
Avifaunal Diversity of Junona Lake near Chandrapur (MS), India.**Harney, N.V.**Department of Zoology, Nilkanthrao Shinde Science and Arts College,
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Abstract: Birds are essential animal group of an ecosystem and maintain a trophic 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 Junona Lake located 12 km South to Chandrapur district of Maharashtra State and the study is from Oct. 2012 to Sep. 2014 in which 99 species of birds were recorded of 22 different orders and 54 families during the study. Among the recorded species 74 were resident, 17 were resident migrant and 08 were migratory.

Key words- Avifauna, Junona Lake, avifaunal diversity.**Introduction:**

Birds are found throughout the world, at approximately all altitudes and in nearly every climate. They are a natural way to control pests in gardens, on farms, and other places. 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.

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.

The Junona lake is the principal freshwater bodies situated south side and the area of this lake is spread over near about 300 acre, 12 km away from the Chandrapur city, located in the Chandrapur district of Maharashtra state, India. It is situated at about 677 m. above mean sea level and is at 79°23'35.97" E longitude and 19°55'29.92" N latitude. The water of this lake is primary used for washing, bathing and fishing activities.

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). However very little information is available about avifauna of centre India. This work has therefore undertaken of document the avifauna of water bodies located in Junona village near the Chandrapur city which lies in the central region of the country.

The Junona lake is harbor a large number of fauna which attract the birds shown that the entire lake basin is highly productive and conductive to all kinds of birds. The Junona lake is harbors a number of aquatic weeds in the submerged as well as floating state on which thrive a large number of organisms. Due to abundant food available throughout the year in Junona lake in the form of aquatic crustaceans, insects, molluscs etc. the lake always attracts a large number of birds throughout year and the special feature of this lake is the presence of Sarus crane throughout the year.

Material and methods:

The present work was carried out from Oct. 2012 to Sep. 2014. 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).

Result and Discussion:

Results of this study will also enable us to be aware of the ecological condition of our environment, as birds are important ecological indicators responsive to changes in the environment. During the present investigation, a total of 99 birds species belonging to 22 different orders and 54 families were recorded from the Junona lake.

Among the recorded order the species of birds, 30 species belongs to Passeriformes, 12 species belongs to Charadriiformes, 11 species

belongs to species belongs to Ciconiformes, 7 species belongs to Coraciformes, 5 species belongs to Columbiformes, 4 species each belongs to Galliformes, Psittaciformes and Anciriformes, 3 species belongs to Cuculiformes, 2 species each belongs to Piciformes and Falconiformes, Strigiformes and 1 each species belongs to Podicipediformes, Pelecaniformes, Galconiformes, Apodiformes, Caprimulgiformes, Pelecaniformes, Passerinae, Ploceinae, Gruiformes and Rhipiduridae.

Among the families recorded species of birds 7 species belongs to Scolopacidae families, 6 species belongs to Anatidae, 5 species belongs to Columbidae and Ardeidae, 4 species belongs to Gruidae, Sturnidae and Muscicapidae, 3 species belongs to Passeridae, Cuculidae and Ciconidae, 2 species each belongs to Charadriidae, Psittacidae, Cuculidae, Alcedinidae, Phasinidae, Lanidae, Muscicapidae, Corvidae, Estrildidae, Picidae, Strigidae, Scolopacidae and 1 species each belongs to Ardeidae, Glareolidae, Phalacrocoracidae, Recurvirostridae, Threskiornithidae, Podicipedidae, Meropidae, Coraciidae, Upupidae, Bucerotidae, Alcedinidae, Dicuridae, Pycnonotidae, Necatarinidae, Hirudinidae, Sylvidae, Campephagidae, Cisticolidae, Campephagidae, Zosteropidae, Cisticolidae, Alaudidae, Motacillidae, Apodidae, Strigidae, Phalacrocoracidae, Motacillidae, Oriolidae, Corvidae, Ploceinae, Phipiduridae and Rallidae.

