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# CHECKLIST OF BIRDS RECORDED IN AND AROUND PATAN TEHSIL REGION, SATARA DISTRICT (MAHARASHTRA) INDIA

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#### ABSTRACT:

To prepare annotated Checklist of birds recorded in and around Patan Tehsil region ,Satara district( declared as international heritage), Maharashtra State, India was carried out in early wet and dry seasons. Since richness and diversity of bird species are good indicators of the ecosystem quality, this paper focused on providing some preliminary information on the abundance, diversity and activities of various bird species occurring in and around Patan tehsil region. To this aim, Birds observed A total of 96 species representing 16 orders and 43 families were recorded from January 2015 to December 2016, two year period.

KEY WORDS:- Birds; checklist; Richness; Western Ghats; Patan.

# INTRODUCTION

Birds are interesting for their various characters & are useful for various purposes for human beings and also they are important for the ecosystem since plays various roles as scavenger, pollinators and predators of insect pest (Padmavati A, Alexandar R, Anbarashan M. 2010). Many birds feed on insect pests & minimize their number thus helping for cropproduction. Various other birds like Vultures clean environment by eating the flesh or dead animals. Again interesting are their courtship behavior their breeding, their nests, parental care their springtide songs, migration etc.

There are 34 mega centers of biodiversity – hot spot in the world .India is one of them countries in world and Western Ghats region is present in Maharashtra state. The current status of Maharashtra, avian diversity suggests that amongst vertebrate's highest endemism, About 568 species belonging to 272 genera, under 83 families and 20 avian orders. The list is dynamic and is in no rigid since birds are mobile. Again study of birds, migration is rather difficult tasks.

Since we observed some birds in and around Patan and studied by references are recorded here. This checklist will be useful in avifauna researchers in future. To prepare annotated checklist with all possible details of sighted birds was main objective of this study. Therefore first time the checklist of birds with their scientific and common name. Ecological status and IUCN status of birds from this region are reported here. It will be an important avifaunal data-base for avifaunal diversity and taxonomic studies.

#### **MATERIALS AND METHODS**

Study area: The present study was conducted in the Patan Tehsil. It is located on the Koyna and Kera rivers bank between 17° 20' N and 73° 50' E; in Satara District, Maharashtra state, India. Satara district forms a part of northern Western Ghats and Patan Tehsil is one of them. The famous Koyana dam (Shivasagar), Koyana wild life sanctuary, etc is situated in Patan tehsil.

Based on the northeast monsoon the study area is divided into four season's viz, postmonsoon, summer, pre-monsoon and monsoon (June-September) and post monsoon ranges from October- November. Summer ranges from March to May (with a mean maximum temperature of 380C) and the northeast monsoon between October and December. The cold season starts in November and may last till February. The study was conducted in three habitats, viz.,

River basins (Koyna and Kera) - The Koyna and Kera and its tributaries are major perennial water sources used for irrigation. Woody vegetation is sparse in the form of groves and roadside trees.

Agricultural Lands - Agriculture is the major economics of this area, which contributes a high share of rice production. Sugarcane, groundnut, etc are the other major crops cultivated in this area. The predominant tree species found in the study area are, Mango Mangifera indica, Banyan Ficus benghalensis, Peepal Ficus religiosa, and Neem Azadirachta indica. Important shrub species are Kattukaruvai Prosopis juliflora,

Kattamani Jatropha glandulifera and Adathoda Adathoda visica. Plantations of Casuarina Casuarina equisetifolia, and Bamboo Bamboosa arundinacea are also found in the study area Lake-. The newly formed habitat of water reservoir at nearby villages of Patan. Gurehar Dam (Morna) 10km, Chiteghar Dam 4.km, Divashi Bk Dam 18 km.from Patan taluka place is also covered.

# **BIRD SURVEY:**

The checklist is primarily based on field work conducted from January 2015 to

December 2016. Birds were observed between 06.00 a.m.to 9.00am and 06.00 p.m. to 7.30 p.m. with the help of 7x50 field binoculars. Photography is done by Nikon Digital SLR camera D-90. The identification of birds was done using field guides (Grimmett et. al., 2011) (Grimmett et al. 1998; Ali 2002). Birds database were used for the identification of birds.

