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AVIFAUNAL DIVERSITY OF PAROLA, DISTRICT JALGOAN (MS) INDIA

Ahirrao K. D.[1], Suryawanshi D. N.[2]* and G. P. Borse[3]

[1]Dept of Zoology, Rani Laxmibai College, Parola, Dist-Jalgaon 425 111(MS) India.

[2*]Dept of Physics, Rani Laxmibai College, Parola, Dist-Jalgaon 425 111(MS) India.

[3]Dept of Chemistry, Rani Laxmibai College, Parola, Dist-Jalgaon 425 111(MS) India.

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***Corresponding Author**
Suryawanshi D. N.
Dept of Physics, Rani Laxmibai College, Parola, Dist-Jalgaon 425 111(MS) India.

ABSTRACT

Biodiversity is irreplaceable and wonderful component of the earth. Unfortunately, this precious biodiversity is now being disturbed at an enormously vast rate. The maintenance of the balance of nature in any ecology became impossible to scientist. In future the present study help to provide baseline information of avianfaunal diversity of local birds of Parola. The Parola is very small Town. As per census India 2011 Parola taluka has 40157 households and population of two lakhs. There are 116 villages in Parola tahasil and total population of rural and city is 318394. The water reservoirs for the city are the perennial source of water. In the present study **65** different species have been reported, which belongs to **32** families and 12 orders.

KEYWORDS: Local and migratory birds, Parola (Jalgaon).

INTRODUCTION: India is very rich is biodiversity, which supports about 10 % of the world's biodiversity. Thus among the whole world India became 7th richest biodiversity platue. More than 9000 birds of the world, the Indian subcontinent contains about 1300 species of over 13 m% of world's birds (Grimmett1999). Now a days due to global warming, vast changing environment, tremendous pollutants, pesticides, and many other unnatural and natural calamities biodiversity extinction became the global crisis. There would be hardly few regions on the earth that is not facing this kind of ecological crisis. The rate of extinction went up to one species every 10 years, currently it is one species every year. Avian fauna is one of the most important classes of vertebrata in an ecosystem. Due to their attractive plumages and flying habit birds most of the time fascinate to us. Their functional role in the

natural environment as a potential pollinators and scavengers and are correctly called as bio-indicators (Bhatnagar, *et. al*., 2008). In avian life cycle the water reservoirs are most important as a feeding, nesting and breeding grounds.

To conserve all the local and migratory birds few media and NGO groups were increased consciousness for biodiversity census and monitoring almost all species found near the local water bodies of the Dhule and Jalgaon respectively. Many other researchers are reported the study of bird diversity in Maharashtra. In Salim Ali lake, Aurngabad; Kulkarni *et, al*., (2005) studied 151 avifaunal species at the Nanded city; Kulkarni *et, al*., (2006) highlighted total 93 bird species in Shikhachi Wadi, reservoir Dist. Nanded. Balkhande *et, al*., (2012) recorded 53 avifaunal species at Godawari, near Purna, Dist. Parbhani Maharashtra. Marathwada area is also having various natural habitats which has rivers, reservoirs hills, forests, grassland, Yardi, *et, al*., (2004) had found 64 species. Thus, In the present study the local birds of Parola Dist. Jalgaon has been surveyed, listed by local name there after by their scientific names.

MATERIALS AND METHODS

Study Area: Parola, District-Jalgaon, Maharashtra state, India is the town from East Khandesh zone, situated on the National highway number 6th (NH-6), about 37 km from Dhule and 55 km away from Jalgaon. The annual average rainfall ranges from 77 cm 80 cm. The 1252 hectares of land area includes major rivers passing from Parola city is the Bori and other tributaries. And an average elevation of 856 feet from sea level. The average minimum temperature 10 - 12 ^{0}C and maximum temperature was 42 -45 ^{0}C of the year. The Longitudinal and the latitudes of Parola are 20.8822 ^{0}N 75.1253 ^{0}E respectively.

Site I: Bori river dam is 20 km away from South of Parola, District-Jalgaon. It is an earthen dam, having height of the dam above lowest foundation is 66 feet (20 meters) and the length is about 11040 feet. The volume content is 5535 km^{3} and gross storage capacity is 50000.00 km^{3}.

