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# AVIFAUNAL DIVERSITY OF FLY ASH POND OF CHANDRAPUR (MS), INDIA.

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#### **ABSTRACT**

Birds belong to class-Aves of super class Tetrapoda. A bird may be described as most beautiful and graceful, bipedal feathered, oviparous, warm blooded vertebrate possessing pair of wings. Many birds species undertaken long distance annual migration to take advantage of global difference of seasonal temperature, therefore optimizing availability of food sources and breeding habitat[1].

Birds are essential animal group of an ecosystem and maintain a tropic level. Therefore, detail study on avifauna and their ecology is important to protect them. The present investigation was carried out to document the avifauna in and around the Fly ash pond located 15 km away from Chandrapur of Maharashtra State and the study is from Oct. 2017 to Sep. 2019 in which 108 species of birds were recorded of 14 different orders and 40 families during the study. Among the recorded species 62 were resident, 34 were resident migrant, 11 were migratory and 01 is resident migratory common. Due to abundant food available throughout the year in fly ash pond in the form of aquatic crustaceans, insects, molluscs etc. the lake always attracts a large number of birds throughout year.

Key words- Avifauna, Fly ash pond, avifaunal diversity, Habit and Habitat.

#### **INTRODUCTION**

Of all the animals, birds have been the most well-known classis because human beings have used them for feeding, communication, pollinating plants, and decorate the home, etc. Also, birds are important to some animals for biological control, for example Rodentia. Birds are important to continue ecologic circle, especially in food chain. They aid in the pollinization of plants. By landing on a plant or sucking the nectar from a flower, and then moving on to the next, a bird does the job usually associated with bees. Birds also have a good system for spreading seeds. They eat berries and then when they "dispose of" their waste, the berry seeds are disposed along with it. Bird feces provide good fertilization for the seeds with which they are dropped, giving seeds very good conditions with which to grow[2].

Diversity of avifauna is one of the most important ecological indicators to evaluate the quality of habitats. Now-a-days, avifaunal diversity has been decreasing due to the destruction of natural habitats and human disturbances. Random destruction of natural habitats by cutting nesting trees and foraging plants for commercial use of woods and lands are the main factor responsible for narrow down in avian foraging habitat and their nesting sites. Thus, many species of birds may be forced to inhabit in the urban areas and constrain them to breed there[3].

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The Fly Ash Pond is a pond of CSTPS for ash & sludge disposal constructed by CSTPS. It is situated in 15 km West side of Chandrapur District of Maharashtra. It is situated at about 627 m above the mean sea level and is at 20°02′52.67″ N latitude and 79°15′15.96″ E longitude and about 410 acres. The fly ash pond is a popular place for bird watcher and it is surrounded by forest to the natural beauty. During the last few decades considerable studies on avifauna diversity from different freshwater bodies of India have been carried out by researchers like, Osmatston (1922), Singh (1929), Ali (1932), Kannon (1980), Davidar (1985), Jhingram (1988), Ghazi (1962), Mujumdar (1984), Newton *et al.*, (1986), Ghosal (1995), Kulkarni*et al.*, (2005), Yardi*et al.*, (2004) and Wadatkar and Kasambe (2002)[4-16]. However very little information is available about avifauna of centre India. This work has therefore undertaken of document the avifauna of Fly Ash Pond of CSTPS located in Chandrapur district.

#### **MATERIAL AND METHODS:**

The present work was carried out from Oct. 2017 to Sep. 2019. The observation were carried out by using a field binocular (7x25x magnification) during the morning (6 to 10 AM) and in the evening (4 to 6 PM) and identification of species was done with the help of standard literature of Woodcock (1980), Ali, S. and Ripley, S.D. (1995)[17-18] and photograph by Canon D70 Camera.

#### **RESULT AND DISCUSSION:**

During the present investigation, a total of 108 birds species belonging to 14 different orders and 40 families during the study. Among the recorded species 62 were resident, 34 were resident migrant, 11 were migratory and 01 is resident migratory common.

