
INTRODUCTION

The Salt Range is one of the highly important areas for wildlife due to its location, altitudinal range and ecological conditions. A large diversity of avifauna including resident and migratory species occurs in the area of the range. The range is much ornithological importance as a number of local altitudinal migrants are found in the area in different season. Species of northern high altitudinal area are found in the summer while those of low lying area in winter.

Though whole of the range is important yet some of the areas of the range have much importance. Chumbi Surla wildlife sanctuary is one of those special areas. The sanctuary has significance having different habitat types including hills, torrents, wetlands and agriculture lands. Combination of these different ecological zones enabled the sanctuary to support a diversity of fauna. In this context survey of the wildlife sanctuary was conducted in March, 2008 for study of avian diversity of the area. The present report is based on the observation during this survey.

Chumbi Surla wildlife sanctuary is located 20 Km south west of Chakwal Town on 32° 47'N, 67° 42'E. Present in the heart of salt range 55987 ha area of Chumbi Surla forest and shambles were declared wildlife sanctuary in 1978. The core zone 5342 ha Surla and Bakshiola Reserve forest is surrounded by 49912 ha community forest comprising of half slopes ranging from 460 to 1050 m in altitude.

A broad valley Kahoon located in the southern part of the sanctuary area and is extremely cultivated. The area around Dhok Ban Amir Khatoon, Tharpal, Bhadi, Karila, Khalcorzer, and Shamsabad is rather flat and cultivated. The area around Dhok Sela and Chumbi village are also cultivated.

The area has dry sub tropical climate with hot summer and cool winter. The natural vegetation of the region is a mixture of sub-tropical semi-evergreen forest and tropical thorn forest with major species *Acacia modest*, *Adhadtoda vasica*, *Dodonea viscosa*, *Olea ferruginea*, *Raptonida buxifolia*, *Tamarix aphylla*, *Ziziphus spp* and *Withania Coagulans*.

The wetland has aquatic plants mainly *Hydrilla verticillata*, *Potamogeton crispus*,

vallsnaria spiralis, *Zannicheleia palustris*, *Typha angustata* and *Phragmites karka*.

A numbers of workers have contributed to the studies on the birds of Salt Range. Waite (1961) presented a paper “Notes on the Birds of Jhelum District of the Punjab Waite” (1961) described. “The birds of Salt Range” (Phista) Ali and Ripley (1968-74) published 10 volumes of a “Hand Book of Bird’s of Indian Subcontinent. Van (1987-88), Scot and Rose (1989), Perennue *et al.* (1990-1992) compiled the midwinter waterfowl counts of Asia including wetlands of the Salt Range. Scot (1989) compiled “Directing of Asian Wetlands” including those of the Salt lakes. Roberts (1991-92) referred the avifauna of the area. Azam (1994) published a checklist “The Birds of the Salt Range”. Chaudary (1997) published a paper entitled “Biodiversity of a typical sub-mountain protected area Chumbi Surla wildlife sanctuary.”

The present report is based as observations on birds during a survey of Chumbi Surla wildlife sanctuary.

MATERIALS AND METHODS

Equipments:

Binocular Nikon 8X40 and Spotting Scope Nikon 15X45 were used for identification of the bird. GPS Magellan was used for record of latitude and longitude.

Methods of Survey

Following different methodologies were adopted for study of population and status of the avifauna.

i. Transect or Quadrates:

This method entails walking along predetermined line counting the animals/birds observed and recording the distances at which they are seen or flushed. The average of the flushing distances is determined and used to calculate the effective width of the strip

covered by the observer. The population of the entire area then is considered to the numbers of animals flushed divided by the area of the strip and multiplied by the total survey area or habitat.

ii. **Fixed Point Count**

In this method a point is selected randomly or selectively and all the birds seen and heard are recorded. A standard time was fixed to spend on each point and observations were recorded. More time was spent on hot spots while relatively small period was spent on other observation points.

Results and Discussions:

93 Species of birds belonging to 67 genera, 39 families, and 17 orders of these 35 (37.63%) species were found common, 40 Species Rare, 3 (3.25%) species, 13 (13.97%) species abundant and 2 species scars.

