

An avifaunal survey of the Jhalawar range of Jhalawar district, Rajasthan, India

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Abstract

A recent avifaunal survey of the Jhalawar range in Jhalawar district of Rajasthan was carried out in the summer of 2011 (May–June). A total of 77 birds were recorded including 6 globally threatened species: Egyptian Vulture, Indian White-backed Vulture, Long-billed Vulture, Red-headed Vulture, Painted Stork and Sarus Crane. Seven different habitat types were surveyed extensively to assess the bird diversity of the region during this period of water scarcity.

Introduction

Jhalawar range is situated in the south-eastern district of Jhalawar in Rajasthan state of India. It is a part of the Hadoti region of Rajasthan and lies at the edge of Malwa Plateau (Chourasia & Agarwal 2011). It is characterised by slight undulation on the west and a vast fertile expanse on the east (Prakash & Singh 2001) spread over an area of about 150–180 sq. km. This area falls in the territorial forest division of Jhalawar district (24° 37' to 24° 46' N and 76° 02' to 76° 11' E) extending from the south-east part of the Gagrone fort (24° 37' 41.5" N, 76° 10' 52.6" E) along the western banks of Kalisindh River to Kanpura village. Beyond that it forms a strip of an average 10 km width and joins the Darrah Wildlife Sanctuary in the north-west. The average annual rainfall received by this area in a year is 943 mm which is the highest for Rajasthan state (www.jhalawar.nic.in 2012). The temperature varies between 32.5°C to 47°C during summers.

The vegetation of Jhalawar range is dominated by the tropical thorn scrub forest in the plains towards Kalisindh River and tropical dry deciduous forest on the hills in west (Champion & Seth 1968). Dominant vegetation type is 'Ronj' (*Acacia leucophloea*) scattered across a flat landscape. The soil depth of this flat land is quite less resulting in sparse scrubby vegetation. Other vegetation types are *Anogeissus pendula*, *Butea monosperma*, *Diospyros melanoxylon*, *Zizyphus* sp., *Prosopis juliflora* and *Madhuca indica*. There are small patches of moderately dense dry deciduous forest in the undulating parts of the area dominated by *Butea monosperma* and *Anogeissus*

pendula. Wild fauna reported from the area include Bengal Monitor *Varanus bengalensis*, Nilgai *Boselaphus tragocamelus*, Wild Pig *Sus scrofa*, Chinkara *Gazella bennettii*, Golden Jackal *Canis aureus*, Striped Hyena *Hyaena hyaena* and Hanuman langur *Semnopithecus entellus* although the last one is restricted to the small hilly area on the west close to the buffer areas of Darrah Wildlife Sanctuary. This survey was done while working on another project "Reintroduction of Cheetah in India" in the same region during that period. In spite of the water scarcity, the bird diversity of the

region was found to be good and thus a scientific study was conducted as the information on the birds from this region is very limited. There has been apparently no attempt to document the avifaunal diversity of Jhalawar and there are relatively few studies from the adjoining regions (Chhangani 2009; Nair 2009).

Methods

Entire Jhalawar range was surveyed comprehensively for the presence of birds in the months of May and June 2011. Field surveys were carried out every day in the morning from 0600 to