The checklist was prepared using standardized common and scientific names by Abdulali H. (1981). Mankadan and Pittie et. al (2004) and Internet Birds Data base(2015).

#### **OBSERVTIONS**

Checklist of birds recorded in and around Patan region

Sr.N o	Order	Sr.N o	Family	Sr.N o	Common name	Scientific name	Statu s	Locatio n
1	Pelecaniformes	1	Phalacrocoracida e	1	Little cormorant	Phalacrocorax niger (Vieillot,1817)	LC	LAK
				2*	Indian Shag	Phalacrocorax fuscicollis (Stephens,1826)	LC	RIV
2	Cykonaiformes	2	Ardeidae	3	Little Egret	Ergetta garzetta (Linnaeus,1766)	LC	LAK
				4	Median Egret	Mesophoyx intermedia (Wagler,1829)	LC	RIV
				5	Indian Pond Heron	Andeola grayii (Sykes,1832)	LC	RIV
				6	Grey Heron	Ardea cinerea (Linnaeus, 1758)	LC	LAK
		3	Ciconidae	7	White necked stork	Ciconia episcopus (Boddaert,1783)	LC	RIV
3	Anseriformes	4	Anatidae	8	Spot billed duck	Anas poecilorhyncha (J.R.Forester,1781)	LC	LAK
4	Falconiformes	5	Accipitridae	9	Black kite	Milvus migrans (Boddaert,1783)	LC	AGL
				10	Black shouldered kite	Elanus caeruleus (Desfontaines,1789)	LC	AGL
				11	Brahminy kite	Haliastur indus (Boddaert,1783)	LC	LAK
		6	Falconidae	12	Laggar	Falco Jugger (J.E.Gray,1834)	NT	RIV
5	Galliformes	7	Phasianidae	13*	Comman Quail	Coturnix coturnix (Linnaeus,1758)	LC	AGL
				14*	Rain Quail	Coturnix coromandelica (Gmelin,1789)	LC	AGL
				15*	Jungle Bush Quil	Perdicula asiatica ( Lathum,17909)	LC	AGL
				16	Indian Peafowl	Pavo cristatus (Linnaeus,1758)	LC	AGL
6	Gruiformes	8	Rallidae	17	White- breasted Waterhen	Amaurornis phoenicurus (Pennnt,1769)	LC	LAK
7	Caraidriformes	9	caradridae	18	Red wattled lapwing	Vanellus indicus ( Boddaert,1783)	LC	LAK
		10	scolopacidae	19	curlew Sandpiper	Calidris ferruginea (Pontoppidan,1813)	LC	LAK
8	Columbiformes	11	columbidae	20	Blue rock pigeon	Columbia livia (Gmelin,1789)	LC	AGL

