

AVIFAUNA OF KUMBHALGARH WILDLIFE SANCTUARY, IN THE ARAVALLI HILLS OF RAJASTHAN

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Abstract

The Kumbhalgarh Wildlife Sanctuary (KWS) situated amidst the Aravalli ranges is a refuge to 201 species of birds of 61 families. It is an important wintering ground for migratory birds from the Palaearctic region and South East Asia.

Keywords

Birds, Kumbhalgarh Wildlife Sanctuary, Aravalli Hills, checklist, Rajasthan

Introduction

Kumbhalgarh Wildlife Sanctuary (KWS) lies between 73°2'-73°30'E and 25°-25°40'N (Fig. 1). It was declared a Wildlife Sanctuary in 1971 and it covers an area of 585km². The KWS is situated in parts of the western slopes of the Aravalli Hills varying from 275 to 1155m in altitude. During summer the temperature is more than 30°C (average) and may rise up to 48°C; the minimum temperature recorded during the study period was 2°C. The average annual rainfall is 725mm, with a maximum 950mm and minimum 403mm. This wide range of climatic conditions along with great altitudinal variations provide different microhabitats. Therefore, this Sanctuary encompasses different vegetation types such as deciduous, dry-deciduous, dry-savannah forest, euphorbia scrub and dry grasslands.

The forest is dominated by Gorya Dhawa (*Anogeissus latifolia*), Dhawa (*A. pendula*), Salar (*Boswellia serrata*), Gol (*Lannea coromandelica*), Kherni (*Wrightia tinctoria*), Kumbat (*Acacia senegal*), Khair (*A. catechu*), Ber (*Zizyphus mauritiana*), Dhonk (*Butea monosperma*), etc. The undergrowth mainly consists of Jharber (*Z. nummerlaria*), Ardnsa (*Adhatada vasica*), Gangan (*Grewia tenax*), Franger (*G. flavescens*), Kanter (*Capparis separaia*), Lantana (*Lantana indicus*), etc. Some climbers and grasses are also found.

The main fauna of KWS includes, Leopard (*Panthera pardus*),

Hyena (*Hyaena hyaena*), Indian Wolf (*Canis lupus*), Jackal (*Canis aureus*), Hanuman Langur (*Semnopithecus entellus*), Four-horned Antelope (*Tetracerus quadricornis*), Chinkara (*Gazella gazella*), Porcupine (*Hystrix indica*), Sambar (*Cervus unicolor*), Blue Bull (*Boselaphus tragocamelus*), Toddy Cat (*Paradoxorus hermaphroditus*), Jungle Cat (*Felis chaus*), Fox (*Vulpes bengalensis*), Mugger Crocodile (*Crocodilus palustris*) and Indian Rock Python (*Python molurus molurus*).

Cataloguing of bird diversity of KWS was done during the long-term eco-behavioural study on Hanuman Langurs from 1994 to 2000. The aim of this study was to ascertain the nature of birds in various microhabit types in and around KWS.

Methodology

A series of transects that were laid in the Sanctuary for intensive survey of Hanuman Langur populations, were used for cataloguing bird diversity. Besides this, birds were recorded by the point count method in major vegetation types as well as at water bodies (rivers, dams) and in agro-ecosystems during the six years. Apart from this, chance encounters were also recorded while following langurs. All identifications were based on Woodcock (1980), Ali and Ripley (1983), Grewal (1995) and Kazmierczak (2000) and only those species with confirmed identification are listed in this paper.

Results

A total of 201 species of birds belonging to 61 families have been recorded in the KWS until August 2001, which is a quantum leap in bird inventory for the Sanctuary in comparison to a checklist of 123 birds given in KWS Management Plan for the years 1966-97 to 2000-01 by the State Forest Department, and 72 bird species sighted at Mount Abu (highest altitude of Aravalli region with good rainfall and forest) by Devarshi and Trigunayat (1989).