Of the recorded species 1 (1.07%) species belonging to the order Pedicicipiformes, 1 (1.07%) Peleconiformes, 5 (5.37%) Anseriformes, 5 (5.37%) Acciptriformes, 2 (2.01%) Falconiformes, 5 (5.37%) Galiformes, 1 (1.07%) Gruciformes, 5 (5.37%) charadridiformes, 8 (8.60%) Columbiformes, 2 (2.01%) Psittaciformes, 1 (1.07%) Cuculiformes, 1 (1.07%) Strigiformes, 1 (1.07%) Apodiformes, 7 (7.52%) Coraciformes, 1 (1.07%) Piciformes, 5 (5.37%) Ciconiformes, and 42 (45.16%) Passeriformes.

Acridotheris tristis (Indian Myna), *Passer domestics* (House Sparrow), and *Pycnonotus leucogenys* (White-cheeked Bulbul) were very abundant and most frequently seen. Other abundant species include *Pycnonotus cafer* (Red vented Bulbul), *Turdoides caudatus* (Common Babbler) and *Turdoides striatus* (Jungle Babbler). The avian species found to be scarce in the area include *Columba hodgsonii* (Speckled Wood pigeon) and *Gyps bengalensis* (White backed vulture).

Table1: No of species observed during 2009 belonging to different orders

ORDERS	SPP	Percentage
PODICIPEDIFORMES	1	1.086 %
PELECANI FORMES	1	1.086 %
CICONII FORMES	5	5.434 %
ANSERIFORMES	5	5.434 %
ACCIPTRIFORMES	5	5.434 %
FALCONIFORMES	2	2.173 %
GALLIFORMES	5	5.434 %
GRUIFORMES	1	1.086 %
CHARADRIIFORMES	5	5.434 %
COLUMBIFORMES	8	8.69 %
PSITTAICIFORMES	2	2.173 %
CUCILIFORMES	1	1.086 %
STRIGIFORMES	1	1.086 %
APODIFORMES	1	1.086 %
CORACIFORMES	7	7.60 %
PICIFORMES	1	1.086 %
PASSCRIFORMES	41	44.565 %
Total:	92	-

Table2: Relative Abundance of the Species Observed during Survey

Status	No	Percentage
Rare	40	43.47 %
Very Abundant	3	3.26 %
Common	35	38.04 %
Abundant	12	13.05 %
Scarce	2	2.18 %

Chaudary *et al.* (1997) recorded 71 species of bird from the sanctuary. During present study, some more species of bird are recorded which were not recorded by Chaudary *et al.* (1997). These include *Tachybaptus rufficollis*, *Egretta alba*, *Anas strepera*, *Anas crecca*, *Anas acuta*, *Anas clypeata*, *Aythya ferina*, *Milvus migrans*, *Aquila rapax*, , *Fulica atra*, *Himantopus himantopus*, *himantopus*, *Tringa totanus*, *Tringa ochropus*, *Actitis hypoleucos*, *Psittacula cynocephali*, *Ceryle rudis*, *Riparia paludide*, *Hirundo rustica* and *Motacilla citreola*.

Waite (1961) did not record the *Francolinus francolinus* from the Salt Range. Now it is found common in the study area. The species is relatively more numerous in the dense reeds vegetation at the margins of the torrents. *Farancolences pondicerianus* (Grey partridge) was found more commonly in slopes of ridges.

A total 10 species belonging to 74 genera, 33 families and 17 orders including presented provides studies are recorded. A complete checklist of recorded species is also presented.

Table 1: Checklist of birds of Chumbi Surla Wildlife Sanctuary, District Chakwal.