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) studied 135 species of birds from Pachmari (M.P.), Ali (1939, 1940) published a list of 278 species of birds from central India, Newton *et al.*, (1986) have listed the birds of Kanha Tiger Reserve (M.P.), Ghosal (1995) have listed the

birds of Kanha Tiger Reserve (M.P.), Wadtkar and Kasambe (2002) reported 171 species of birds at Pohara-Malkhed forest reservoir of Amravati district(M.S.), Kedar and Patil (2005) recorded 60 birds species from Rishi lake Karanja (Lad) of Washim district(M.S.), Kulkarni *et al.*, (2005) reported 151 species of birds in and around Nanded city(M.S.), Kulkarni and Kanwate (2006) reported 18 species of birds in Dongarkhed irrigation of Hingoli district. (M.S.), Kedar *et al.*, (2008) recorded 74 species of birds in Rishi and Zedshi lake of Washim district(M.S.), Kanwate and Jadhao (2010) recorded 10 species of birds in Bhokar tahsil of Nanded district(M.S.), Thakor *et al.*, (2010) reported 104 species of birds from two reservoirs of Khed district, Gujrat, India. Kurhade (2010) reported 208 species of birds in Jaikwadi reservoirs near Ahmadnagar(M.S.), Narwade and Fartade (2011) recorded 165 species of birds of Osmanabad district(M.S.), Kukade *et al.*, (2011) recorded 68 birds species of Chhatri lake of Amravati district(M.S.), Harney, *et al.*, (2012) recorded 37 species of birds from Kanhala pond of Bhadrawati, District Chandrapur (M.S.), Joshi and K. Shrivastava (2012) reported 64 species of birds in Tawa reservoir of Hoshangabad district(M.P.), Patel *et al.*,(2012) recorded 70 species of birds of Mahi canal site of Nadiad(Gujrat state), Harney, *et al.*, (2013) recorded 37 species of birds from Kanhala pond with preference to feeding habits of Bhadrawati, District Chandrapur (M.S.) and Natarajan Mariappan *et al.*, (2013) recorded 92 species of birds from Different Habitats of Agricultural Ecosystem of Pollachi(T.N.)

The birds present in and around the Junona lake are affected by many factors such as organic pollution, distribution by human activities and lack of maintenance of lake and construction activities, yet the avifauna of Junona lake is diverse. Keeping in view the varied avifauna recorded, steps should be taken to do proper maintenance and beautification of the lakes.

REFERENCES:

- Ali, S. (1932) Flowers birds and birds flower in India. *J. Bom. Nat. Hist. Soc.* Vol.35:573-605.
- Ali, S. (1939) The birds of central India, Part-1. *J. Bom. Nat. Hist. Soc.* Vol.41(1): 82-106.
- Ali, S. and Ripley, S.D. (1995) A pictorial guide to the birds of the Indian subcontinent. Bombay Natural history society, Mumbai.
- Davidar, P. (1985) Ecological interactions between the mistletoes and their avian pollinators in south India. *J. Bom. Nat. Hist. Soc.* Vol.82: 45-60.
- Ghazi, H.K. (1962) Piscivorous birds of Madras, *Madras. J. of fisheries.* Vol. 1(1): 106-107.
- Ghosal, D.N. (1995) Avifauna of conservation areas, No. 7, Fauna of Kanha Tiger Reserve. *Zoological survey of India (ZSI)*, pp.63-91.
- Grimmet, Richard; Inskipp, Carol and Inskipp, Tim (1999) A pocket guide to the birds of the Indian subcontinent. Oxford University Press, Mumbai.
- Harney, N.V., A.A. Dhamani and R.J. Andrew (2011) Studies on avifaunal diversity of three water bodies near Bhadrawati, Distt. Chandrapur (MS) *ISRJ*, Vol.1(6):216-218.
- Harney N.V., A.A. Dhamani & R.J. Andrew (2012) Avifaunal diversity in and around Kanhala lake near Bhadrawati, Dist-Chandrapur (MS), India. *Bionano Frontier*

Vol.5(2-I):30-33.