Site II: Mhasva is located towards North East direction just north to Mhasva village on the NH-6, about 3 km away from Parola. It has feeding form the Bori river dam. It has length is about 4 km^{2}.

Site III: Bhokarbari Lake is near the village Bhokarbai, about 5.5 km away from Parola, The main supply of water to this pond is Bori river dam through the water canal via Mhaswa

Lake. The height of the dam from foundation is about 20 feet and the length is about 1 km. The volume content and gross storage capacity is not recorded officially. Kankraj Lake is the natural site, about 11 km away from Parola, The water accumulation depends on rain and very small tributary coming from Shevage budruk and nearby hills. This has height of the dam from foundation is 10 to 15 feets and the length is about 1 km. The volume content and gross storage capacity is not recorded. And all the water bodies are surrounded by rich agricultural zones.

We were in three groups for bird watching and counting at three different sites along with the high magnifying binoculars. Every 1st or 2nd Sunday of each month we visited to all the three sites during the tenure of Jan 2017 to Dec 2017. The observations carried out and identified with the help of standard methods given by Ali and Ripley(1995), expert guidance and noting. Grimmett *et.al.*,(1999) and Salim (2002). The data was compiled and the average number of birds which resulted in decimal points are converted to complete figures. Fig. 1 showing the map of study areas.

Table 1: Avifaunal diversity recorded around Parola city.

Sr No	Name of birds	*Sci.Name*	No. of Species			Total	R/ RM	Family	Order
			Site I	Site II	Site III				
1	Greater Coucal	*Centropus sinensis*	5	3	2	10	R	Cuculidae	Cuculiformes
2	Asian koel	*Eidynamys scopopaceus*	21	5	11	37	R		
3	Asian Pied Starling	*Sturnus contra*	2	0	0	2	R	Sturnidae	Passeriformes
4	Common Myna	*Acridotheres tristis*	11	6	8	25	R		
5	Brahminy Starling	*Sturnus pagodarum*	17	2	6	25	R		
6	Black Drongo	*Dicrurus macrocerus*	21	12	12	45	R	Corvidae	
7	House Crow	*Carvus splendens*	17	20	23	60	R		
8	House Sparrow	*Passer domesticus*	10	67	25	102	R	Passerinae	
9	Yellow -Wagtail	*Motacilla flava*	27	21	11	59	R	Passeridae	
10	White-Wagtail	*Motacilla alba*	4	0	0	4	RM		
11	Paddy field Pipit	*Anthus rufulus*	4	0	2	6	R		
12	Red munia	*Amandava amandava*	6	0	4	10	R		
13	Babbler	*Turdoides striat*	2	0	0	2	R	Sylviidae	
14	Indian Robin	*Saxicolodies fulicatus*	11	24	16	51	R	Muscicapidae	
15	White-throat Thrush	*Zoothera citrinae cyanotus*	2	0	0	2	R		
16	Rufpous-Backed Shrike	*Lanius schach*	15	11	2	28	R	Laniidae	
17	Grey Shrike	*Lanius excubitor*	8	0	4	12	R		
18	Red Vented bulbul	*Pycnonotus cafer*	33	25	22	80	R	Pycnonotidae	
19	Baya	*Ploceus philippinus*	17	11	13	41	R	Ploceinae	
20	Purple Sunbird	*Nectarinia Zeylonica*	11	2	2	15	R	Nectariniidae	
21	Small minivet	*Pericrocotuscinnamomeus*	7	3	1	11	R	Campephagidae	
22	Wire tailed Swallow	*Hirundo smithii*	14	5	6	25	R	Hirundinidae	
23	Ringed Parakit	*Psittacula krameri*	25	12	39	76	R	Psittacidae	Psittaciformes
24	Bronze-winged Jacana	*Metopidius indicus*	3	0	2	5	R	Jacanidae	Charadriniiformes
25	Horn bill	*Ocyceros birostris*	6	4	18	28	R	Bucerotidae	Bucerotiformes
26	Blue Rock pegion	*Columba livia*	45	19	5	69	R	Columbidae	Columbifomes
27	Red collard Dove	*Streptopelia tranquebarica*	12	9	5	26	R/ LM		

