



DIVERSITY AND DISTRIBUTIONS DYNAMICS OF MIGRATORY BIRDS AT WAGHALA (OLD), TAHSIL ARMORI, OF DISTRICT GADCHIROLI (M.S.) INDIA

J. N. Papadkar

Department of Zoology, M. G. College, Armori (M.S.)

jpapadkar@gmail.com

Abstract:

Waghala is considered to be one of the biodiversity rich areas of storks in Gadchiroli in Maharashtra. It possesses great diversity of flora and fauna. In the present observation, birds were identified and recorded for community structure and diversity. But the conservation efforts are limited due to lack of documentation and studies on this area. This study was designed not only to document species richness of this small area but also to find out distribution patterns of these birds along various microhabitats along the Waghala. The variation in species richness and relative abundance of avifauna is associated with crop stages.

Keywords: - Birds; Diversity; Richness; Waghala; Gadchiroli Maharashtra.

Introduction:

Birds are important major element of environmental quality. Birds wonder us due to their long journey to overcome the unfavorable conditions and to reach the suitable feeding and breeding grounds. Birds struggled and adapted to their external environment. Habitats like water bodies with vegetation, river, hydrophytes, tree cover was most suitable for aggregation of bird's species (Islam Z. U., Rahmani A. R. 2004). River and field vegetation also support wide range of biodiversity hence most suitable for birds to get variety of food, good and safe place to lay the eggs (Islam Z. U., Rahmani A. R. 2004).

Gadchiroli district is located in north-east region of Maharashtra State in India. Wainganga river basin is the principal source of water for agriculture, industry and biodiversity in this region. Some isolated natural as well as constructed minor ponds are in these parts of the district and has forest cover in Armori taluka. Temperature of the region ranges from 21°C to 45°C. Gadchiroli region therefore includes varied habitat conditions. In Gadchiroli region there are very few reports on avifaunal diversity studies carried out. The avifaunal diversity study is one of the essential parameter to determine the habitat ecology (Bilgrami, 1995). In Waghala, Gadchiroli region of Maharashtra it was observed that the Black neck Ibis, Painted Storks, Median Egret, Large Egret, Little egret, Little Cormorant flocking in large number near water regions in Wainganga river along with local residential birds.

Wainganga river and nearby field vegetation on which thrives large number of organisms. The Wainganga river is on the border of Gadchiroli and Chandrapur district which is important bioindicators of river ecosystems

which should be protected to conserve the biodiversity and environment. The present study is not carried out for only to prepare the checklist of birds, but to find out their occurrence and to create the awareness for their conservation. Therefore this work has undertaken to document the avifaunal diversity of Waghala located near Armori town district Gadchiroli Maharashtra.

Material and Methods:

The Waghala is located near Armori on the bank of Wainganga river (20°38' 39.08"S and 79°35' 30-99" E), 2.5 km away from Armori town in Gadchiroli district Maharashtra State, India. The present study was carried out from Sep. 2013 to April. 2015. The observation were carried out by using a field binocular (10x50 magnification) during the morning (7 to 11 AM) and in the evening (4 to 7 PM) and the bird population was estimated by direct count method twice in a month as described and employed by (Bibby *et al.* 2000; Urfi *et al.* 2005). After detection, specimen was photographed by camera and identified with the help of keys and methods suggested by Ali (2002), Grimmett *et al.* (2011) and Manakadan *et al.* (2011). Avifaunal diversity study was conducted at nearby Waghala habitats along 50 km. length of Wainganga river and water bodies near Armori area. There is 60% population of open billed stork, 10% of painted stork, 10% black neck Ibis and rest 20% of different egret estimated.

Results and Discussion:

During the present investigation, 7 species of birds were recorded belonging to 04 families. Among the recorded species of birds, 01 species belongs to family Ciconiidae and 01 species belong to family Threskiornithidae, 03

species belongs to Ardeidae, 01 species belong to family Ciconiidae, 01 species belong to family Phalacrocoracidae. Among these families Ciconiidae and Threskiornithidae are resident migratory and rests are resident. The maximum species were recorded during winter season.