Harney N.V., A.A. Dhamani & R.J. Andrew (2013) Avifaunal diversity of Kanhala lake near Bhadrawati, Dist-Chandrapur (MS), with reference to food preference and feeding habits. India. *ISRJ Special Issue*, pp.57-59.

Jhingran, V.G. (1988) Fish and fisheries of India. Hindustan Publishing cooperation, New Delhi. pp.1-664.

Joshi, Pragati and Vinoy K. Shrivastava (2012) Avifaunal diversity of Tawa reservoir and its surrounding area of Hoshangabad district(M.P.). *International Journal of Plant, Animal and Environmental Sciences*. Vol. 2(1):46-51.

Kannan, P. (1980) Nectar feeding adaptation of flower birds. *J. Bom. Nat. Hist. Soc.* Vol.75(Suppl) 1036-1050.

Kanwate, V.S. and V.S. Jadhao(2010) Piscivorous birds of Dhanora tank in Bhokar tahsil of Nanded district, Maharashtra. *J.of Ecology and fisheries*. Vol.3(1):27-30.

Kedar, G.T. and Patil, G.P. (2005) Avifaunal diversity of Rishi lake, Karanja (Lad), Maharashtra with reference to food preference and feeding habits. *J. Aqua. Biol.* Vol.20(1): 35-38.

Kedar, G.T., Patil, G.P. and Yeole, S.M. (2008) Comparative study of a avifaunal status of two freshwater lakes of Washim district, Maharashtra. *J. Aqua. Biol.* Vol.23(1): 29-33.

Kukade, R.J., Warhekar, S.R., Tippat, S.K. and Dudhey, N.S. (2011) Avifaunal diversity of Chatri lake, Amravati, Maharashtra. Proceedings of UGC sponsored National level conference on "Environmental Biology and Biodiversity" NCEBB, 2011.

Kulkarni, A.N. and Kanwate, V.S. (2006) Piscivorous birds of Dongarkheda irrigation tank, Dist. Hingoli, Maharashtra, *J. Aqua. Biol.* Vol.21(1): 86-87.

Kulkarni, A.N., Kanwate, V.S. and Deshpande, V.D. (2005) Birds in and around Nanded city, Maharashtra. *Zoo's print journal*, Vol.20(11): 2076-2078.

Kurhade, Sudhakar (2010) Status and Diversity of avifauna in Jaikwadi reservoirs, Maharashtra. *J. Aqua. Biol.* Vol.25(1): 32-40.

Narwade, Sujit and Fartade, M.M. (2011) Birds of Osmanabad district of Maharashtra, India. *Journal of Threatened Taxa*. Vol.3(2):1567-1576.

Natarajan Mariappan, B.K. Ahamed Kalfan, Srinivasagam Krishnakumar (2013)

Assessment of Bird Population in Different Habitats of Agricultural Ecosystem.

JSRES, Vol. 1(11): 306-316.

Newton, P.N., Brudin, S. and Guy, J. (1986) The birds of Kanha Tiger Reserve Madhya Pradesh, India. *J. Bom. Nat. Hist. Society*. Vol.83(3): 977-998.

Osmaston, B.B. (1922) A Birds Of Pachmari. *J. Bom. Nat. Hist. Soc.* Vol.28: 453-459.

Patel, K.B., S.B. Patel and Nikunj Bhatt (2012) Avian diversity of mahi canal site of Nadiad, Gujrat. *Life Science Leaflets*. Vol.4: 12-19.

Singh, T.C.N. (1929) A note of the pollination of Erythring Indica by birds. *J. Bom. Nat. Hist.Soc.* Vol.33:960-462.

