Biodiversity of Birds in Nari and PiliNadi,area,Nagpur (M.S.)

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ABSTRACT

Birds are entomophagous consume insect and pests which destroy the standing crops , fruits etc. the agrobios system of the world. Birds are scavengers; provide food to human because they are agents of seed dispersal and pollinators. Anthropogenic activity, urbanization and mobile communication and degradation of habitats and decline in species and bird population throughout the globe.

To asses the current trend of avian biodiversity a field survey was done in Pili-Nadi,Nari forest and the ecotone (edge effect) area i.e. bridged and boundary of Nari forest in Nari village located at21 ^{0}11'51''N and 76^{0}6'37'E. Direct observations for bird watching was done visually and using binocular (Olympus 8x40 and 10x50) , photography was done using DSLR and Mi 3S prime camera.

In the marshy aquatic habitat birds recorded included the painted- stork, purpleswamphen, black winged stilt, little cormorant, pond heron, cattle-egret and black crown night heron all the birds feed on fishes, frog crustaceans (crabs) ,dragon flies,damselflies,insectsetc,available in the rapid fast flowing zone and slow moving and standing (lentic) zone of Pili-Nari. The lotic stretch of Pili-Nadi exhibit rapid flow of water in rainy season,the moderate amount of dissolved oxygen, and moderate-heavy availability of nitrogen and phosphorus nutrients due to organic matter and domastic sewage support luxuriant growth of algae,anddiatoms,mosses on the stone walls aquatic macrophyte in the shore area support the above mentioned vertebrates and invertebrates fauna. In the Nari village; border of Nari forest,Nari village and the bridge area which forms the ecotone /edge effect the terrestrial, arboreal and sometimes aquatic birds sighted. Terrestrial-arboreal birds like black –breasted weaver, Indian white eye, pied king fisher, green bee-eater,blue tailed bee-eater, Indian myna, Indian pitta,Indian ringed parrot, Asian pied starling,Orange –headed thrush, Common hawk-cucoo, African paradise flycatcher, Indian roller, brown quail, rock pigeon, rufous tree-pie,tricolouredmunia, Indian golden oriole and prey /raptor birds like Shikra, bald eagle and Indian eagle- owl were recorded.

The PiliNadi water i.e. heavily polluted with inorganic and organic pollutants, dead animals etc. Migratory birds, residential birds spread avian influenza virus, Herpes virus, pox- virus,bacterial psittacosis, salmonellosis, fungal and mycobacterioses diseases respectively in healthy birds and kill these birds.

Wild raptors and passerines after ingesting food and water contaminated by bird earacasses develop watery –lesions on head,legs,feetetc,which decline their health status and take their toll. Aquatic birds suffer from Giardia intestinalis and other worm infections. To protect these birds from zoonotic –diseases periodic,regular,cleaning of Pili-Nadi by NMC and other authorities is essential garbage in the river and mountain the forest area which is necessary to conserve the above recorded 28 species of birds. Artificial tanks containing health food for birds will keep them healthy and free from avian diseases.

Keywords : Birds, Pili-Nadi, pollution ,diseases,conservation,ecotone.

1. INTRODUCTION

Birds are of great importance to the human society because they consume insect and pests which damage the standing crops,vegetables and fruits in the arobios system of the world. Other functions perform by them include

scavenging,seed dispersal and as pollinating agents.Birds provide rich food to humans Chitampally (1993).Salim Ali (1936) initiated studies on economic ornithologywhich laid the basis of scientific study of air fauna of Indian Sub continent.

Anthropogenic activity, urbanization and mobile communication technology has led to destruction, fragmentation and degradation of habitats of birds throughout the world. Modern search techniques were employed to know where abouts of Jerdon's Courser the most endangered bird of India (Chavan and Barber2012).The Bengalflarican is a criticallyendangered bird, about less than350 birds in India, to overgrazing of its grass land habitat (Birds life International,IUCN,Red list,2016).