Scientific Name	Common Name	Birds Seen	Status
ORDER PODICIPEDIFORMES			
FAMILY PODICIPEDIDAE			
<i>Tachybaptus rufficollis</i>	Little Grebe	15	Rare
ORDER PELECANIFORMES			
FAMILY PHALACROCORACIDAE			
<i>Phalacrocorax niger</i>	Little Cormorant	7	Rare
ORDER CICONIIFORMES			
FAMILY ARDEIDAE			
<i>Bubulcus ibis</i>	Cattle Egret	25	Common
<i>Egretta garzetta</i>	Little Egret	11	Rare
<i>Egretta intermedia</i>	Intermediate Egret	7	Rare
<i>Egretta alba</i>	Large Egret	5	Rare
<i>Ardeola greyii</i>	Red Heron	35	Rare
ORDER ANSERIFORMES			
FAMILY ANATIDAE			
<i>Anas strepera</i>	Gadwall	11	Rare
<i>Anas crecca</i>	Common Teal	22	Rare
<i>Anas acuta</i>	Northern Pintail	7	Rare
<i>Anas clypeata</i>	Northern Shovler	9	Rare
<i>Aythya ferina</i>	Common Pochard	12	Rare
ORDER ACCIPITRIFORMES			
FAMILY ACCIPITRIDAE			
<i>Pernis apivorus</i>	Honey Buzzard	2	Rare
<i>Elanus caeruleus</i>	Black-winged Kite	3	Rare
<i>Milvus migrans</i>	Black Kite	22	Common
<i>Gyps bengalensis</i>	Oriental white-backed, Vulture	2	Scarce
<i>Aquila rapax</i>	Tawny Eagle	3	Rare
ORDER FALCONIFORMES			
FAMILY FALCONIDAE			
<i>Falco</i>	Lesserel	5	Rare
<i>Falco tillunculus</i>	Common Kestrel	2	Rare
ORDER GALLIFORMES			
FAMILY PHASIANIDAE			
<i>Alectoris chuddar</i>	Chukar	-	Rare
<i>Ammoperdix griseogularis</i>	See-See Partridge	35	Common
<i>Francolinus francolinus</i>	Black Francolin	48	Abundant
<i>Francolinus pondicerianus</i>	Grey Francolin	56	Abundant
<i>Coturnix coturnix</i>	Common Quail	22	Common
ORDER GRUIFORMES			
FAMILY RALLIDAE			
<i>Fulica atra</i>	Coot	25	Common
ORDER CHARADRIIFORMES			
FAMILY RECURVIROSTRIDAE			
<i>Himantopus himantopus</i>	Black-winged Stilt	8	Rare

FAMILY CHARADRIIDAE			
<i>Hoplopterus indicus</i>	Red-wattled Lapwing	25	Common
FAMILY SCOLOPACID			
<i>Tringa tetanus</i>	Common Redshank	7	Rare
<i>Tringa ochropus</i>	Green Sandpiper	3	Rare
<i>Actitis hypoleucos</i>	Common Sandpiper	4	Rare
ORDER COLUMBIFORMES			
FAMILY COLUMBIDAE			
<i>Columba livia</i>	Blue Rock pigeon	15	Common
<i>Columba hodgsonii</i>	Speckled Wood-pigeon	1	Scarce
<i>Streptopelia decaocto</i>	Indian Ring Dove	65	Abundant
<i>Streptopelia senegalensis</i>	Senegal Dove	38	Abundant
<i>Clamator jacobinus</i>	Pied-Crested cuckoo	19	Rare
<i>Heiropoccyx varius</i>	Common hawk cuckoo	4	Rare
<i>Eudynamys scolopacea</i>	Common Koel	3	Rare
<i>Taccocua ieschenaultii</i>	Sirkeer Cuckoo	5	Rare
ORDER PSITTACIFORMES			
FAMILY PSITTACIDAE			
<i>Psittacula krameri</i>	Rose-ringed Parakeet	22	Common
<i>Psittacula cyanocephala</i>	Plum-headed Parakeet	18	Common
ORDER CUCULIFORMES			
FAMILY CUCULIDAE			
<i>Centropus sinensis</i>	Common Crow Pheasant	15	Common
ORDER STRIGIFORMES			
FAMILY STRIGIDAE			
<i>Athene brama</i>	Spotted Owlet	3	Rare
ORDER APODIFORMES			
FAMILY APODIDAE			
<i>Apus affinis</i>	Little Swift	18	Common
ORDER CORACIIFORMES			
FAMILY ALCEDINIDAE			
<i>Halcyon smyrnensis</i>	White-breasted, Kingfisher	-	Common
<i>Ceryle rudis</i>	Pied Kingfisher	-	Common
<i>Alcedo atthis</i>	Common Kingfisher	2	Rare
FAMILY MEROPIDAE			
<i>Merops orientalis</i>	Small Green Bee-eater	52	Abundant
<i>Merops superciliosus</i>	Blue-cheeked Bee-eater	18	Common
ORDER CORACIIFORMES			
FAMILY CORACIIDAE			
<i>Coracias benghalensis</i>	Blue Jay	5	Rare
ORDER CORACIIFORMES			
FAMILY UPUPIDAE			
<i>Upupa epops</i>	Hoopoe	3	Rare
ORDER PICIFORMES			
FAMILY PICIDAE			
<i>Dinopium benghalense</i>	Golden-backed Woodpecker	2	Rare