Among the recorded Order the species of birds, Anciriformes by 14 species, Ciconiformes by 12, Charadriformes by 11, and 4 each by Galliformes, Coraciformes, and Psittaciformesand 2 each by Pelecaniformes, Falconiformes, Piciformes and Strigiformes, and 1 each by Apodiformes, Caprimulgiformes, Podicipediformesand Galconiformes.

Among the Families recorded species of birds, Ardeidae by 16 species, Scolopacidae by 9, 6 each by Ardeidae and Muscicapidae, Passeridae by 5, 3 each by Corvidae, Gruidae, and Alcedinidae, 2 each by Psittacidae, Cisticolidae, Picidae, Strigidae, Estrildidae, Threskiornithidae, Cuculidae, Campephagidae and Motacillidaeand 1 each by Meropidae, Upupidae, Bucerotidae, Lanidae, Dicrudidae, Pycnonotidae, Necatarinidae, Hirudinidae, Sylvidae, Zosteropidae, Alaudidae, Phasianidae, Apodiae, Rigidae, Oriolidae, Passerinae, Ploceinae, Rhipiduridaes, Rhipiduridae, Podicipedidae, Phasinidae, Recurvirostridae and Glareolidae.

Depending on different scientific classifications, as of today there are over 9000 birds species and more than 1250 in India, with almost 150 having become extinct after the arrival of Humans. 25 to 30 avian orders are recognized depending on the taxonomists. According to Osmaston (1922)[19] studied 135 species of birds from Pachmari (M.P.), Ali (1939, 1940)[20] published a list of 278 species of birds from central India, Newton *et al.*, (1986)[21] have listed the birds of Kanha Tiger Reserve (M.P.), Ghosal (1995)[22] have listed the birds of Kanha Tiger Reserve (M.P.), Wadatkar and Kasambe (2002)[23] reported 171 species of birds at

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Pohara-Malkhed forest reservoir of Amravati district(M.S.), Kedar and Patil (2005)[24] recorded 60 birds species from Rishi lake Karanja (Lad) of Washim district(M.S.), Kulkarni et al., (2005)[25] reported 151 species of birds in and around Nanded city(M.S.), Kulkarni and Kanwate (2006)[26] reported 18 species of birds in Dongarkhed irrigation of Hingoli district. (M.S.), Kedar et al., (2008)[27] recorded 74 species of birds in Rishi and Zedshi lake of Washim district(M.S.), Kanwate and Jadhao (2010)[28] recorded 10 species of birds in Bhokartahsil of Nanded district(M.S.), Thakor et al., (2010)[29] reported 104 species of birds from two reservoirs of Khed district, Gujrat, India. Kurhade (2010)[30] reported 208 species of birds in Jaikwadi reservoirs near Ahmadnagar(M.S.), Kukade et al., (2011)[31] recorded 68 birds species of Chhatri lake of Amravati district(M.S.), Harney, et al., (2012)[32] recorded 37 species of birds from Kanhala pond of Bhadrawati, District Chandrapur (M.S.), Harney, et al., (2013)[33] recorded 37 species of birds from Kanhala pond with preference to feeding habits of Bhadrawati, District Chandrapur (M.S.) and NatarajanMariappan et al., (2013)[34] recorded 92 species of birds from Different Habitats of Agricultural Ecosystem of Pollachi(T.N.)

#### **CONCLUSION**

Total 108 species of Residential, Migratory, Residential Migratory and Residential Migratory Common birds were recorded in the study area. These birds mainly migrate for good breeding, feeding groundsor to escape winter of their native habitat. Occurrences of umber of migratory birds in the study area, every year is excellent indicator of the state of favorable environment. Considering above facts there is need to aware the people about richness of the place and to take the steps towards conservation of such diversified avifauna.

