

STUDIES ON AVIFAUNA DIVERSITY IN BARUADI REGION, JAJPUR

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ABSTRACT

The avifauna of Baruadi Region of Jajpur District, Odisha was studied between January and February 2030. During the study period, a total of 28 species belonging to 9 families were recorded. Among the birds recorded in this study, about 50% were insectivores and other type includes omnivores, carnivores, grainivores, piscivores and frugivores respectively. Various types of stress factors observed in and around the study site which are responsible for habitat destruction and degradation. To save their life and to enhance their population, proper strategies and action place are needed.

Keywords: Destruction, avifauna ,pollution, habitat.

INTRODUCTION

Birds constitute well defined groups of animals. They possess a series of strongly marked characters which is distinguished hardly in any other class. Birds play an essential role in ecosystem as scavenger, seed disperse and pollinators. They act as a good indicator for biological diversity and changes in conditions of the environment. They also play important role as predators and nutrients depositor (Gregory, *et al.*, 2003 and Sodhi, *et al.*, 2011).

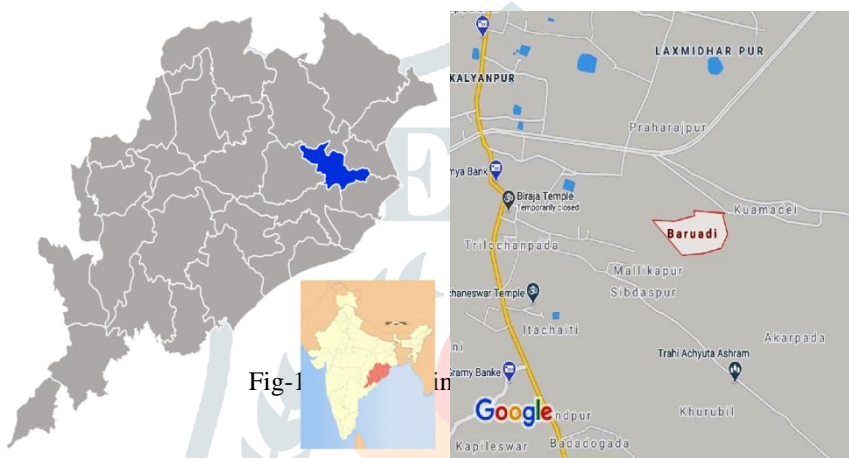
Avifaunas are continuously threatened by driver such as habitat loss and degradation hunting, pollution, invasive species and disease (Sodhi, *et al.*, 2011). Wetlands are also important ecosystem appreciated for providing abundant habitats and quality for bird population of the 1340 bird species reported from India (Ali and Ripley, 1987) about 23% of bird species are known to be dependent on wetlands (Kumar etal. 2005) Wetlands in India are under tremendous Pressure due to various anthropogenic activities such as reclamation, deforestation and extensive concrete construction (Kler, 2002 and Verma, *et al.*, 2004). The birds are very sensitive to this type of activities and give respond by changes in species density and composition.

In Odisha more than 500 species of birds belonging to 77 families have been recorded (Mishra, *et al.*, 1996). Different ornithological Studies have been Conducted in Odisha (Ripley, 1979; Dev, 1986; Singh, 1993; Ball, 1877; Acharya and Kar, 1996), Some Specific Sighting records were also carried out in Odisha (Jayakar, 1967; Kirk, 1961; Fooks, 1939; Gopi and Pandav, 2007; Gopi, *et al.*, 2006; Krishna and Apparan, 1981). Various workers were attracted by the avifauna of Odisha in recent year (Behera, 2009; Palei, *et al.*, 2011; Borah, *et al.*, 2012; Debata, *et al.*, 2012; Pradhan, *et al.*, 2012; Sinha, et al., 2011) but no information available about the Baruadi region of Jajpur District, Odisha. Baruadi region of Jajpur is a biodiversity rich area, but its avifaunal diversity has not been studied yet.