Table 1. Bird species richness of Jhalawar range

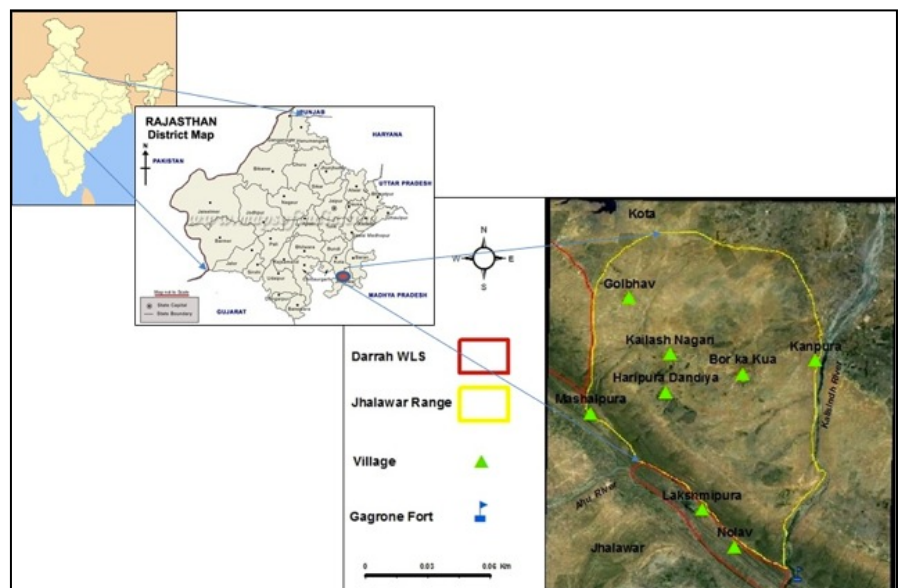
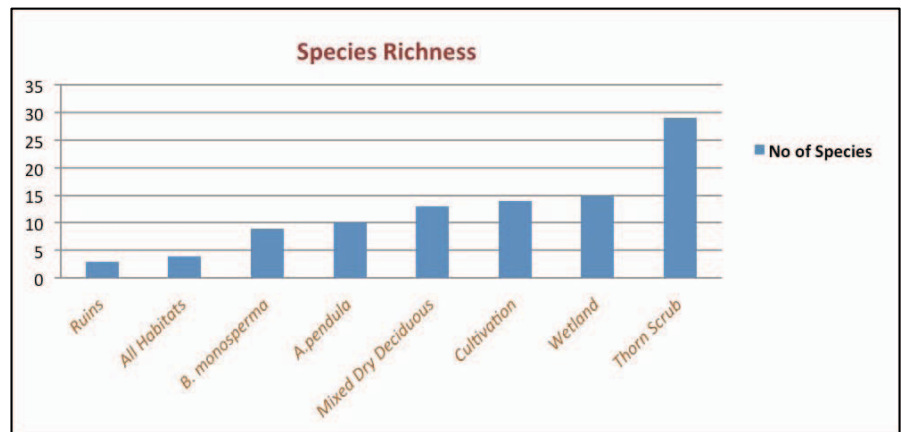


Figure 1. Map of the Study Area. Source: Google Earth for Jhalawar, <http://www.ncmrwf.gov.in> for Rajasthan District Map

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1000 hours as well as in the evening from 1600 to 1900 hours. Birds were searched extensively in habitat classified into seven types viz. *Anogeissus pendula* -dominant, *Butea monosperma* -dominant, cultivation, mixed dry deciduous, ruins, thorn scrub and wetlands. The area had a few ruins (remains of old structures/buildings) belonging to the historic princely state, which were searched for the species inhabiting them. The point count survey method was followed to record birds in the different habitat types. Due to the scarcity of water in the area, a few water holes present were monitored for the birds visiting them. Bird species richness was estimated by recording the number of bird species observed in each habitat type. The birds were classified as resident (R) and summer visitor (SV) based on Grimmett *et al.* (2011).

Results

In total 77 species were recorded from the area belonging to 14 orders and 44 families. Order Passeriformes topped the list with 34 species followed by eight species of Falconiformes, seven of Ciconiiformes, six of Columbiformes, four each of Coraciiformes and Charadriiformes; three species of Psittaciformes, two each of Piciformes, Galliformes, Cuculiformes and Apodiformes; and one each of Pelecaniformes, Gruiformes and Caprimulgiformes. Six of the bird species recorded have been categorized as globally threatened (BirdLife International, 2012). Three species viz. Red-headed Vulture *Sarcogyps calvus*, Long-billed Vulture *Gyps indicus* and Indian White-backed Vulture *Gyps bengalensis* are Critically Endangered, one is Endangered (Egyptian Vulture *Neophron percnopterus*), one species Vulnerable (Sarus Crane *Grus antigone*) and one is Near Threatened (Painted Stork *Mycteria leucocephala*) (BirdLife International, 2012).

Only two species i.e. Asian Paradise-Flycatcher *Terpsiphone paradisi* and Indian Pitta *Pitta brachyura* were summer visitors to the place while rest all were resident birds (Grimmett *et al.* 2011). A subspecies of House crow *Corvus splendens zugmayeri* was also seen once during the survey in the thorn scrub area. Among all the birds recorded during the survey, many were seen in more than one of the seven habitat types visited. Maximum

numbers of species were recorded from the thorn scrub habitat (29 species) comprising of 37.7% of total species. Fifteen wetland birds (19.5%) were seen near the few water sources present in the study area (Figure 1). Only four species of birds (5.2%) were observed in all habitat types surveyed while 49 species of birds (63.63%) were observed inhabiting areas like cultivation, ruins, *A. pendula* - dominated, *B. monosperma*-dominated and mixed dry deciduous habitats. Three species of terrestrial birds i.e. Dusky Crag Martin *Hirundo concolor*, Indian Peafowl *Pavo cristatus* and Red-vented Bulbul *Pycnonotus cafer* were observed a number of times near the few waterholes present in the area. Several birds like Asian Paradise-Flycatcher *Terpsiphone paradisi*, Chestnut-bellied Sandgrouse *Pterocles exustus*, Stone-curlew *Burhinus oedicnemus*, Indian White-backed vulture *Gyps bengalensis*, Long-billed Vulture *Gyps indicus*, Painted Stork *Mycteria leucocephala*, Red-headed Vulture *Sarcogyps calvus*, Sarus Crane *Grus Antigone* and Tickell's Blue Flycatcher *Cyornis tickelliae* were seen only once during the survey.