It is found that higher bird diversity in and around Waghala village habitats, which is due to the presence of diversity of herbs, shrubs, grasses and trees in forest land which provided a place for nesting and breeding for different tropic levels of birds. Different season of the year in particular locality not only influence the different types of vegetation but also other biodiversity like animals, birds, insects, fishes, and microorganisms, particularly birds are sensitive to seasonal changes, because of their breeding and nesting behavior heavily depends upon climatic factors of the locality (Huston and Huston, 1994). Bird are highly opportunistic feeders who will consume a wide variety of prey item including insects, frogs, toads, tadpoles, fishes, rodents, snakes, lizards, earthworms, esteem use of mollusks and crustaceans as food. Therefore, these birds are migrating within the geographical region and

even from continent to continents for their breeding and nesting (Berthold, 2001). Thus, the birds' distribution and their population trends in different seasons of the year

Conclusion:

It is observed that there is a lot's of birds species which are founds in river zone and bank. All this stork they excrete there excreta in the waste of birds there is presence of nitrogenous waste act as bio fertilizer and it helps in increasing the yield which is very effective for farming. Because this fecal matter do not affected by different diseases to villagers. Waghala village peoples on the contrary protecting these guest every year and conserve the site which is example of awareness. Pollution, pesticide and wetland drainage have severely reduced suitable foraging habitat across the breeding range. Conservation efforts that focus on the preservation of ecosystems and biodiversity seems to hold the most promise for halting the decline of this and other bird's species.

Table 1

| Sr. No. | Order/Family | Scientific name | Common name | Residential Status | Abundance Status |
|---------|---------------------------------------|------------------------------------|--|--------------------|------------------|
| 1. | Ciconiiformes Ciconiidae | <i>Anastomus oscitans</i> | Asian Open bill Stork | R | U |
| 2. | Ciconiiformes Threskiornithidae | <i>Threskiornis melanocephalus</i> | Oriental White Ibis Black-headed Ibis | R | U |
| 3. | Ciconiiformes Ciconiidae | <i>Mycteria leucocephala</i> | Painted Stork | RM | U |
| 4. | Ciconiiformes Ardeidae | <i>Casmerodius albus</i> | Large Egret | RM | U |
| 5. | Ciconiiformes Ardeidae | <i>Mesophoyx intermedia</i> | Median Egret (Intermediate Egret) | RM | U |
| 6. | Ciconiiformes Ardeidae | <i>Bubulcus ibis</i> | Cattle Egret | R | C |
| 7. | Podicipediformes Phalacrocoracidae | <i>Phalacrocorax niger</i> | Little Cormorant | RM | C |

Residential Status: R - Resident, RM - Resident Migrant,
Abundance Status: C - Common, U - Uncommon



Asian Open bill Stork (*Anastomus oscitans*)



Oriental Black Head Ibis



Median Egret (*Mesophoyx intermedia*)



Large Egret (*Casmerodius albus*)



Painted Stork
(*Mycteria leucocephala*)



Cattle egret
Bubulcus ibis



Little Cormorant
(*Phalacrocorax niger*)

References

- Ali S (2002) *The Book of Indian Birds*. 13th Ed. Mumbai: Bombay Natural History Society.
- Berthold P (2001) *Bird Migration: A General Survey*. Oxford University Press, New York. pp. 253.
- Bilgrami K. S. (1995). *Concept and conservation of biodiversity*, CBS Publishers and distributors, Delhi.
- Bibby C, Jones M and Marsden S (2000) *Expedition Field Techniques: Bird Surveys*. Cambridge CB3 0NA: Bird Life International.
- Grimmett R, Inskipp C and Inskipp T (2011) *Birds of the Indian Subcontinent*. 2nd Ed. London WC1B 3DP: Christopher Helm.
- Huston MA and Huston MA (1994) *Biological Diversity, The Coexistence of Species*. Cambridge University Press, United Kingdom. pp.681
- Islam Z. U., Rahmani A. R. (2004). *Important Bird areas in India, Priority sites for conservation Network: Bombay Natural History Society and Bird Life International (UK)*.
- Manakadan R, Daniel JC and Bhopale N (2011) *Birds of the Indian Subcontinent: A Field Guide*. Mumbai: Bombay Natural History Society
- Manikannan R (2011) *Diversity of waterbirds in the Point Calimere wildlife sanctuary, Tamil Nadu, India. Ph. D. Thesis, Bharathidasan University, Tiruchirappalli, Tamil Nadu, India*
- Urfi AJ, Sen M, Kalam A and Meganathan T (2005) *Counting birds in India: Methodologies and trends. Current Science, 89(12): 1997-2003.*