MATERIALS AND METHODS

Study Area

Baruadi region situated in Jajpur District located in eastern part of Odisha state. In this region, there were so many lakes, ponds, forests, grasslands and open forests including river Baitarani. The highest Temperature was 40°C and lowest is 21°C. These habitats attract birds towards it. These places are mainly far from the urban areas, so birds choose these places more. These places include Hansia River, Dalgadhia Lake, Bahali Lake, forest near Baitarani River etc. Vegetation includes many plants, grasslands, taken lands, paddy, and grains. Birds get sufficient food for them to survive. The climate of this region is also very calm and soothing for the birds during the monsoon season, the Weather is so much pretty suitable for the birds.



Methodology

The observations were, usually for a full day of the months of January to February 2020. Regular surveys were done by walking on fixed routes throughout the study area. Observations were made in the morning from 6am to 6pm depending on the light condition.

Birds were observed by using 10 X 50x binoculars and photographs were taken through Canon Power shot Sx50Hc Camera for sharp images helps in easy identification of birds. This study was conducted through open out search method and observational techniques. Birds were the most active vertebrate animals, If was pretty difficult to observe, their sounds and movement to take photograph. A small disturbance can affect the whole study. The foremost fact is to choose right place where the bird species were found.

RESULTS AND DISCUSSION

Sl.No	Common Name	Scientific name	Family
1.	Pheasant tailed Jacana	<i>Hydrophasianus chirurgus</i>	Jacanidae
2.	Bronze Winged jacana	<i>Metopidius indicus</i>	Jacanidae
3.	White breasted waterhen	<i>Amaurornis phoenicures</i>	Rallidae
4.	Oriental Magpie Robin	<i>Copsychus saularis</i>	Pychontidae
5.	Jungle Babbler	<i>Turdoides striata</i>	Pychontidae
6.	Black drongo	<i>Dicrurus macrocerus</i>	Pychontidae

7.	Common myna	<i>Acridotherus tristis</i>	Pycnontidae
8.	Rock Dove	<i>Columba livia</i>	Columbidae
9.	Spotted dova	<i>Spilopelia chinensis</i>	Columbidae
10	Pied myna	<i>Gracupica contna</i>	Phcnontidae
11	Greater coucal	<i>Centropus orientalis</i>	Cuculidae
12	Little Green bee eater	<i>Merops orientalis</i>	Meropidae
13	Red vented bulbul	<i>Phcnonotus cafer</i>	Phcnrontidae
14	Great Cormorant	<i>Phalacrocorax carbo</i>	Phalacrocoracidae
15	Little cormorant	<i>Phalacrocorax sulcirostris</i>	Phalacrocoracidae
16	Little egret	<i>Egreta garzetta</i>	Ardeidae
17	Cattle egret	<i>Bubulcus ibis</i>	Ardeidae
18	Great egret	<i>Ardea alba</i>	Ardeidae
19	Rusty breasted cuckoo	<i>Cacomantis sepulcralis</i>	Curulidae
20	White throated kingfisher	<i>Halcyon smyrnensis</i>	Curulidae
21	Asian Koel	<i>Eudynamys scolopaceus</i>	Curulidae
22	Jungle Crow	<i>Corvus culminates</i>	Phcnontidae
23	Rufous tree pie	<i>Dendrocitta vagabunda</i>	Cuculidae
24	Black headed oriole	<i>Orioues xanthornus</i>	Pycnontidae
25	Common Wood shrike	<i>Tephrodornis pondicerianus</i>	Pycnontidae
26	Shikra	<i>Accipiter badius</i>	Accipitridae
27	House crow	<i>Corvus splendens</i>	Corvidae
28	Red Whiskered Bulbul	<i>Pycnonotus jocosus</i>	Pycnontidae