Discussion

Present study shows the potential of the area as a good habitat for avifauna. Further studies in the region in different seasons are required to prepare a complete checklist of birds found here which will serve as a baseline data for better management of the habitat and conservation of the existing species. Most of the bird species recorded in this study were thorn scrub or wetland associated species which can be attributed to the shortage of water. A number of domestic cattles were found dead during the survey apparently due to water scarcity (pers. obs.). There were a few water sources in nearby villages formed mostly due to the spill-over from the bore-wells or hand-pumps. Watershed development and management is needed urgently to preserve the faunal diversity of the area. There are villages on either side of the Jhalawar range and people regularly traverse it by vehicles from one side to another. Illicit wood/leaf extraction was seen in almost every part of the range as also the presence of a few illegal stone quarries. These issues pose a serious threat to the region and can adversely impact the present biodiversity in the long run.

References

- BirdLife International (2012).** IUCN Red List for birds. Downloaded on 08/02/2012 from <http://www.birdlife.org>.
- Champion, H.G. & S.K. Seth (1968).** *A Revised Survey of the Forest Types of India*. Government of India, New Delhi, xxvii+404pp.
- Chhangani, A.K. (2009).** Status of the vulture population in Rajasthan, India. *Indian Forester* 135(2): 239-251.
- Chourasia, V. & L.C. Agarwal (2011).** Potential of ecotourism in Hadoti region. *South Asian Journal of Tourism and Heritage*. 4 (2):161-172.
- Grimmett, R., C. Inskipp & T. Inskipp (2011).** *Birds of the Indian Subcontinent*. Oxford University Press, London, 528pp.
- Manakadan, R. & A. Pittie (2004).** Standardized common and scientific names of the birds of the Indian subcontinent. *Buceros Envis Newsletter: Avian Ecology & Indian Wetlands* 6(1): 1-37.
- Nair, A.K. (2009).** The status and distribution of major aquatic fauna in the National Chambal Gharial Sanctuary in Rajasthan with special reference to the Gangetic Dolphin *Platanista gangetica gangetica* (Cetartiodactyla: Platanistidae). *Journal of Threatened Taxa* 1(3): 41-146.
- Official website of Jhalawar district (2012)** - <http://jhalawar.nic.in/jhalawar.htm>
- Prakash, I. & H. Singh (2001).** Composition and species diversity of small mammals in the hilly tracts of south-eastern Rajasthan. *Tropical Ecology* 42(1): 25-33.

Table 2. Checklist of birds from Jhalawar range (classification as per Manakadan & Pittie 2004)