To assessthe current trend of avian biodiversity a field survey was under taken in Nari area and PiliNadi in Nagpur city

2. MATERIALS AND METHODS

The study are in Nari village located at 21 ^{0}11'51''N and 76^{0}6'37'E near PiliNadi. The water body i.e.PiliNadi is a small naturalriver,not very deep,receives water from GorewadaDam.At the boundary the Nari forest contain tall trees, herbs and shrubs. To assess the air fauna biodiversity survey was carried from August 2018 to March2019,river was visitedin the early morning ,evening,and sometimes in the afternoonto know the activities of birds.The bridge leading to forest area side was also surveyed.Direct observations for birds watching was done using binocular(Olympus 8 x40 and 10 x50). Birds were photographed with DSLR and Mi3S prime cameras .

According to feeding status habits and status and birds were documented as Rare,Residential (RS) and Common(C).

3. OBSERVATION

Table no. 1 , contain the birds recorded in and around Nari village and PiliNadiarea,Nagpur city. 28 species of birds belonging to families Ploceidae, Zosteropidae, Alcedinidae, Meropidae,Sturnidae,Psittaculidae,Accipitridae,Pittidae,Rallidae,Oriolidae,Turdidae,Trigidae,Cicinidae, Cuculidae, Monarchidae,Coracidae,Ardeidae,Recurvirostridae and Phasianidae, Columbidae,Phalacrocoracidae,Estrilidae and Corvidae were observed visually and photographed using binocular and cameras. The picture plates of birds depicts the avian biodiversity.

Result and Discussion

The PiliNadi in Nari area actually originates from Gorewadalakearea in Nagpur,it is running water i.e. lotic ecosystem.As its flows the initial clean water,carriessevage,domastic organic and inorganic pollutants,industrialtoxicantsdebrisetc.ThePiliNadi exhibits a rapid zone of fast flowing water mainly in rainy season during which moderate amount of dissolved oxygen support growth of algae,mossesanddiatoms,caddisfly on the side stone walls, logs stones etc.Thesecond zone is called pond zone at various spots of PiliNadi contain shallow and slow moving and standing water contains pebbles, sand,silt,mud etc. and harbor aquatic micro and macrophytes which support insect populations like damselflies,dragonflies,butterflies,spidersetc.ThePiliNadi is a living feeding and breeding habitat for birds which are terrestrial-arboreal-aquatic. The trees ,shurbs ,herbs at of Nari village forest PiliNadi region as an Ecotone (edge effect).It support plant and animal life.Avian biodiversity of area exhibits birds like Black-breasted weaver, Indian-white eye,PiedKingfisher,Greenbee-eater,Blue tailed bee-eater, Indian myna bird of prey(raptor) Shikra,Bald eagle-owl,the Indianpitta,Indian ringed parrot,Asian pied starling,Orange headed thrush,common hawk cuckoo,African paradise flycatcher,Indianroller,Brownqueal,Rock pigeon,Rufoustreepie,tri colour of munia,Indian Golden oride. Birds of marshy aquatic habitat include Painted Stork, Purple Swamphen, Black Winged STILL, LittleComorant, Pond heron, cattle egret and black crown night

heron. Aquatic birds feed on fishes ,frogs, crustaceans (crabs) ,dragon flies, damsel flies, insects,etc. The raptors feed on small medium size birds. Some of the recorded birds feeding Habit includes fruits ,nuts, seeds,inflorencence of grains,grains,etc. Some birds areomnivous,others are entamophagous. Aquatic birds die afterconsuming the contaminated and polluted food items. Wet lands support 20 % biodiversity, stop over sites and refuse for migratory birds and water fowls (Deepa and Ramchandra,1999),Avian influenza most of them found in migratory water fowl kill them.

Ducks ,gease and Swans suffer from duckplague, its etiological agent is Herpes virus. Several birds species die due to Avian Pox infection, Migratory water fowl, wild raptors and many Passerenes show warty lesion on head, legs, feet. These birds contract this disease after ingesting food and water contaminated by sick birds or come in contact with contaminated surfaces like perches. Bacterial disease like Psittacasis in Pscttacinebirds ,piegeons,raptorsand fishes, Salmonellosis in birds also take tall of birds. Water fowls suffer from giardiasis intastinales wild birds like raptors or waterfowl suffer from Aspergillus fumigates a mycotic disease.