28	Little brown Dove	*Streptopelia senegalensis*	22	2	4	28	R		
29	Spotted Dove	*Streptopelia chinensis*	18	12	22	52	R/LM		
30	Ring Dove	*Streptopelia decaocta decaocta*	12	8	9	29	R/ SM		
31	Great Indian Bustard	*Ardeotis nigriceps*	2	0	0	2	R/ LM	Otididae	Gruiformes
32	Indian Purple Moorhen	*Porphyrio porphyrio*	35	19	2	56	R	Rallidae	
33	Common coot	*Fulica atra*	8	4	2	14	R/ LM		
34	Common moorhen	*Gallinula chloropus*	17	6	0	23	RM		
35	Small Blue King fisher	*Alcedo atthis*	5	4	8	17	R	Alcedinidae	Coraciformes
36	White breasted Kingfisher	*Halcyon smynensis*	6	4	8	18	R		
37	Little green Bee Eater	*Merops orientalis* Lothan				0	R/SM/LM	Meropidae	
38	Blue tailed Bee Eater	*Merops philippinus* Linnaeus	14	6	4	24	R/SM/LM		
39	Indian Roller	*Coracias benghalensis*	9	3	2	14	R	Coraciidae	
40	Cattle Egret	*Bubulcus ibis*	47	31	11	89	R	Ardeidae	Ciconiformes
41	Little Egret	*Ergretta garzetta*	89	5	37	131	RM		
42	Intermediate Egret	*Mesophoyx omtermedia*	37	21	22	80	RM		
43	Indian Pond Heron	*Ardeola grayii*	21	6	6	33	R		
44	Red wattled Lapwig	*Vanellus indicus*	15	6	2	23	R	Charadridae	
45	Yellow wattled lapwig	*Vanellus malabaricus*	6	0	4	10	R		
46	Black ibis	*Pseudibis papillosa*	6	6	2	14	RM	Threskiornithidae	
47	Little cormorant	*Phalacrocorax niger*	97	23	42	162	R/ LM	Phalacrocoracidae	
48	Asian open bill-stork	*Anastomus oscitans*	3	0	2	5	RM	Accipitridae	
49	Phaesant –tailed Jacana	*Hydrophasianus chirurgus*	2	0	0	2	R	Jacanidae	
50	Black shouldered Kite	*Elanus caeruleus*	1	0	2	3	WM	Ciconidae	
51	Indian Pea foul	*Pava cristatus*	10	0	6	16	R	Phasianidae	Galliformes
52	Rain quail	*Coturnix coromandelica*	2	0	2	4	RM		
53	Jungle bush quail	*Perdicula asiatica*	3	1	0	4	R		
54	Rock bush quail	*Perdicinae argoondah*	4	0	8	12	R		
55	Common button quail	*Turnix sylvaticus*	6	0	11	17	R		
56	Red spurfoul	*Galioperdix spadicea*	2	0	0	2	R		
57	Grey Francolin	*Francolinus pondicerianus*	1	0	0	1	R		

58	Eurasian Eagle owl	*Bubo bubo*	4	0	0	4	R	Stiginae	Strigiformes
59	Spotted Owlet	*Athene brama Temminck*	19	2	12	33	R		
60	Lesser Whistling-Duck	*Denrocygna javanica*	27	8	2	37	R	Anatidae	Anseriformes
61	Spot billduck	*Anas poecilorhyncha*	8	32	4	44	RM		
62	Euracian teal	*Anas crecca*	2	0	0	2	M		
63	Gadwall	*Anas strepera*	14	12	4	30	M		
64	Eurasian wigeon	*Anas penelope*	10	18	0	28	M		
65	Cotton teal	*Nettapus coromandelianus*	11	16	10	37	R		
Total		**Species: 65**	**951**	**516**	**489**	**1956**		**32**	**12**