Thakor, F.J., Achrya, C.A., Bhoi, D.K., Prajapati, J.R. and Vaidya, J.S. (2010) A comparative study of avifauna from two reservoirs in Khed District, Gujrat, India. *J. Aqua. Biol.* Vol.25(1): 41-45.

Wadatkar, J.S. and Kasambe, R. (2002) Checklist of Birds from Pohara-Malkhed reserve forest, Distt. Amravati, Maharashtra. *Zoos. Print Journal*. Vol.17(66): 807-811.

Woodcock, M. (1980) Collins Handguide to the Birds of Indian subcontinent. 2nd Edn. Collins, London.

Table 1 Birds species in Junona Lake

Sr.No.	Order/Family	Scientific name	Common name	Habit
1.	Podicipediformes Podicipedidae	<i>Tachybaptus ruficollis</i>	Little Grebe	RM
2.	Ciconiformes Ardeidae	<i>Ardea cinerea</i>	Grey Heron	RM
3.	Ciconiformes Ardeidae	<i>Ardeola grayii</i>	Indian Pond Heron	R
4.	Ciconiformes Ardeidae	<i>Bubulcus ibis</i>	Cattle Egret	R
5.	Ciconiformes Ardeidae	<i>Casmerodius albus</i>	Large Egret	RM
6.	Ciconiformes Ciconidae	<i>Anastomus osciatus</i>	Asian Open Bill Stork	R

Sr.No.	Order/Family	Scientific name	Common name	Habit
7.	Ciconiformes Ciconidae	<i>Ephippiorhyrchos asiaticus</i>	Black Necked Stork	M
8.	Ciconiformes Threskiornithidae	<i>Pseudibis papillosa</i>	Black Ibis	RM
9.	Ciconiformes Scolopacidae	Gallinago gallinago	Common Snipe	R
10.	Ciconiformes Ardeidae	Mesophoyx intermedia	Intermediate Egret	R
11.	Ciconiformes Ciconiidae	Mycteria leucocephala	Painted Stork	M
12.	Ciconiformes Ardeidae	Egretta garzetta	Little Egret	R
13.	Anciriformes Anatidae	<i>Anas poecilorhyncha</i>	Spot Bill Duck	RM
14.	Anciriformes Anatidae	Nettapus coromandelianus	Cotton Teal	M
15.	Falconiformes Anatidae	<i>Elanus caeruleus</i>	Black Winged Kite	R
16.	Falconiformes Anatidae	<i>Milvus migrans</i>	Black Kite	R
17.	Galliformes Phasianidae	<i>Fracolinus pondicerianus</i>	Grey Francolin	R
18.	Galliformes Gruidae	<i>Amauromis phoenicurus</i>	White-Breasted Water Hen	R
19.	Galliformes Gruidae	<i>Porphyrio porphyrio</i>	Purple Moorhen	R
20.	Galliformes Gruidae	<i>Fulica atra</i>	Common Coot	M
21.	Pelecaniformes Phalacrocoracidae	<i>Phalacrocorax niger</i>	Little Cormorant	RM
22.	Charadriiformes Recurvirostridae	<i>Himantopus himantopus</i>	Black Winged Stilt	R
23.	Charadriiformes Charadriidae	<i>Vanellus indicus</i>	Red wattle Lapwing	R
24.	Charadriiformes Scolopacidae	<i>Actitis hypoleucos</i>	Common Sandpiper	RM
25.	Charadriiformes Glareolidae	Cursorius coromandelicus	Indian Courser	R
26.	Charadriiformes Scolopacidae	Tringa nebularia	Common Greenshank	RM
27.	Charadriiformes Scolopacidae	Tringa ochropus	Green Sandpiper	M
28.	Charadriiformes Scolopacidae	Tringa glareola	Wood Sandpiper	R
29.	Charadriiformes Scolopacidae	Tringa totanus	Common Redshank	RM
30.	Charadriiformes Scolopacidae	Limosa limosa	Black Tailed Godwit	RM