Captive birds suffer from avian Aspergillus (penguins, pheasants, water fowls), bumble foot avian mycobacteriosis and other zonoticdiseases. Hence, periodic cleaning of PiliNadi by NMC authorities is very important.Artificial tanks with all variety of food item must be made available for birds to prevent them from consuming polluted and contaminated food . Dumping of garbage by locadal residents into the PiliNadi must be avoided. Several public must be made aware of the important role played by birds which will help in conserving the birds and their habitats.

Observation Table

The area was visited throughout the study period from August-18 to March-19

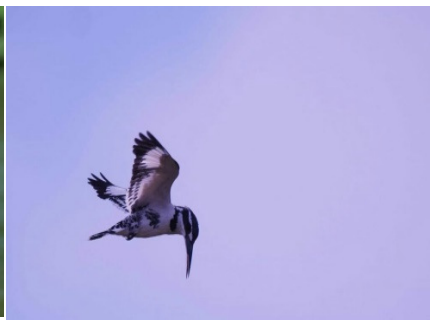
Sr. No.	Common Name	Scientific Name	Family
1.	Black breasted weaver	Ploceusbenghalensis	Ploceidae
2.	Indian White eye	Zosteropspalpebrosus	Zosteropidae
3.	Pied Kingfisher	Cerylerudis	Alcedinidae
4.	Green bee-eater	Meropsorientalis	Meropidae
5.	Blue tailed bee eater	Meropsphilippinus	Meropidae
6.	Indian myna	Acridotherestristis	Sturnidae
7.	Indian ringneck parrot	Psittaculakrameri	Psittaculidae
8.	Shikra	Accipiter badius	Accipitridae
9.	Indian pitta	Pitta brachyura	Pittidae
10.	Purple swamphen	Poryphyrioporyphyrio	Rallidae
11.	Bald eagle	Haliaeetusleuocephalus	Accipitridae
12.	Indian golden oriole	Orioluskundoo	Oriolidae
13.	Asian Pied Starling	Gracupica contra	Sturnidae
14.	Orange headed thrush	Geokichlacitrina	Turdidae
15.	Indian eagle owl	Bubo bengalensis	Strigidae
16.	Paintedsrork	Mycterialeucocephala	Ciconidae
17.	Common hawk cuckoo	Hierococcyxvarius	Cuculidae
18.	African paradise flycatcher	Terpsiphoneviridis	Monarchidae
19.	Indian roller	Coraciasbenghalensis	Coraciidae
20.	Black crowned night heron	Nycticoraxnycticorax	Ardeidae
21.	Black winged stilt	Himantopushimantopus	Recurvirostridae
22.	Brown quail	Coturnixypsilophora	Phasianidae
23.	Rock pigeon	Columba livia	Columbidae
24.	Little Cormorant	Phalacrocoraxniger	Phalacrocoracidae
25.	Pond heron	Ardeolagrayii	Ardeidae
26.	Cattle egret	Bubulcus ibis	Ardeidae
27.	Tricolouredmunia	Lonchuramalacca	Estrildidae

28.	Rufoustreepie	Dendrocittavagabunda	Corvidae



TerpsiphoneviridisGeokichlacitrine Gracupica contra





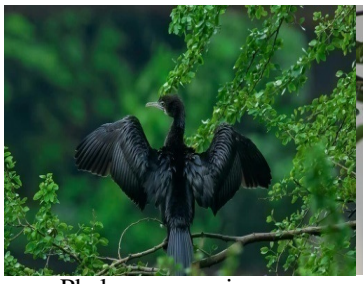
Pitta brachyuranNycticoraxnycticorax Cerylerudis



Coturnixypsilophora CoraciasbenghalensisZosteropspalpebrosus



Himantopushimantopus Hierococcyxvarius Columba livia


Phalacrocoraxniger


Acridotherestristis


Meropsorientalis


Psittaculakrameri


Bubulcus ibis


Mycterialeucocephala

MeropsphilippinusLonchuramalaccaPloceusbenghalensis

Orioluskundoo Accipiter badiusBubo bengalensisDendrocittavagabunda

PoryphyrioporyphyrioHaliaeetusleuocephalusArdeolagrayii

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