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## Table 1: Avifaunal diversity of Fly Ash Pond of Chandrapur

Sr.	Common	Scientific	Order/Family	Habit
No.	name	name		
1.	Little Grebe	Tachybaptusruficollius	Podicipediformes/ Podicipedidae	R
2.	Grey Heron	Ardeacinerea	Ciconiformes/ Ardeidae	RM
3.	Indian Pond Heron	Aredeolagrayii	Ciconiformes/ Ardeidae	R
4.	Cattle Egret	Bubulcus ibis	Ciconiformes/ Ardeidae	RM
5.	Large Egret	Casmerodiusalbus	Ciconiformes/ Ardeidae	RM
6.	Little Egret	Egrettagarzetta	Ciconiformes/ Ardeidae	RM
7.	Intermediate Egret	Mesophoyxintermedia	Ciconiformes/ Ardeidae	RM
8.	Asian Open Bill Stork	Anastomusosciatans	Ciconiformes/ Ciconidae	R
9.	Black Nacked Stork	Ephippiorhyrichosasiaticus	Ciconiformes/ Ciconidae	M
10.	Painted Stork	Mycterialeucocephala	Ciconiformes/ Ciconiidae	M
11.	Black Ibis	Pseudibispapillosa	Ciconiformes/ Threskiornithidae	RM
12.	Eurasian Sponbill	Platelealeucorodia	Ciconiformes/ Threskiornithidae	M
13.	Common Snipe	Gallinagegallinago	Ciconiformes/ Scolopacidae	M
14.	Spot Bill Duck	Anaspoecilorhyncha	Anciriformes/ Anatidae	RM
15.	Cotton Teal	Nettapuscoromandelianus	Anciriformes/ Anatidae	M
16.	Northern Shoveler	Anasclypeata	Anciriformes/ Anatidae	M
17.	Red CreastedPochard	Rhodonessarufina	Anciriformes/ Anatidae	M
18.	Common Pochard	Aythyaferina	Anciriformes/ Anatidae	M
19.	Eurasian Wigeon	Anaspenelope	Anciriformes/ Anatidae	M
20.	Tufted duck	Aythyafuligula	Anciriformes/ Anatidae	M
21.	Common Teal	Anascrecca	Anciriformes/ Anatidae	M
22.	Gargancy	Anasquerquedula	Anciriformes/ Anatidae	M

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Sr.	Common	Scientific	Order/Family	Habit
No.	name	name		
23.	Rudy Shelduck	Tadornaferruginea	Anciriformes/ Anatidae	M
24.	Cotton Pygmy- Goose	Nettapuscoromandeianus	Anciriformes/ Anatidae	М
25.	Bar-Headed Goose	Anserindicus	Anciriformes/ Anatidae	М
26.	Northern Pintail	Anasacuta	Anciriformes/ Anatidae	М
27.	Gadwal	Anasstrepera	Anciriformes/ Anatidae	М
28.	Black Winged Kite	Elanuscaeruleus	Falconiforme/ Anatidae	R
29.	Black Kite	Milvusmigrans	Falconiformes/ Anatidae	R
30.	Grey Francolin	Fracolinuspondicerianus	Galliformes/ Phasinidae	R
31.	White-Breasted Water Hen	Amauromisphoenicurus	Galliformes/ Gruidae	R
32.	Purple Moorhen	Porphyrioporphyrio	Galliformes/ Gruidae	R
33.	Common Coot	Fulicaatra	Galliformes/ Gruidae	RM
34.	Little Cormorant	Phalacrocoraxniger	Pelecaniformes/ Phalcrocoracidae	RM
35.	Black Winged Stilt	Himantopushimantopus	Charadriformes/ Recurvirostridae	R
36.	Red wattled Lapwing	Vanellusindicus	Charadriformes/ Charadridae	R
37.	Common Greenshank	Tringanebularia	Charadriformes/ Scolopacidae	RM
38.	Common Sandpiper	Actitishypoleucos	Charadriformes/ Scolopacidae	RM
39.	Green Sandpiper	Tringaochropus	Charadriformes/ Scolopacidae	RM
40.	Wood Sandpiper	Tringaglareola	Charadriiformes/ Scolopacidae	RM
41.	Common Redshank	Tringatotanus	Charadriformes/ Scolopacidae	RM
42.	Black Tailed Godwit	Limosalimosa	Charadriformes/ Scolopacidae	RM

