelliae Nilima
70	Passeriformes	Psittaculidae	Malabar/ Blue winged Parakreet	<i>Psittacula columboides</i>	Nilpankhi popat
71	Passeriformes	Paridae	Indian yellow	<i>Macholophus</i>	-

found in the study area were not observed to be strictly confined or dependent on the concerned habitat and were local migratory. They use other nearby natural sources for their basic needs. As a conclusion, though the avian diversity is rich; it is never stable.

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**Conflict of interest:** Nil

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