Common Name	Scientific Names	Habitat Type	IUCN status
APODIFORMES : Apodidae			
Asian Palm Swift	<i>Cypsiurus balasiensis</i> (J.E. Gray, 1829)	R	LC
House Swift	<i>Apus affinis</i> (J.E. Gray, 1830)	R	LC
CAPRIMULGIFORMES: Caprimulgidae			
Common Indian Nightjar	<i>Caprimulgus asiaticus</i> Latham, 1790	MDD	LC
CHARADRIIFORMES: Burhinidae			
Stone-Curlew	<i>Burhinus oedipnemus</i> (Linnaeus, 1758)	TS	LC
CHARADRIIFORMES: Charadriidae			
Red-wattled Lapwing	<i>Vanellus indicus</i> (Boddaert, 1783)	W	LC
CHARADRIIFORMES: Laridae			
River Tern	<i>Sterna aurantia</i> J.E. Gray, 1831	W	LC
CHARADRIIFORMES: Recurvirostridae			
Black-winged Stilt	<i>Himantopus himantopus</i> (Linnaeus, 1758)	W	LC
ICONIIFORMES: Ardeidae			
Cattle Egret	<i>Bubulcus ibis</i> (Linnaeus, 1758)	W	LC
Indian Pond Heron	<i>Ardeola grayii</i> (Sykes, 1832)	W	LC
Median Egret	<i>Mesophoyx intermedia</i> (Wagler, 1829)	W	LC
Large Egret	<i>Casmerodius albus</i> (Linnaeus, 1758)	W	LC
Little Egret	<i>Egretta garzetta</i> (Linnaeus, 1766)	W	LC
ICONIIFORMES: Ciconiidae			
Painted Stork	<i>Mycteria leucocephala</i> (Pennant, 1769)	W	NT
White-necked Stork	<i>Ciconia episcopus</i> (Boddaert, 1783)	W	LC
COLUMBIFORMES: Columbidae			
Blue Rock Pigeon	<i>Columba livia</i> Gmelin, 1789	C	LC
Eurasian Collared-Dove	<i>Streptopelia decaocto</i> (Frisvaldszky, 1838)	TS, Ap	LC
Little Brown Dove	<i>Streptopelia senegalensis</i> (Linnaeus, 1766)	TS	LC
Red-collared Dove	<i>Streptopelia tranquebarica</i> (Hermann, 1804)	Bm, TS	LC
Spotted Dove	<i>Streptopelia chinensis</i> (Scopoli, 1786)	ALL	LC
COLUMBIFORMES: Pteroclididae			
Chestnut-bellied Sandgrouse	<i>Pterocles exustus</i> Temminck, 1825	TS	LC
CORACIIFORMES: Alcedinidae			
Lesser Pied Kingfisher	<i>Ceryle rudis</i> (Linnaeus, 1758)	W	LC
White-breasted Kingfisher	<i>Halcyon smyrnensis</i> (Linnaeus, 1758)	W	LC
CORACIIFORMES: Coraciidae			
Indian Roller	<i>Coracias benghalensis</i> (Linnaeus, 1758)	TS	LC
CORACIIFORMES: Meropidae			
Small Bee-eater	<i>Merops orientalis</i> Latham, 1801	C, TS	LC
CUCULIFORMES: Cuculidae			
Asian Koel	<i>Eudynamis scolopacea</i> (Linnaeus, 1758)	C	LC
Greater Coucal	<i>Centropus sinensis</i> (Stephens, 1815)	Bm	LC
FALCONIFORMES: Accipitridae			
Black Kite	<i>Milvus migrans</i> (Boddaert, 1783)	C	LC
Black-shouldered Kite	<i>Elanus caeruleus</i> (Desfontaines, 1789)	C, TS	LC
Egyptian Vulture	<i>Neophron percnopterus</i> (Linnaeus, 1758)	TS, Ap	EN
Red-headed Vulture	<i>Sarcogyps calvus</i> (Scopoli, 1786)	TS	CR
Long-billed Vulture	<i>Gyps indicus</i> (Scopoli, 1786)	TS	CR
Shikra	<i>Accipiter badius</i> (Gmelin, 1788)	TS	LC
Short-toed Snake Eagle	<i>Circaetus gallicus</i> (Gmelin, 1788)	Ap, All	LC
Indian White-backed Vulture	<i>Gyps bengalensis</i> (Gmelin, 1788)	TS	CR
GALLIFORMES: Phasianidae			
Grey Francolin	<i>Francolinus pondicerianus</i> (Gmelin, 1789)		
Indian Peafowl	<i>Pavo cristatus</i> Linnaeus, 1758	all	LC
GRUIFORMES: Gruidae			
Sarus Crane	<i>Grus antigone</i> (Linnaeus, 1758)	W	VU
PASSERIFORMES: Alaudidae			
Ashy-crowned Sparrow-lark	<i>Eremopterix grisea</i> (Scopoli, 1786)	TS	LC
PASSERIFORMES: Corvidae			
House crow	<i>Corvus splendens</i> Vieillot, 1817	All	LC
Jungle Crow	<i>Corvus macrorhynchos</i> Wagler, 1827	MDD	LC
Indian Treepie	<i>Dendrocitta vagabunda</i> (Latham, 1790)	Ap	LC
PASSERIFORMES: Dicruridae			
Black Drongo	<i>Dicrurus macrocercus</i> Vieillot, 1817	All	LC
PASSERIFORMES: Emberizinae			
Crested Bunting	<i>Melophus lathami</i> (Gray, 1831)	MDD	LC
PASSERIFORMES: Estrildidae			