Therefore the KWS would seem to support a fairly large number of bird species. During the normal rainfall years, when all dams

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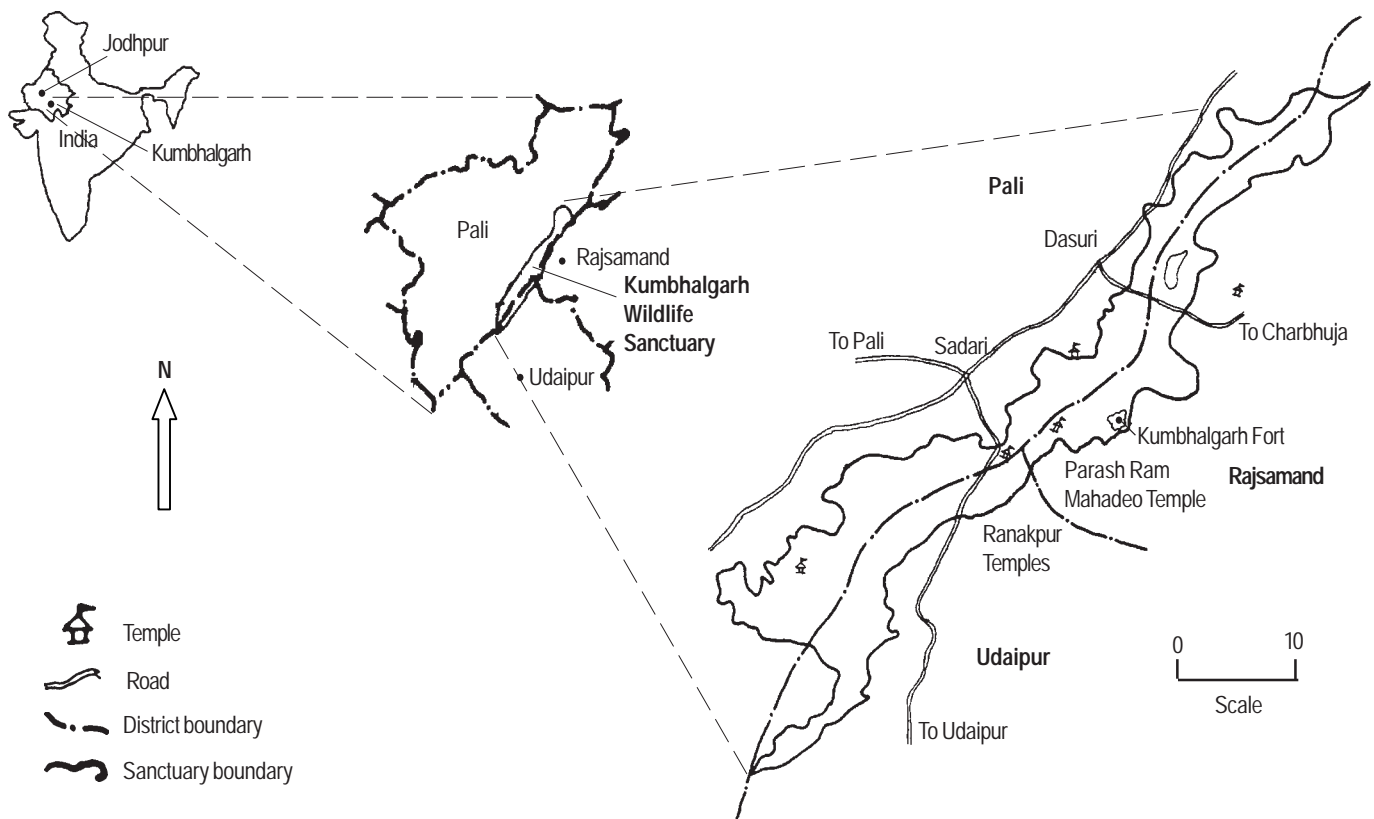


Figure 1. Kumbhalgarh Wildlife Sanctuary.

and water bodies in and around KWS area get filled to their capacities there is obviously no scarcity of food materials (aquatic as well as terrestrial), which is perhaps enough for both the resident and migratory avifauna. Also, the number of large trees, rocks, cliffs and small islands in the reservoirs provide enough safe roosting sites -- main reasons for the attraction of resident as well as migratory birds.

Out of 201 species of birds found in KWS, eight species are listed in "Threatend Birds of the World" (Birdlife International, 2000). Of these two species *Gyps bengalensis* and *G. indicus* are categorized as Critically Endangered, two species as Near Threatened (*Sarcogyps calvus* and *Mycteria leucocephala*) and four species -- *Grus antigone*, *Rynchops albicollis*, *Parus nuchalis* and *Estrilda formosa* as Vulnerable. *Parus nuchalis* is endemic to India.