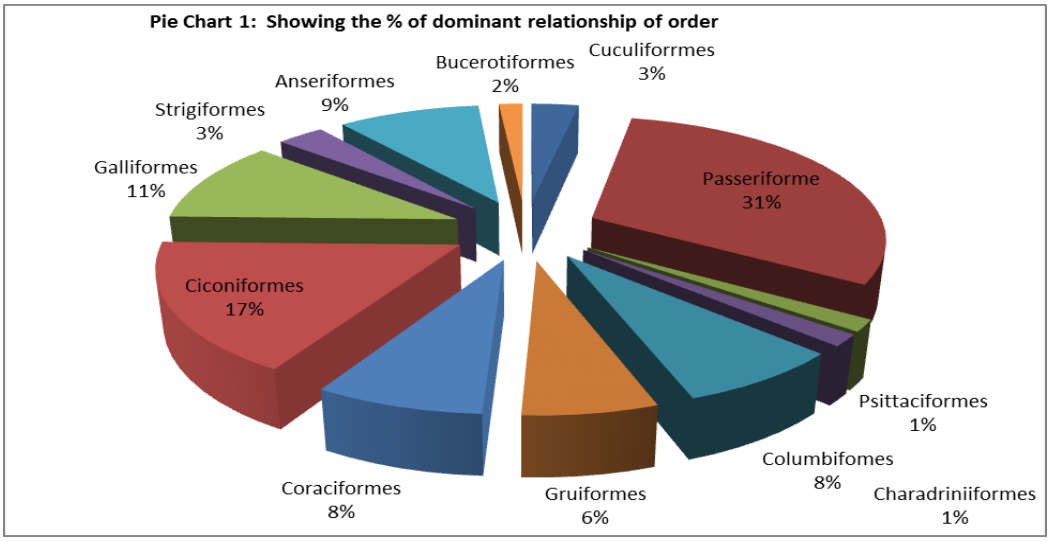
Abbrevations: R=residential, WM=Winter Migratory, SM=Seasonal Migratory, LM= Local Migratory.

Fig: 1. Map Showing Study area, Parola, Dist-Jalgaon (MS) India.

RESULTS AND DISCUSSION

Total census of birds during the tenure was 1956. Site I is the richest diversity as compared to the site II and Site-III. Their detailed average numbers and comparisons are indicated in the table no. 1. The highest number recorded during the study period was little cormorant, *Phalacrocorax niger* about 162. The second abundant has been recorded little egret, *Ergretta garzetta*, it's average number was about 131, likewise we recorded 65+ species of bird belongs to 32 family and 12 orders.

Out of 12 orders the most dominant order among these birds are Passeriformes, followed by Cicconiformes, Galliformes, Answeriformes, Columbiformes, Coraciformes, Gruifomes, Stigiformes, Cuculiformes, Psittachiformes, Charadriniformes and Brucerotiformes, shown in the Pie Chart-1 and table no. 1. Residential birds are commonly found but most of the time their number is variable throughout the year. Most of the avian species are residential birds (R), while some are resident migratory (R/RM), Winter Migratory (WM), Seasonal Migratory(SM) and Local Migratory (LM).



Birds have been considered as important biological indicators as they are ecologically dynamic and adapted in all kinds of possible habits as graminivores, nectorivores, fruigivores commonly called as herbivores and carnivores also *viz,* insectivores, Icthyovores, reptilivores, ophiophagus etc. But most of the birds are very sensitive to change in the climate, hence some birds migrate to overcome extremes of climatic conditions causes suddenly fluctuations in their number during the annual cycle. Birds may help to know whether area is sound or disturbed by any means, as an absence of birds in an ecosystem may be considered as Polluted (Borale *et al*., 1994). Some workers are studied on the avian diversity form different regions of Maharashtra are Vyawahare (1991) listed 245 bird species in Dhule district; Kurhade (1991) reported 51 species of birds from Ahmednagar district. Kumbhar *et al*., (2009) observe 99 species of birds along Krishna river of Sangali.

CONCLUSION

Though the Parola is very small Town, but around the city several water reservoirs are present, like Bori river dam, Mhaswa dam, Bhokarbari lake and Kankaraj lake. And stagnant water bodies around historical monument Fort in the Parola city are the perennial source of water. The rich agricultural farming, having different types of food grains crops, fruits, and their pest become the plenty of food for birds and water bodies having abundant aquatic animals and Ichthyofaunal diversity are responsible for successful avifaunal habit and habitat support.

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