	<del>                                     </del>		T	1	Nilgiri wood	Columbia alabinatanii		
				21*	Nilgiri wood pigeon	Columbia elphinstonii (Sykes,1832)	LC	AGL
				22	Little brown dove	Streptopelia senegalensis (Linnaeus,1766)	LC	AGL
				23	Spotted dove	Streptopelia chinensis (Scopoli,1768)	LC	AGL
				24	Red collared dove	Streptopelia tranquebarica (Hermann,1804)	LC	AGL
9	Psittaciformes	12	Psittacidae	25*	Indian hanging parakeet	Loriculus vernalis (Sparrman,1787)	LC	AGL
				26*	Rose-ringed Parakeet	Psittacula krameri	LC	AGL
				27	Plum headed parakeet	Psittacula cyanocephala (Linnaeus,1766)	LC	AGL
				28	Blue winged parakeet	Psittacula columboides (Vigors,1830)	LC	AGL
10	Cuculiformes	13	Cuculidae	29*	Common Cuckoo	Cuculus canorus	LC	RIV
				30	Greater Coucal	Centropus sinensis (Stephens,1815)	LC	RIV
				31	Asian koel	Eudynamys scolopacea (Linnaeus,1758)	LC	AGL
11	Strigiformes	14	Tytonidae	32*	Barn Owl	Tyto alba (Scopoli,1769)	LC	RIV
				33*	Grass owl	Tyto capensis (Smith,1834)	LC	RIV
12	caprimulgiformi s	15	caprimolgidae	34	Comman Indian Nightjar	Caprimulgus asiaticus (Latthum,1790)	LC	RIV
13	Apodiformes	16	Apodidae	35*	Little Swift	Apus offinis (Gray,1830)	LC	RIV
				36*	Asian Palm Swift	Cypsiurus balasiensis(Gray,182 9)	LC	RIV
14	Coraciiformes	17	Alcedinidae	37	Small Blue Kingfisher	Alcedo atthis (Linnaeus,1758)	LC	RIV
				38*	Collared Kingfisher	Todiramphus chloris (Linnaeus,1758)	LC	RIV
				39	White- breasted Kingfisher	Halcyon smyrnensis (Linnaeus,1758)	LC	RIV
				40	Lesser Pied Kingfisher	Ceryle rudis (Linnaeus,1758)	LC	RIV
		18	Meropidae	41	Small Bee- eater	Merops orientalis (Latham,1801)	LC	AGL
			Coreciidae	42	Indian Roller	Coracias benghalensis (Linnaeus,1758)	LC	AGL
		19	Upupidae	43	Common Hoopoe	Upupa epops ( Linnaeus,1758)	LC	AGL
		20	Bucerotidae	44	Indian grey hornbill	Ocyceros birostris (Scopoli,1786)	LC	AGL
				45	Malbar Pied hornbill	Anthracoeros coronatus (Boddaert,1783)	NT	AGL
				46*	Great Pied hornbill	Buceros bicornis ( Linnaeus, 1758)	NT	AGL
15	Pisiformis	21	capitoninde	47	Copper smith Barbet	Megalaima haemacephala (S.Muller,1776)	LC	AGL
				48	White	Megalaima viridis	LC	AGL

					cheeked barbet	(Boddaert,1783)		
		22	Pisidae	49*	Comman golden backed woodpeacker	Dinopium javanense (Ljungh,1797)	LC	AGL
16	Passeriformes	23	Alaudidae	50	Sykes's Crested Lark	Galerida deva (sykes,1832)	LC	AGL
				51*	Comman Crested Lark	Galerida cristata (Linnaeus,1758)	LC	AGL
				52	Malbar crested lark	Galerida malabarica (Scpoli,1786)	LC	AGL
				53	Black Breasted Lark	Eremopteryx nigricaps	LC	AGL
		24	Hirundinidae	54	comman swallow	Hirundo rustica (Linnaeus,1758)	LC	AGL
		25	Motacilidae	55*	Ctrine wagtail	Motacilla citriola (pallus,1776)	LC	AGL
		26	campefagide	56	long tailed minivet	Pericrocotus ethologus	LC	AGL
				57	Scarlet minivet	Pericrocotus Flammeus (Forster,1781)	LC	AGL
				58	pied flycatcher shrike	Hemipus picatus (Sykes,1832)	LC	AGL
		27	Pycnonotidae	59	Red-vented Bulbul	Pycnonotus cafer (Linnaeus,1766)	LC	AGL
				60	Red-whiskered Bulbul	Pycnonotus jocosus (Linnaeus,1758)	LC	AGL
		28	lanniidae	61*	grey backed shrike	Lanius tephronotus (VIgors,1831)	LC	AGL
		29	Turdinae	62	Indian Robin	Saxicoloides fulicata ( Linnaeus,1766)	LC	AGL
		30	timalidae	63	Jungle babbler	Turdoides striata (Dumont, 1823)	LC	RIV
				64	Large grey babbler	Turdoides malcolmi (Sykes, 1832)	LC	RIV
				65	Indian Rufous Babbler	*Turdoides subrufa (Jerdon, 1839)	LC	RIV
		31	sylviidae	66	Streaked fantail warbler	Cisticola juncidi0s (Rafinesque,1810)	LC	RIV
				67	Ashy prinia	Prinia socialis (Sykes, 1832)	LC	GAR
				68	Thick billed Warbler	Acrocephalis aedon (Pallus, 1766)	LC	AGL
				69	Rufous fronted prinia	Prinia buchanani (Blyth,1844)	LC	AGL
		32	mucicapini	70	Asian brown flycatcher	Muscicapa dauurica (Pallus ,1811)	LC	AGL
				71	red breasted flycatcher	Ficedula parva (Bechstein,1792)	LC	AGL
				72	Tickell's Blue flycatcher	Cyornis tickelliae (Blyth,1843)	LC	AGL
		33	rhipidurini	73	White throated fantail	Rhipidura albicollis (Vieillot,1818)	LC	AGL
		34	paridae	74	Black lored yellow tit	Parus xanthogenys (Vigors, 1831)	LC	AGL
		34	nectariniidae	75	Purple rumped sunbird	*Leptocoma zeylonica (Linnaeus, 1766)	LC	GAR
				76	Purple sunbird	Cinnyris asiaticus (Latham, 1790)	LC	GAR
				77	Little	Arachnothera	LC	GAR