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Table 1. Checklist of birds of Kumbhalgarh Wildlife Sanctuary with status.

Name	Scientific Name	Status	Name	Scientific Name	Status
Podicipedidae			Long-legged Buzzard	<i>Buteo rufinus</i>	C
Little Grebe	<i>Tachybaptus ruficollis</i>	C	Changeable Hawk Eagle	<i>Spizaetus cirrhatius</i>	C
Pelecanidae			Tawny Eagle	<i>Aquila rapax</i>	C
Great White Pelican	<i>Pelecanus onocrotalus</i>	R	Red-headed Vulture	<i>Sarcogyps calvus</i>	R *
Phalacrocoracidae			Long-billed Vulture	<i>Gyps indicus</i>	UC *
Great Cormorant	<i>Phalacrocorax carbo</i>	R	White-backed Vulture	<i>Gyps bengalensis</i>	UC *
Indian Shag	<i>Phalacrocorax fuscicollis</i>	C	Egyptian Vulture	<i>Neophron percnopterus</i>	C
Little Cormorant	<i>Phalacrocorax niger</i>	C	Pallid Harrier	<i>Circus macrourus</i>	R
Anhingidae			Montagu's Harrier	<i>Circus pygargus</i>	R
Darter	<i>Anhinga melanogaster</i>	UC	Western Marsh Harrier	<i>Circus aeruginosus</i>	C
Ardeidae			Short-toed Snake Eagle	<i>Circaetus gallicus</i>	C
Grey Heron	<i>Ardea cinerea</i>	UC	Crested Serpent Eagle	<i>Spilornis cheela</i>	UC
Purple Heron	<i>Ardea purpurea</i>	C	Falconidae		
Indian Pond-heron	<i>Ardeola grayii</i>	C	Red-headed Falcon	<i>Falco chicquera</i>	UC
Cattle Egret	<i>Bubulcus ibis</i>	C	Common Kestrel	<i>Falco tinnunculus</i>	C
Large Egret	<i>Casmerodius albus</i>	C	Phasianidae		
Median Egret	<i>Mesophoyx intermedia</i>	R	Grey Francolin	<i>Francolinus pondicerianus</i>	VC
Little Egret	<i>Egretta garzetta</i>	C	Common Quail	<i>Coturnix coturnix</i>	UC
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	C	Rain Quail	<i>Coturnix coromandelica</i>	UC
Cinoniidae			Rock Bush Quail	<i>Perdix argoondah</i>	UC
Painted Stork	<i>Mycteria leucocephala</i>	UC *	Grey Junglefowl	<i>Gallus sonneratii</i>	VC
Asian Openbilled-stork	<i>Anastomus oscitans</i>	R	Indian Peafowl	<i>Pavo cristatus</i>	VC
White-necked Stork	<i>Ciconia episcopus</i>	UC	Gruidae		
European White-stork	<i>Ciconia ciconia</i>	R	Sarus Crane	<i>Grus antigone</i>	UC *
Black Stork	<i>Ciconia nigra</i>	R	Rallidae		
Threskiornithidae			Ruddy-breasted Crake	<i>Porzana fusca</i>	C
White Ibis	<i>Threskiornis melanocephalus</i>	C	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	C
Black Ibis	<i>Pseudibis papillosa</i>	R	Common Moorhen	<i>Gallinula chloropus</i>	VC
Eurasian Spoonbill	<i>Platalea leucorodia</i>	C	Purple Moorhen	<i>Porphyrio porphyrio</i>	UC
Phoenicopteridae			Common Coot	<i>Fulica atra</i>	VC
Flamingo	<i>Phoenicopterus roseus</i>	UC	Jacanidae		
Anatidae			Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	UC
Greylag Goose	<i>Anser anser</i>	R	Bronze-winged Jacana	<i>Metopidius indicus</i>	R
Bar-headed Goose	<i>Anser indicus</i>	R	Rostratulidae		
Lesser Whistling-duck	<i>Dendrocygna javanica</i>	C	Greater Painted-snipe	<i>Rostratula benghalensis</i>	UC
Brahminy Shelduck	<i>Tadorna ferruginea</i>	UC	Recurvirostridae		
Northren Pintail	<i>Anas acuta</i>	C	Black-winged Stilt	<i>Himantopus himantopus</i>	C
Common Teal	<i>Anas crecca</i>	C	Charadriidae		
Spot-billed Duck	<i>Anas poecilorhyncha</i>	C	Red-wattled Lapwing	<i>Vanellus indicus</i>	VC
Mallard	<i>Anas platyrhynchos</i>	UC	Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>	R
Eurasian Wigeon	<i>Anas penelope</i>	CF	Little Ringed-plover	<i>Charadrius dubius</i>	R
Northern Shoveller	<i>Anas clypeata</i>	C	Scolopacidae		
Common Pochard	<i>Aythya ferina</i>	UC	Black-tailed Godwit	<i>Limosa limosa</i>	UC
Tufted Pochard	<i>Aythya fuligula</i>	C	Common Red-shank	<i>Tringa tetanus</i>	UC
Cotton Teal	<i>Nettapus coromandelianus</i>	UC	Common Green-shank	<i>Tringa nebularia</i>	UC
Comb Duck	<i>Sarkidiornis melanotos</i>	R	Wood Sandpiper	<i>Tringa glareola</i>	C
Accipitridae			Common Sandpiper	<i>Actitis hypoleucos</i>	C
Black-shouldered Kite	<i>Elanus caeruleus</i>	UC	Common Snipe	<i>Gallinago gallinago</i>	C
Black Kite	<i>Milvus migrans</i>	C	Laridae		
Shikra	<i>Accipiter badius</i>	UC	River Tern	<i>Sterna aurantia</i>	C
Eurasian Sparrow Hawk	<i>Accipiter nisus</i>	C	Little Tern	<i>Sterna albifrons</i>	C