Sr.No.	Order/Family	Scientific name	Common name	Habit
31.	Charadriiformes Charadriidae	<i>Charadrius dubius</i>	Little Ringe Plover	R
32.	Charadriiformes Scolopacidae	<i>Philomachus pugnax</i>	Ruff	R
33.	Charadriiformes Scolopacidae	<i>Gallinago stenura</i>	Pintail Snipe	R
34.	Columbiformes Columbidae	<i>Stigmatopelia senegalensis</i>	Little Brown Dove	R
35.	Columbiformes Columbidae	<i>Treron phoenicopterus</i>	Yellow Footed Green Pigeon	R
36.	Columbiformes Columbidae	<i>Columba livia</i>	Rock (Blue) Pigeon	R
37.	Columbiformes Columbidae	<i>Streptopelia decaocto</i>	Eurasian Collared (Indian Ring) Dove	R
38.	Columbiformes Columbidae	<i>Streptopelia chinensis</i>	Spotted Dove	R
39.	Psittaciformes Psittacidae	<i>Psittacula krameri</i>	Rose Ringed Parakeet	R
40.	Psittaciformes Cuculidae	<i>Eudynamis scolopaceus</i>	Asian Koel	R
41.	Psittaciformes Cuculidae	<i>Centropus sinensis</i>	Greater Coucul	R
42.	Psittaciformes Psittacidae	<i>Psittacula cyanocephala</i>	Plum Headed Parakeet	R
43.	Coraciformes Alcedinidae	<i>Alcedo atthis</i>	Small Blue Kingfisher	RM
44.	Coraciformes Alcedinidae	<i>Halycon smyrnesis</i>	White Breasted Kingfisher	R
45.	Coraciformes Meropidae	<i>Merops orientalis</i>	Small Green Bee Eater	R
46.	Coraciformes Coraciidae	<i>Coracias benghalensis</i>	Indian Roller	RM
47.	Coraciformes Upupidae	<i>Upupa epops</i>	Common Hoopoe	RM
48.	Coraciformes Bucerotidae	<i>Ocyrceros birostris</i>	Indian Grey Hornbill	R
49.	Coraciformes Alcedinidae	<i>Ceryle rudis</i>	Pied Kingfisher	R
50.	Passeriformes Lanidae	<i>Lanius schach</i>	Rufousbacked Shrike	R
51.	Passeriformes Dicrudidae	<i>Dicrurus macrocercus</i>	Black Drongo	R
52.	Passeriformes Sturnidae	<i>Acridotheres tristis</i>	Common Myna	R
53.	Passeriformes Sturnidae	<i>Sturnia pagodarum</i>	Brahminy Starling	M
54.	Passeriformes Pycnonotidae	<i>Pycnonotus cafer</i>	Red Vented Bulbul	R