White-throated Munia	<i>Lonchura malabarica</i> (Linnaeus, 1758)	TS	LC
PASSERIFORMES: Hirundinidae			
Dusky Crag Martin	<i>Hirundo concolor</i> Sykes, 1833	R	LC
Red-rumped Swallow	<i>Hirundo daurica</i> Linnaeus, 1771	Ap	LC
PASSERIFORMES: Irenidae			
Common Iora	<i>Aegithina tiphia</i> (Linnaeus, 1758)	C	LC
PASSERIFORMES: Laniidae			
Bay-backed Shrike	<i>Lanius vittatus</i> Valenciennes, 1826	TS	LC
Rufous-backed Shrike	<i>Lanius schach</i> (Linnaeus, 1758)	TS	LC
Southern Grey Shrike	<i>Lanius meridionalis</i> Temminck, 1820	TS	LC
PASSERIFORMES: Monarchinae			
Asian Paradise-Flycatcher	<i>Terpsiphone paradisi</i> (Linnaeus, 1758)	C	LC
PASSERIFORMES: Motacillidae			
Paddyfield Pipit	<i>Anthus rufulus</i> Vieillot, 1818	C,TS	LC
PASSERIFORMES: Muscicapinae			
Tickell's Blue Flycatcher	<i>Cyornis tickelliae</i> Blyth, 1843	Bm	LC
PASSERIFORMES: Nectariniidae			
Purple Sunbird	<i>Nectarinia asiatica</i> (Latham, 1790)	MDD	LC
PASSERIFORMES: Oriolidae			
Eurasian Golden Oriole	<i>Oriolus oriolus</i> (Linnaeus, 1758)	C,Bm	LC
PASSERIFORMES: Paridae			
Great Tit	<i>Parus major</i> Linnaeus, 1758	Bm,TS	LC
PASSERIFORMES: Passerinae			
Yellow-throated Sparrow	<i>Petronia xanthocollis</i> (Burton, 1838)	TS	LC
House Sparrow	<i>Passer domesticus</i> (Linnaeus, 1758)	Bm,TS	LC
PASSERIFORMES: Pittidae			
Indian Pitta	<i>Pitta brachyura</i> (Linnaeus, 1766)	Bm,Ap	LC
PASSERIFORMES: Pycnonotidae			
Red-vented Bulbul	<i>Pycnonotus cafer</i> (Linnaeus, 1766)	MDD,TS	LC
PASSERIFORMES: Rhipidurinae			
White-browed Fantail-Flycatcher	<i>Rhipidura aureola</i> Lesson, 1830	C, Ap	LC
PASSERIFORMES: Sturnidae			
Asian Pied Starling	<i>Sturnus contra</i> Linnaeus, 1758	C	LC
Brahminy Starling	<i>Sturnus pagodarum</i> (Gmelin, 1789)	TS, Ap	LC
Common Myna	<i>Acridotheres tristis</i> (Linnaeus, 1766)	All	LC
PASSERIFORMES: Sylviinae			
Common Tailorbird	<i>Orthotomus sutorius</i> (Pennant, 1769)	C, MDD	LC
Rufous-fronted Prinia	<i>Prinia buchanani</i> Blyth, 1844	TS	LC
PASSERIFORMES: Timaliinae			
Jungle Babbler	<i>Turdoides striatus</i> (Dumont, 1823)	TS,Ap	LC
Yellow-eyed Babbler	<i>Chrysomma sinense</i> (Gmelin, 1789)	TS	LC
PASSERIFORMES: Turdinae			
Indian Robin	<i>Saxicoloides fulicata</i> (Linnaeus, 1776)	MDD	LC
Oriental Magpie-Robin	<i>Copsychus saularis</i> (Linnaeus, 1758)	TS,MDD	LC
PASSERIFORMES: Zosteropidae			
Oriental White-eye	<i>Zosterops palpebrosus</i> (Temminck, 1824)	MDD	LC
PELECANIFORMES: Phalacrocoracidae			
Little Cormorant	<i>Phalacrocorax niger</i> (Vieillot, 1817)	W	LC
PICIFORMES: Picidae			
Lesser Golden-backed Woodpecker	<i>Dinopium benghalense</i> (Linnaeus, 1758)	MDD	LC
Black-shouldered Woodpecker	<i>Chrysocolaptes festivus</i> (Boddaert, 1783)	Ap	LC
PSITTACIFORMES: Psittacidae			
Alexandrine Parakeet	<i>Psittacula eupatria</i> (Linnaeus, 1766)	MDD	LC
Plum-headed Parakeet	<i>Psittacula cyanocephala</i> (Linnaeus, 1766)	MDD	LC
Rose-ringed Parakeet	<i>Psittacula krameri</i> (Scopoli, 1769)	MDD	LC

Abbreviations: All = All habitats, Ap = *A. pendula*, Bm = *B. monosperma*, C= cultivation, MDD = Mixed Dry Deciduous, R = Ruins, TS = Thorn Scrub and W = Wetland.
CR = Critically Endangered, EN = Endangered, LC = Least Concern, NT= Near-threatened and VU = Vulnerable. Source: BirdLife International (2012)