Name	Scientific Name	Status	Name	Scientific Name	Status
Rynchopidae			Capitonidae		
Indian Skimmer	<i>Rynchops albicollis</i>	UC*	Brown-headed Barbet	<i>Megalaima zeylanica</i>	C
Pteroclididae			Coppersmith Barbet	<i>Megalaima heamacephala</i>	UC
White-bellied Sandgrouse	<i>Pterocles alchata</i>	UC	Picidae		
Chestnut-bellied Sandgrouse	<i>P.exustus</i>	UC	Eurasian Wryneck	<i>Jynx torquilla</i>	C
Columbidae			Rufous Woodpecker	<i>Celeus brachyurus</i>	C
Pompadour Green Pigeon	<i>Treron pompadora</i>	C	Lesser Golden-backed Woodpecker	<i>Dinopium benghalense</i>	VC
Blue Rock Pigeon	<i>Columba livia</i>	VC	Yellow-fronted Pied Woodpecker	<i>Dendrocopus mahrattensis</i>	C
Eurasian Collared Dove	<i>Streptopelia decaocto</i>	VC	Grey-capped Pygmy Woodpecker	<i>Dendrocopus canicapillus</i>	C
Red-collared Dove	<i>Streptopelia tranquebarica</i>	C	Pittidae		
Spotted Dove	<i>Streptopelia chinensis</i>	C	Indian Pitta	<i>Pitta brachyura</i>	UC
Little Brown Dove	<i>Streptopelia senegalensis</i>	C	Alaudidae		
Psittacidae			Red-winged Bush-lark	<i>Mirafraga erythroptera</i>	C
Alexandrine Parakeet	<i>Psittacula eupatria</i>	C	Ashy-crowned Sparrow-lark	<i>Eremopterix grisea</i>	UC
Rose-ringed Parakeet	<i>Psittacula krameri</i>	C	Rufous-tailed Finch-lark	<i>Ammomanes phoenicurus</i>	C
Plum-headed Parakeet	<i>Psittacula cyanocephala</i>	C	Common Crested-lark	<i>Galerida cristata</i>	R
Cuculidae			Hirundinidae		
Pied-crested Cuckoo	<i>Clamator jacobinus</i>	C	Dusky Crag-martin	<i>Hirundo concolor</i>	C
Brainfever Bird	<i>Hierococcyx varius</i>	C	Common Swallow	<i>Hirundo rustica</i>	VC
Indian Cuckoo	<i>Cuculus micropterus</i>	C	Wire-tailed Swallow	<i>Hirundo smithii</i>	VC
Indian Plaintive Cuckoo	<i>Cacomantis passerinus</i>	C	Red-rumped Swallow	<i>Hirundo daurica</i>	C
Asian Koel	<i>Eudynamis scolopacea</i>	VC	Laniidae		
Sirkeer Malkoha	<i>Phaenicophaeus leschenaultii</i>	C	Great Grey Shirke	<i>Lanius exubitor</i>	VC