ORDER PASSERIFORMES			
FAMILY PITTIDAE			
<i>Galerida cristata</i>	Crested Lark	48	Abundant
<i>Alauda gulgula</i>	Oriental Skylark	37	Common
FAMILY HIRUNDINIDAE			
<i>Riparia paludicola</i>	Indian Sand Martin	33	Common
<i>Hirundo rustica</i>	Barn Swallow	28	Common
FAMILY MOTACILLIDAE			
<i>Motacilla flava</i>	Yellow Wagtail	36	Common
<i>Motacilla citreola</i>	Citrine Wagtail	22	Common
<i>Motacilla cinerea</i>	Grey Wagtail	-	Common
<i>Motacilla alba</i>	White or Pied Wagtail	38	Common
<i>Motacilla maderaspatensis</i>	White-browed Wagtail	35	Common
FAMILY PYCNONOTIDAE			
<i>Pycnonotus leucogenys</i>	White-cheeked Bulbul	62	Very Abundant
<i>Pycnonotus cafer</i>	Red-vented Bulbul	54	Abundant
FAMILY TURDIDAE			
SUB-FAMILY TURDINAE			
<i>Copsychus saularis</i>	Magpie-Robin	17	Common
<i>Phoenicurus ochruros</i>	Indian Redstart	4	Rare
<i>Saxicola caprata</i>	Pied Bush-chat	24	Common
<i>Oenanthe picata</i>	Pied Wheatear or Pied Chat	5	Rare
<i>Saxicoloides fulicata</i>	Indian Robin	-	Common
<i>Myiophoneus caeruleus</i>	Blue Whistling Thrush	2	Rare
FAMILY SYLVIIDAE			
<i>Cisticola juncidis</i>	Streaked Fantail Warbler	26	Common
<i>Prinia buchanani</i>	Wren Warbler	18	Common
<i>Prinia gracilis</i>	Streaked long-tailed Warbler	9	Rare
<i>Prinia inornata</i>	Tawny prinia	11	Rare
<i>Orthotomus sutorius</i>	Common Tailorbird	17	Common
FAMILY RHIPIDURIDAE			
<i>Rhipidurea aureola</i>	White-breasted Fantail Flycatcher	7	Rare
FAMILY MONARCHIDAE			
<i>Terpsichore paradise</i>	Asian Paradise flycatcher	1	Rare
FAMILY TIMALIIDAE			
<i>Turdoides caudatus</i>	Common Babbler	38	Abundant
<i>Turdoides striatus</i>	Jungle Babbler	34	Abundant
FAMILY NECTARINIIDAE			
<i>Nectarinia asiatica</i>	Purple Sunbird	24	Common
FAMILY LANIIDAE			
<i>Lanius collurio</i>	Red-backed Shrike	8	Common
<i>Lanius vittatus</i>	Bay-backed Shrike	15	Common
<i>Lanius excubitor</i>	Great Grey or Northern Shrike	12	Common

FAMILY DICRURIDAE			
<i>Dicrurus macrocercus</i>	Black Drongo	24	Abundant
FAMILY CORVIDAE			
<i>Dendrocitta vagabunda</i>	Indian Tree Pie	12	Common
<i>Corvus splendens</i>	House Crow	32	Abundant
<i>Corvus macrorhynchos</i>	Jungle Crow	11	Rare
FAMILY STURNIDAE			
<i>Sturnus pagodarumi</i>	Brahminy myna	2	Rare
<i>Acridotheres tristis</i>	Indian Myna	55	Very Abundant
<i>Acridotheres ginginianus</i>	Bank Myna	32	Common
FAMILY PASSERIDAE			
<i>Passer domesticus</i>	House Sparrow	85	Very Abundant
FAMILY PLOCEIDAE			
<i>Ploceus philippinus</i>	Baya Weaver	5	Common
<i>Eudice malabarica</i>	White-throated munia		Abundant
FAMILY EMBRIZDAE			
<i>Emberiza bruniceps</i>	Red headed Bunting	3	Rare

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