Sr.No.	Order/Family	Scientific name	Common name	Habit
55.	Passeriformes Muscicapidae	<i>Turdoides striat</i>	Jungal Babbler	R
56.	Passeriformes Muscicapidae	<i>Saxicolodies fulicatus</i>	Indian Robin	R
57.	Passeriformes Necatarinidae	<i>Cinnyris asiaticus</i>	Purple Sunbird	R
58.	Passeriformes Passeridae	<i>Hydrophasianus chirurgus</i>	Pheasant Tailed Jacana	R
59.	Passeriformes Hirudinidae	<i>Hirundo rustica</i>	Common Swallow	RM
60.	Passeriformes Laniidae	<i>Lanius vittatus</i>	Bay Backed Shrike	R
61.	Passeriformes Sturnidae	<i>Sturnus pagodarum</i>	Brahminy Myna	R
62.	Passeriformes Sturnidae	<i>Sturnus contra</i>	Pied Myna	R
63.	Passeriformes Corvidae	<i>Corvus splendens</i>	House Crow	R
64.	Passeriformes Corvidae	<i>Corvus macrorhynchos</i>	Jungal Crow	R
65.	Passeriformes Sylviidae	<i>Chrysomma sinense</i>	Yellow Eyed Babbler	R
66.	Passeriformes Muscicapidae	<i>Culicicapa ceylonensis</i>	Grey Headed Canary Flycatcher	RM
67.	Passeriformes Muscicapidae	<i>Terpsiphone paradisi</i>	Asian Paradise Flycatcher	RM
68.	Passeriformes Muscicapidae	<i>Copsychus saularis</i>	Oriental Magpie Robin	R
69.	Passeriformes Campephagidae	<i>Tephrodornis pondicerianus</i>	Common Woodshrike	R
70.	Passeriformes Muscicapidae	<i>Saxicola caprata</i>	Pied Bushchat	R
71.	Passeriformes Cisticolidae	<i>Prinia socialis</i>	Ashy Prinia	R
72.	Passeriformes Campephagidae	<i>Pericrocotus cinnaoeus</i>	Small Minivet	R
73.	Passeriformes Zosteropidae	<i>Zosterops palpebrosus</i>	Oriental White Eye	R
74.	Passeriformes Cisticolidae	<i>Orthotomus sutorus</i>	Common Tailorbird	R
75.	Passeriformes Passeridae	<i>Anthus rufulus</i>	Paddy field Pipit	R
76.	Passeriformes Alaudidae	<i>Ereopterix grisea</i>	Ashy Crowned Sparrow Lark	R
77.	Passeriformes Motacillidae	<i>Motacill maderaspatensis</i>	White Browed Wagtail	R

Sr.No.	Order/Family	Scientific name	Common name	Habit
78.	Passeriformes Estrildidae	Amandava amandava	Red Aavadavat	R
79.	Passeriformes Estrildidae	Lonchura malabarica	Indian Silverbill	R
80.	Galconiformes Phasianidae	Pavo cristatus	Indian Peafowl	R
81.	Piciformes Picidae	Dendrocopus mahrattensis	Yellow-Crowned Woodpecker	R
82.	Piciformes Picidae	Dinopium benghalense	Black Rumped Flameback	R
83.	Cuculiformes Cuculidae	Clamator jacobinus	Pied Cuckoo	R
84.	Cuculiformes Cuculidae	Cuculus canorus	Common Cuckoo	R
85.	Cuculiformes Cuculidae	Centropus parroti	Southern Coucal	RM
86.	Strigiformes Strigidae	Otus bakkamoena	Collared Scops Owl	R
87.	Strigiformes Strigidae	Athene brama	Spotted Owlet	R
88.	Apodiformes Apodidae	Apus affinis	House swift	R
89.	Caprimulgiformes Strigidae	Caprimulgus asiaticus	Indian Nightjar	R
90.	Pelecaniformes Phalacrocoracidae	Phalacrocorax fuscicollis	Indian Cormorant	R
91.	Motacillidae Oriolidae	Oriolus oriolus	Eurasian Golden Oriole	R
92.	Passeridae Corvidae	Dendrocitta vagabunda	Rufous (Indian) Treepie	R
93.	Passeridae Passerinae	Passer domesticus	House Sparrow	R
94.	Passeridae Ploceinae	Ploceus philippinus	Baya Weaver	R
95.	Gruiformes Gruidae	Grus antigone	Sarus Crane	R
96.	Rhipiduridae Rhipiduridae	Rhipidura aureola	White Browed Fantail	R
97.	Anseriformes Anatidae	Anser indicus	Bar Headed Goose	M
98.	Anseriformes Anatidae	Tadorna ferruginea	Brahminy shelduck	M
99.	Gruiformes Rallidae	Amauornis phoenicurus	White-breasted Waterhen	R

R = Residential

M = Migratory

RM = Residential Migratory