Greater Coucal	<i>Centropus sinensis</i>	VC	Bay-backed Shrike	<i>Lanius vittatus</i>	C
Tytonidae			Rufous-backed Shrike	<i>Lanius schach</i>	C
Barn owl	<i>Tyto alba</i>	R	Oriolidae		
Strigidae			Eurasian Golden Oriole	<i>Oriolus oriolus</i>	C
Collared Scops Owl	<i>Otus bakkamoena</i>	UC	Black-headed Oriole	<i>Oriolus xanthornus</i>	UC
Eurasian Eagle Owl	<i>Bubo bubo</i>	R	Dicruridae		
Brown Fish Owl	<i>Ketupa zeylonensis</i>	UC	Black Drongo	<i>Dicrurus macrocercus</i>	VC
Jungle Owlet	<i>Glaucidium radiatum</i>	R	White-bellied Drongo	<i>Dicrurus caerulescens</i>	C
Spotted Owlet	<i>Athene brama</i>	VC	Sturnidae		
Caprimulgidae			Brahminy Starling	<i>Sturnus pagodarum</i>	VC
Common Indian Nightjar	<i>Caprimulgus asiaticus</i>	C	Rosy Starling	<i>Sturnus roseus</i>	C
Apodidae			Common Starling	<i>Sturnus vulgaris</i>	UC
House Swift	<i>Apus affinis</i>	C	Asian Pied Myna	<i>Sturnus contra</i>	VC
Asian Palm Swift	<i>Cypsiurus parvus</i>	C	Common Myna	<i>Acridotheres tristis</i>	VC
Alcedinidae			Bank Myna	<i>Acridotheres ginginianus</i>	C
Lesser Pied Kingfisher	<i>Ceryle rudis</i>	UC	Corvidae		
Small Blue Kingfisher	<i>Alcedo atthis</i>	C	Indian Tree-pie	<i>Dendrocitta vagabunda</i>	C
White-breasted Kingfisher	<i>Halcyon smyrnensis</i>	VC	House Crow	<i>Corvus splendens</i>	VC
Meropidae			Jungle Crow	<i>Corvus macrorhynchos</i>	C
Blue-tailed Bee-eater	<i>Merops philippinus</i>	C	Campephagidae		
Small Bee-eater	<i>Merops orientalis</i>	C	Common Wood-shrike	<i>Tephrodornis pondicerianus</i>	C
Coraciidae			Large Cuckoo-shrike	<i>Coracina macei</i>	C
Indian Roller	<i>Coracias benghalensis</i>	C	Black-headed Cuckoo-shrike	<i>Coracina melanoptera</i>	C
Upupidae			Scarlet Minivet	<i>Pericrocotus flammeus</i>	UC
Common Hoopoe	<i>Upupa epops</i>	VC	Irenidae		
Bucerotidae			Common Iora	<i>Aegithina tiphia</i>	C
Indian Grey Hornbill	<i>Ocyroceros birostris</i>	C	Pycnonotidae		
			Red-vented Bulbul	<i>Pycnonotus cafer</i>	VC