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Sr.	Common	Scientific	Order/Family	Habit
No.	name	name		
43.	Little Ringe Plover	Charadriusdubius	Charadriformes/ Charadridae	RM
44.	Ruff	Philomachuspugnax	Charadriformes/ Scolopacidae	RM
45.	Pintail Snipe	Gallingestenura	Charadriformes/ Scolopacidae	RM
46.	Indian Courser	Cursoriuscoromandelicus	Charadriformes/ Glareolidae	RM
47.	Little Brown Dove	Stigmatopeliasenegalensis	Columbiformes/ Columbidae	R
48.	Yellow Footed Green Pigeon	Treronphoenicopterus	Columbiformes/ Columbidae	R
49.	Rock (Blue) Pigeon	Columba livia	Columbiformes/ Columbidae	R
50.	Eurasian Collared (Indian Ring) Dove	Streptopeliadecaocto	Columbiformes/ Columbidae	R
51.	Spotted Dove	Streptopeliachinensis	Columbiformes/ Columbidae	R
52.	Rose Ringed Parakeet	Psittaculakrameri	Psittaciformes/ Psittacidae	R
53.	Plum Headed Parakeet	Psittaculacyanocephala	Psittaciformes/ Psittacidae	R
54.	Asian Koel	Eudynamysscolopaceus	Psittaciformes/ Cuculidae	R
55.	Greater Coucul	Centropussinensis	Psittaciformes/ Cuculidae	R
56.	Small Blue Kingfisher	Alcedoatthis	Coraciformes/ Alcedinidae	RM
57.	White Breasted Kingfisher	Halyconsmyrnesis	Coraciformes/ Alcedinidae	R
58.	Small Green Bee Eater	Meropsorientalis	Coraciformes/ Meropidae	R
59.	Indian Roller	Coraciasbenghalensis	Coraciformes/ Coraciidae	RM
60.	Common Hoopoe	Upupaepops	Coraciformes/ Upupidae	RM
61.	Indian Grey Hornbill	Ocycerosbirostris	Coraciformes/ Bucerotidae	R
62.	Pied Kingfisher	Cerylerudis	Coracifomes/ Alcedinidae	R

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Sr.	Common	Scientific	Order/Family	Habit
No.	name	name		
63.	Rufousbacked Shrike	Laniusschach	Passeriformes/ Lanidae	R
64.	Black Drongo	Dicrurusmacrocercus	Passeriformes/ Dicrudidae	R
65.	Common Myna	Acridotherestristis	Passeriformes/ Sturnidae	R
66.	Brahminy Starling	Sturniapagodarum	Passeriformes/ Sturnidae	R
67.	Brahminy Myna	Sturnuspagodarum	Passeriformes/ Sturnidae	R
68.	Pied Myna	Sturnus contra	Passeriformes/ Sturnidae	R
69.	Red Vented Bulbul	Pycnonotuscafer	Passeriformes/ Pycnonotidae	R
70.	Jungal Babbler	Turdoidesstriat	Passeriformes/ Muscicapidae	R
71.	Indian Robin	Saxicolodiesfulicatus	Passeriformes/ Muscicapidae	R
72.	Purple Sunbird	Cinnyrisasiaticus	Passeriformes/ Necatarinidae	R
73.	Pheasant Tailed Jacana	Hydrophasianuschirurgus	Passeriformes/ Passeridae	R
74.	Common Swallow	Hirundorustica	Passeriformes/ Hirudinidae	RMC
75.	Bay Backed Shrike	Laniusvittatus	Passeriformes/ Laniidae	R
76.	House Crow	Corvussplendens	Passeriformes/ Corvidae	R
77.	Jungal Crow	Corvusmacrorhynchos	Passeriformes/ Corvidae	R
78.	Yellow Eyed Babbler	Chrysommasinense	Passeriformes/ Sylvidae	R
79.	Grey Hheaded Canary Flycatcher	Culicicapaceylonensis	Passeriformes/ Muscicapidae	R
80.	Asian Paradise Flycatcher	Terpsiphoneparadisi	Passeriformes/ Muscicapidae	R
81.	Oriental Magpie Robin	Copsychussaularis	Passeriformes/ Muscicapidae	R
82.	Pied Bushchat	Saxicolacaprata	Passeriformes/ Muscicapidae	R
83.	Common Woodshrike	Tephrodornispondicerianus	Passeriformes/ Campephagidae	R