			Spiderhunte r	Longirostra (Latham,1790)		
36	Zosteropidae	78	Oriental White eye	Zosterops palpebrosus (Temminck,1824)	LC	GAR
37	Estrildidae	79*	White-throated Munia	Lonchura malabarica (Linnaeus, 1758)	LC	AGL
		80*	Black-headed Munia	Lonchura malaca (Jerdon,1863)	LC	AGL
		81	Spotted Munia	Lonchura punctulata (Linnaeus, 1758)	LC	AGL
38	Passerinae	82	House Sparrow	Passer domesticus (Linnaeus, 1758)	LC	AGL
		83*	Yellow throated Sparrow	Petronia xanthocollis (Burton,1838)	LC	AGL
39	Ploceinae	84	Baya weaver	Ploceus philippinus (Linnaeus, 1766)	LC	AGL
		85*	Streaked Weaver	Ploceus manyar (Horsfield,1821)	LC	AGL
40	Sternidae	86	Common myna	Acridotheres tristis (Linnaeus, 1766)	LC	AGL
		87	Jungle myna	Acridotheres fuscus (Wagler, 1827)	LC	AGL
		88	Brahminy Starling	Temenuchus pagodarum (Gmelin, 1789)	LC	AGL
		89	Rosy Starling	Sturnus roseus (Linnaeus,1758)	LC	AGL
41	Oriolidae	90	Eurasian Golden Oriole	Oriolus oriolus (Linnaeus, 1758)	LC	AGL
42	Dricruridae	91	Bronzed drongo	Dicrurus aeneus (VIellot,1817)	LC	AGL
		92	Black drongo	Dicrurus macrocercus ( Vieillot, 1817)	LC	AGL
		93*	Ashy Drongo	Dicrurus leucophaeus ((Vieillot, 1817 )	LC	AGL
43	Corvridae	94	House crow	Corvus splendens (Vieillot, 1817)	LC	AGL
		95*	Jungle crow	Corvus culminatus (Sykes, 1832)	LC	AGL
c	11:	96	Indian Treepie	Dendrocitta vagabunda (Lathum,1790)	LC	AGL

**Table-1**. Showing orders, families, scientific names, common names, IUCN status and habitat of the birds. The study of avifauna was carried out from January 2015 to December, 2016 at the regular interval of fifteen days during most active period of birds. Picture of study area was taken by using website Google earth . (\*Indicates need to capture snap.)

#### Results and Discussion

A list of birds recorded from in and around Patan region and their common name, scientific name with status and location were reported in Table. Mankadan and Pittie et. al (2004) and Internet Birds Data base(2015). The study reveals the occurrence of 96 species of birds belonging to 44 families and 16 orders. Among the 16 orders, Passeriformes dominated the list with 47 species followed by Alaudidae svlviidae and sternidae four species, campefagide, timalidae mucicapini,

nectariniidae Estrildidae dricruridae and corvridae, with 3 species each, Pycnonotidae, , Passerinae and Ploceinae two species each; and Hirundinidae, Motacilidae lanyidae, rhipidurini paridae Turdinae, Zosteropidae, and Oriolidae with single species each.