Name	Scientific Name	Status	Name	Scientific Name	Status
Timaliinae			Black-breasted Weaver	<i>Ploceus benghalensis</i>	R
Lloyd's Scimitar Babbler	<i>Pomotorhinus ochraceiceps</i>	C	Estrildidae		
Rufous-bellied Babbler	<i>Dumetia hyperythra</i>	C	Green Munia	<i>Amandava formosa</i>	R*
Yellow-eyed Babbler	<i>Chrysomma sinense</i>	UC	White-throated Munia	<i>Lonchura malabarica</i>	R
Common Babbler	<i>Turdoides caudatus</i>	C	Spotted Munia	<i>Lonchura punctulata</i>	UC
Jungle Babbler	<i>Turdoides striatus</i>	C	Emberizinae		
Large Grey Babbler	<i>Turdoides malcolmi</i>	C	Grey-necked Bunting	<i>Emberiza buchanani</i>	UC
Muscicapinae			C - Common; R - Rare; UC - Uncommon; VC - Very common * Listed in threatened birds of the world (BirdLife International, 2000). Common names according to Manakadan and Pittie (2001).		
Red-throated Flycatcher	<i>Ficedula parva</i>	UC	<div style="border: 2px solid black; padding: 10px; text-align: center;"> <p>BOOK NOTICE</p> <p>PARASITIC HYMENOPTERA AND BIOLOGICAL CONTROL</p> <p>by T.C. Narendran</p> <p><i>Department of Zoology, University of Calicut, Kerala 673635, India</i></p> <p>The book contains keys to super families and families with figures to most couplets. For each family a habitus drawing, a diagnosis, biological notes, major points on biological control, systematics and pertinent references are provided. Classification of major divisions of Hymenoptera, classification of parasitic Hymenoptera, general morphology of parasitic Hymenoptera, details on collecting and preserving, packing and shipping etc., are also provided. Besides these, a separate chapter on the importance of parasitic Hymenoptera in biological control of insect pests is provided. The book will be a valuable source of reference concerning parasitic Hymenoptera, their host-parasite relationships and relation to biological control, not only to entomologists, agricultural scientists and biological control workers but also to post-graduate students of entomology. More than 120 illustrations are provided. The famous entomologist Professor M.S. Mani has written a "Foreword" to the book.</p> <p>Published by Palani Paramount Publications, 57, Anna Nagar, Palani 624602. Price: India Rs. 300; other countries: 50 US Dollars (Postage extra).</p> <p>Contact the author for orders.</p> </div>		
Tickell's Blue Flycatcher	<i>Cynornis tickelliae</i>	UC			
Rhipidurinae					
White-browed Fantail Flycatcher	<i>Rhipidura aureola</i>	R			
White-throated Fantail Flycatcher	<i>Rhipidura albicollis</i>	R			
Monarchinae					
Asian Paradise Flycatcher	<i>Terpsiphone paradisi</i>	R			
Sylviinae					
Common Tailor-bird	<i>Orthotomus sutorius</i>	C			
Indian Great-reed Warbler	<i>Acrocephalus stentoreus</i>	C			
Greater Whitethroat	<i>Sylvia communis</i>	C			
Common Chiffchaff	<i>Phylloscopus collybita</i>	UC			
Turdinae					
Bluethroat	<i>Erithacus svecica</i>	UC			
Oriental Magpie-robin	<i>Copsychus saularis</i>	UC			
White-rumped Shama	<i>Copsychus malabaricus</i>	C			
Black Redstart	<i>Phoenicurus ochruros</i>	C			
Indian Chat	<i>Cercomela fusca</i>	VC			
Collared Bush-chat	<i>Saxicola torquata</i>	C			
Pied Stone-chat	<i>Saxicola caprata</i>	C			
Desert Wheatear	<i>Oenanthe deserti</i>	C			
Indian Robin	<i>Saxicoloides fulicata</i>	VC			
Blue Rock-thrush	<i>Monticola solitarius</i>	C			
Eurasian Blackbird	<i>Turdus merula</i>	UC			
Paridae					
Great Tit	<i>Parus major</i>	C			
Pied Tit	<i>Parus nuchalis</i>	R*			
Motacillidae					
Paddyfield Pipit	<i>Anthus rufulus</i>	C			
Tawny Pipit	<i>Anthus campestris</i>	UC			
Yellow Wagtail	<i>Motacilla flava</i>	C			
Citrine Wagtail	<i>Motacilla citreola</i>	VC			
Grey Wagtail	<i>Motacilla cinerea</i>	C			
White Wagtail	<i>Motacilla alba</i>	UC			
Large Pied Wagtail	<i>Motacilla maderaspatensis</i>	C			
Nectariniidae					
Purple Sunbird	<i>Nectarinia asiatica</i>	VC			
Zosteropidae					
Oriental White-eye	<i>Zosterops palpebrosa</i>	C			
Ploceinae					
House Sparrow	<i>Passer domesticus</i>	VC			
Yellow-throated Sparrow	<i>Petronia xanthocollis</i>	C			
Ploceinae					
Baya Weaver	<i>Ploceus philippinus</i>	UC			