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Sr.	Common	Scientific	Order/Family	Habit
No.	name	name		
84.	Small Minivet	Pericrocotuscinnaoeus	Passeriformes/ Campephagidae	R
85.	Ashy Prinia	Priniasocialis	Passeriformes/ Cisticolidae	R
86.	Oriental White Eye	Zosteropspalpebrosus	Passeriformes/ Zosteropidae	R
87.	Common Tailorbird	Orthotomussutorus	Passeriformes/ Cisticolidae	R
88.	Paddyfield Pipit	Anthusrufulus	Passeriformes/ Passeridae	R
89.	Ashy Crowned Sparrow Lark	Ereopterixgrisea	Passeriformes/ Alaudidae	R
90.	White Browed Wagtail	Motacillmaderaspatensis	Passeriformes/ Motacillidae	R
91.	Red Aavadavat	Amandavaamandava	Passeriformes/ Estrildidae	R
92.	Indian Silverbill	Lonchuramalabarica	Passeriformes/ Estrildidae	R
93.	Indian Peafowl	Pavocristatus	Galconiformes/ Phasianidae	R
94.	Yellow-Crowned Woodpecker	Dendrocopusmahrattensis	Piciformes/ Picidae	R
95.	Black RumpedFlameback	Dinopiumbenghalense	Piciformes/ Picidae	R
96.	Pied Cuckoo	Clamatorjacobinus	Cuculiformes/ Cuculidae	R
97.	Common Cuckoo	Cuculuscanorus	Cuculiformes/ Cuculidae	R
98.	Southern Coucal	Centropusparroti	Cuculiformes/ Cuculidae	R
99.	Collared Scops Owl	Otusbakkamoena	Strigiformes/ Strigidae	R
100	Spotted Owlet	Athenebrama	Strigiformes/ Strigidae	R
101	House swift	Apusaffinis	Apodiformes/ Apodiae	R
102	Indian Nightjar	Caprimulgusasiaticus	Caprimulgiformes/ Strigidae	R
103	Indian Cormorant	Phalacrocoraxfusicollis	Pelecaniformes/ Phalcrocoracidae	R
104	Eurasian Golden Oriole	Oriolusoriolus	Motacillidae/ Oriolidae	R
105	Rufous (Indian)	Dendrocittavagabunda	Passeridae/ Corvidae	R

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Sr.	Common	Scientific	Order/Family	Habit
No.	name	name		
	Treepie			
106	House Sparrow	Passer domesticus	Passeridae/ Passerinae	R
107	Baya Weaver	Ploceusphilippinus	Passeridae/ Ploceinae	R
108	White Browed Fantail	Rhipiduraaureola	Rhipiduridaes/ Rhipiduridae	R

R = Residential M = Migratory

RM = Residential Migratory RMC = Residential Migratory Common



Fig.- Image of Fly Ash Pond