Table-1: Avifauna list prepared during the study period

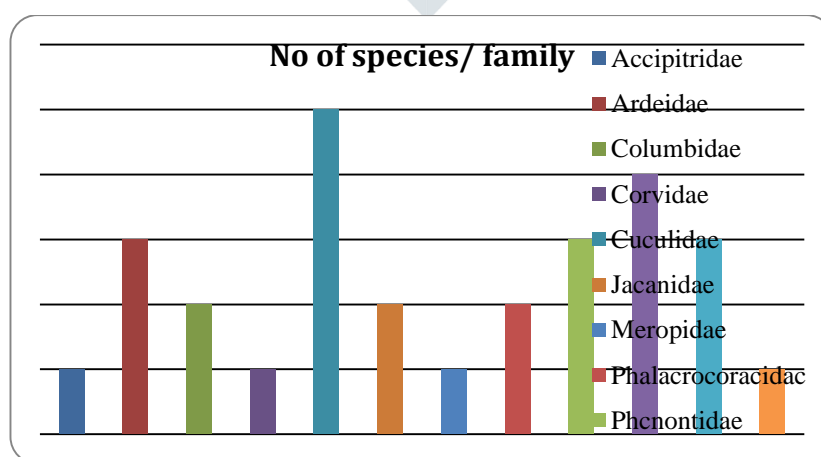


Fig-2: The graph showing number of species per family



Fig-3: *Amaurornis phoenicures*



Fig-4: *Phalacrocorax carbo*



Fig-5: *Columba livia*



Fig-6: *Merops orientalis*



Fig-7: *Phalacrocorax sulcirostris*



Fig-8: *Halcyon smyrnensis*



Fig-9: *Centropus orientalis*



Fig-10: *Corvus culminates*

Fig-11: *Dendrocitta vagabunda*

During the study total 28 species of birds were recorded belonging to 9 families from Baruadi Region. Table depicts details like common name, scientific name of the birds, which shows that this region supports a variety of birds. As far as food preferences, 50% species were insectivores, other species were on carnivores, piscivores, frugivores, grainivores, etc. The species include, Rock dove (*Colomba livia*), Black Drongo (*Dicrurus macrocercus*), Red vented bulbul (*Pycnonotus cafer*), Cattle egret (*Bubulcus ibis*). This different species in wetland ecosystem includes pheasant tailed jacana (*Hydrophasianus chirurgus*), Bronze winged jacana (*Metopidus indicus*), White-breasted water hen (*Amallrornis phoenicurus*) and many more. The study area has a fair diversity of fruiting trees, shrubs and rich in the diversity and abundance of insects support to variety of bird species. Common tree like *Ficus bengalensis*, *Ficus religiosa* etc. are common in this place so some frugivore were observed. During the winter months due to shortage of insects, babblers and drongos were feeding on fruits and seeds. Some resident water birds like cormorants, egrets, inhabit in this area and were depend upon fishes, amphibian and other invertebrates from the Dalagadhia Lake and Bahali Lake. Birds such as white breasted kingfisher, small green bee eater were found in all habitats.

But increased anthropogenic activities road making, mixing of sewage in ponds, Lakes cause degradation of avifauna population more rapidly. So that many habitat indicator species like wood peckers, Barbets, Raptors were not seen in this place. Also the heavy use of insecticides, pesticides, in the grain field affects the birds population heavy signals of towers destruct their sensitive power so that they sometime get diverted and population degradation takes place. It also influences their breeding, process of many birds. Cutting of trees and less effort of people for afforesting caused habitat destruction of birds (Mishra, *et al.*, 2011).

Alternative fuel sources conservation awareness programme, effective disposal of toxic materials reducing the harmful effect of signals required to conserve the bird species. It was hoped that result of this study will must positively contribute to the avifauna conservation of the Baruadi Suburban region of Jajpur District.

CONCLUSION

This short span study in Baruadi Area identify 28 species of bird but it might not be contradicted to this study area is facing enormous anthropogenic disturbance like deforestation, rapid urbanization, and habitat destruction. Through this represent overall sound bird diversity in this location. In the end it may be noted that a few locations were studied within a short period of time, a more comprehensive study would surely reveal more avian species. A detailed study regarding this increased anthropogenic activity and their impact on biodiversity needed in this region.

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