Columbiformes shows five species in single family. Anseriformes Gruiformes caprimulgiformis followed by single family with single species . Galliformes shows four species in single family. Order Pelecaniforis , Strigiformes and Apodiformes single species in single

family. Cykonaiformes followed by four species in one family. Falconiformes followed by three species in one family and one family with single species each. Caraidriformes followed by two species in two family.

Coraciiformes shows four family with Alcedinidae is dominant having Four species Bucerotidae three sp, and Meropidae Coreciidae and Upupidae, shows singly .Psittaciformes Psittacidae family have four Cuculiformes Cuculidae family shows three species. Pisiformis and capitoninde two species and Pisidae two species.

Out of the 96 species, The migrants, viz., White necked stork, found in post mansoon only in 2 to 3 in number at bank of river basin. The nest is observed on top of Tower. It is prepared by dry twigs.

Abdar et.al (2014) reported Baya Weaver (Ploceus philippinus) was more abundant in the months of July, August and September.cHis report area and our area is similar in habitat. Both region includes in world heritage site. But we have observed this bird is in about thousand numbers in the month of May and June.

Amit Sayyad et.al.(2016) extensively studied the avifaunal diversity of Satara district.part of Koyana Wildlife Sanctuary, Maharashtra, India. He reported the occurrence of 208 species of birds belonging to 60 different families. It was an avifaunal diversity study from a different kind of habitat that include part of (Tributary of Koyana and river). Hornbill is a bird from the eastern Himalayas but now it is a resident species of the wet zone of the Western Ghats (Ali, S. and Ripley, S. D. 1987) of Southern India. Indian grey hornbill and great pied hornbill is recorded in satara district (Amit Savvad et.al 2016), But Now Malabar Pied Hornbill pair is also recorded in Patan in 2015. It is sign of richness of deciduous forest. It indicators of high moist forest, ensuring the continuance of forest health and species richness (Balasubramanian P, Saravanan, R. & Maheshwaran, B. 2004.). Amit Sayyad (2016) fail to record this species in the paper published in faunal diversity of satara district. The specialty of this investigation was that the authors tried to report maximum photographs and published in colour formats hence it gives a clear idea about the bird species; especially in limited region only. It is an

important preliminary data to refer for the newly introduced ornithologists in the avifaunal diversity studies. The present investigation more or less matches with many birds reported by Amit Sayyad et. al.(2016) . As compared to investigation by other researchers the avifaunal report by Dattatray Thorat is more detailed and more scientific due to enclosing the maximum photographs of bird species in support to the checklist.

Birds of diverse food habits were observed, viz., insectivores, omnivores, and predator's species A greater diversity of avian species was recorded at the Agriculture and koyana River banks because of greater vegetation densities and food availability. Along both sides of the river banks, many wooded tree species, scrub and bushy type stumpy vegetation were distributed and it provided roosting and nestingsites for many bird species. Paddy is the main crop of the study area and is cultivated round the year. Birds such as the Black Drango, Indian Roller. Small Bee-eater, White-breasted Kingfisher, Common Myna, Pond Heron, egrets, etc., are very common birds in the agricultural lands and river bank. Such birds are useful in the control of injurious insects in various crops (Asokan et al. 2009). Birds and their diversity constitute a main part of the natural environment and play a functional role as agents of flower pollination, seed dispersal, source of food chain and agents in breaking seed dormancy (Nason I, 1992).

Now due to increasing anthropogenic activities, stone mining and silt excavation, sand dredging, water pollution, fishing, over pumping of water for agriculture, are major disturbing activities. This activity may disturb loss of habitat and since need to conserve habitat through awareness programme activity.

The number of species recorded in the present study was first record in Patan and adjoining area. The present study was carried out on three selected habitats only, future studies will cover all the areas of whole Patan Tehsil regions and list more numbers of avian species. The observation of diversified avifauna concludes best environment ie.food, shelter and ,habitat is available at Patan.

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